

# C0G (NP0) Dielectric



## General Specifications



C0G (NP0) is the most popular formulation of the “temperature-compensating,” EIA Class I ceramic materials. Modern C0G (NP0) formulations contain neodymium, samarium and other rare earth oxides.

C0G (NP0) ceramics offer one of the most stable capacitor dielectrics available. Capacitance change with temperature is  $0 \pm 30 \text{ ppm}/^\circ\text{C}$  which is less than  $\pm 0.3\% \Delta C$  from  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$ . Capacitance drift or hysteresis for C0G (NP0) ceramics is negligible at less than  $\pm 0.05\%$  versus up to  $\pm 2\%$  for films. Typical capacitance change with life is less than  $\pm 0.1\%$  for C0G (NP0), one-fifth that shown by most other dielectrics. C0G (NP0) formulations show no aging characteristics.

## PART NUMBER (see page 2 for complete part number explanation)

**0805**

**Size**  
(L" x W")

**5**

**Voltage**  
6.3V = 6  
10V = Z  
16V = Y  
25V = 3  
50V = 5  
100V = 1  
200V = 2  
500V = 7

**A**

**Dielectric**  
C0G (NP0) = A

**101**

**Capacitance Code (In pF)**  
2 Sig. Digits +  
Number of  
Zeros

**J**

**Capacitance Tolerance**  
B =  $\pm 10 \text{ pF}$  ( $< 10 \text{ pF}$ )  
C =  $\pm 25 \text{ pF}$  ( $< 10 \text{ pF}$ )  
D =  $\pm 50 \text{ pF}$  ( $< 10 \text{ pF}$ )  
F =  $\pm 1\%$  ( $\geq 10 \text{ pF}$ )  
G =  $\pm 2\%$  ( $\geq 10 \text{ pF}$ )  
J =  $\pm 5\%$   
K =  $\pm 10\%$

**A**

**Failure Rate**  
A = Not  
Applicable

**T**

**Terminations**  
T = Plated Ni  
and Sn  
7 = Gold Plated

**2**

**Packaging**  
2 = 7" Reel  
4 = 13" Reel  
7 = Bulk Cass.  
9 = Bulk

**A**

**Special Code**  
A = Std.  
Product

**Contact Factory For**  
1 = Pd/Ag Term

**Contact Factory For**  
Multiples

NOTE: Contact factory for availability of Termination and Tolerance Options for Specific Part Numbers.  
Contact factory for non-specified capacitance values.

**Temperature Coefficient**



**Δ Capacitance vs. Frequency**



**Insulation Resistance vs Temperature**



**Variation of Impedance with Cap Value**  
Impedance vs. Frequency  
0805 - C0G (NP0)  
10 pF vs. 100 pF vs. 1000 pF



**Variation of Impedance with Chip Size**  
Impedance vs. Frequency  
1000 pF - C0G (NP0)



**Variation of Impedance with Ceramic Formulation**  
Impedance vs. Frequency  
1000 pF - C0G (NP0) vs X7R  
0805



# COG (NP0) Dielectric



## Specifications and Test Methods

Parameter/Test		NP0 Specification Limits	Measuring Conditions	
<b>Operating Temperature Range</b>		-55°C to +125°C	Temperature Cycle Chamber	
<b>Capacitance</b>		Within specified tolerance	Freq.: 1.0 MHz ± 10% for cap ≤ 1000 pF 1.0 kHz ± 10% for cap > 1000 pF Voltage: 1.0Vrms ± .2V	
<b>Q</b>		<30 pF: Q ≥ 400+20 x Cap Value ≥30 pF: Q ≥ 1000	Charge device with rated voltage for 60 ± 5 secs @ room temp/humidity	
<b>Insulation Resistance</b>		100,000MΩ or 1000MΩ - μF, whichever is less	Charge device with 300% of rated voltage for 1-5 seconds, w/charge and discharge current limited to 50 mA (max) Note: Charge device with 150% of rated voltage for 500V devices.	
<b>Dielectric Strength</b>		No breakdown or visual defects	Deflection: 2mm Test Time: 30 seconds 1mm/sec 	
<b>Resistance to Flexure Stresses</b>	Appearance	No defects		
	Capacitance Variation	±5% or ±.5 pF, whichever is greater		
	Q	Meets Initial Values (As Above)		
	Insulation Resistance	≥ Initial Value x 0.3		
<b>Solderability</b>		≥ 95% of each terminal should be covered with fresh solder	Dip device in eutectic solder at 230 ± 5°C for 5.0 ± 0.5 seconds	
<b>Resistance to Solder Heat</b>	Appearance	No defects, <25% leaching of either end terminal	Dip device in eutectic solder at 260°C for 60 seconds. Store at room temperature for 24 ± 2 hours before measuring electrical properties.	
	Capacitance Variation	≤ ±2.5% or ±.25 pF, whichever is greater		
	Q	Meets Initial Values (As Above)		
	Insulation Resistance	Meets Initial Values (As Above)		
<b>Thermal Shock</b>	Dielectric Strength	Meets Initial Values (As Above)	Repeat for 5 cycles and measure after 24 hours at room temperature	
	Appearance	No visual defects	Step 1: -55°C ± 2°	30 ± 3 minutes
	Capacitance Variation	≤ ±2.5% or ±.25 pF, whichever is greater	Step 2: Room Temp	≤ 3 minutes
	Q	Meets Initial Values (As Above)	Step 3: +125°C ± 2°	30 ± 3 minutes
	Insulation Resistance	Meets Initial Values (As Above)	Step 4: Room Temp	≤ 3 minutes
<b>Load Life</b>	Dielectric Strength	Meets Initial Values (As Above)	Charge device with twice rated voltage in test chamber set at 125°C ± 2°C for 1000 hours (+48, -0).	
	Appearance	No visual defects	Remove from test chamber and stabilize at room temperature for 24 hours before measuring.	
	Capacitance Variation	≤ ±3.0% or ± .3 pF, whichever is greater		
	Q (C=Nominal Cap)	≥ 30 pF: Q ≥ 350 ≥10 pF, <30 pF: Q ≥ 275 +5C/2 <10 pF: Q ≥ 200 +10C		
	Insulation Resistance	≥ Initial Value x 0.3 (See Above)		
<b>Load Humidity</b>	Dielectric Strength	Meets Initial Values (As Above)	Store in a test chamber set at 85°C ± 2°C/ 85% ± 5% relative humidity for 1000 hours (+48, -0) with rated voltage applied.	
	Appearance	No visual defects	Remove from chamber and stabilize at room temperature for 24 ± 2 hours before measuring.	
	Capacitance Variation	≤ ±5.0% or ± .5 pF, whichever is greater		
	Q	≥ 30 pF: Q ≥ 350 ≥10 pF, <30 pF: Q ≥ 275 +5C/2 <10 pF: Q ≥ 200 +10C		
<b>Insulation Resistance</b>	Insulation Resistance	≥ Initial Value x 0.3 (See Above)		
	Dielectric Strength	Meets Initial Values (As Above)		

# COG (NP0) Dielectric



## Capacitance Range

PREFERRED SIZES ARE SHADED

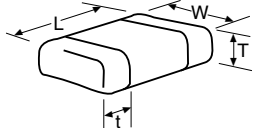
SIZE	01005		0201		0402		0603				0805					1206																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
	Reflow Only		Reflow Only		Reflow/Wave		Reflow/Wave				Reflow/Wave					Reflow/Wave																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Packaging	All Paper		All Paper		All Paper		All Paper				Paper/Embossed					Paper/Embossed																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
(L) Length	0.40 ± 0.02 (0.016 ± 0.0008)		0.60 ± 0.03 (0.024 ± 0.001)		1.00 ± 0.10 (0.040 ± 0.004)		1.60 ± 0.15 (0.063 ± 0.006)				2.01 ± 0.20 (0.079 ± 0.008)					3.20 ± 0.20 (0.126 ± 0.008)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
(W) Width	0.20 ± 0.02 (0.008 ± 0.0008)		0.30 ± 0.03 (0.011 ± 0.001)		0.50 ± 0.10 (0.020 ± 0.004)		0.81 ± 0.15 (0.032 ± 0.006)				1.25 ± 0.20 (0.049 ± 0.008)					1.60 ± 0.20 (0.063 ± 0.008)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
(t) Terminal	0.10 ± 0.04 (0.004 ± 0.016)		0.15 ± 0.05 (0.006 ± 0.002)		0.25 ± 0.15 (0.010 ± 0.006)		0.35 ± 0.15 (0.014 ± 0.006)				0.50 ± 0.25 (0.020 ± 0.010)					0.50 ± 0.25 (0.020 ± 0.010)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
WVDC	16		25	50	16	25	50	16	25	50	100	16	25	50	100	200	16	25	50	100	200	500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
Cap (pF)	<table border="1"> <tr><td>0.5</td><td></td><td>A</td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>1.0</td><td>B</td><td>A</td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>1.2</td><td>B</td><td>A</td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>1.5</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>1.8</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>2.2</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>2.7</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>3.3</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>3.9</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>4.7</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>5.6</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>6.8</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>8.2</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>10</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>12</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>15</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>18</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>22</td><td>B</td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>27</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>33</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>39</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>47</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>56</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>68</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>82</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>100</td><td></td><td>A</td><td>A</td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>120</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>150</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>180</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td></tr> <tr><td>220</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>270</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>330</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>390</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>470</td><td></td><td></td><td></td><td>C</td><td>C</td><td>C</td><td>G</td><td>G</td><td>G</td><td>G</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>560</td><td></td><td></td><td></td><td></td><td></td><td></td><td>G</td><td>G</td><td>G</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>680</td><td></td><td></td><td></td><td></td><td></td><td></td><td>G</td><td>G</td><td>G</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>P</td></tr> <tr><td>820</td><td></td><td></td><td></td><td></td><td></td><td></td><td>G</td><td>G</td><td>G</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>M</td></tr> <tr><td>1000</td><td></td><td></td><td></td><td></td><td></td><td></td><td>G</td><td>G</td><td>G</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>Q</td></tr> <tr><td>1200</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td>J</td><td>Q</td></tr> <tr><td>1500</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>J</td><td>J</td><td></td><td>J</td><td>J</td><td>J</td><td>M</td><td>J</td><td>Q</td></tr> <tr><td>1800</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>J</td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>M</td><td></td><td></td></tr> <tr><td>2200</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>N</td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>P</td><td></td><td></td></tr> <tr><td>2700</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>N</td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>P</td><td></td><td></td></tr> <tr><td>3300</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td></td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>P</td><td></td><td></td></tr> <tr><td>3900</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td></td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>P</td><td></td><td></td></tr> <tr><td>4700</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td></td><td></td><td></td><td>J</td><td>J</td><td>M</td><td>P</td><td></td><td></td></tr> <tr><td>5600</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>J</td><td>J</td><td>M</td><td></td><td></td><td></td></tr> <tr><td>6800</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>M</td><td>M</td><td></td><td></td><td></td><td></td></tr> <tr><td>8200</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>M</td><td>M</td><td></td><td></td><td></td><td></td></tr> <tr><td>Cap (µF)</td> <td colspan="22"> <table border="1"> <tr><td>0.010</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.012</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.015</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.018</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.022</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.027</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.033</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.039</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.047</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.068</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.082</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table> </td> </tr> <tr> <th>WVDC</th> <td colspan="2">25</td> <td>50</td> <td>16</td> <td>25</td> <td>50</td> <td>16</td> <td>25</td> <td>50</td> <td>100</td> <td>16</td> <td>25</td> <td>50</td> <td>100</td> <td>200</td> <td>16</td> <td>25</td> <td>50</td> <td>100</td> <td>200</td> <td>500</td> </tr> </table>																						0.5		A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	1.0	B	A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	1.2	B	A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	1.5	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	1.8	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	2.2	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	2.7	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	3.3	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	3.9	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	4.7	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	5.6	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	6.8	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	8.2	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	10	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	12	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	15	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	18	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	22	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	27		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	33		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	39		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	47		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	56		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	68		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	82		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	100		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	120				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	150				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	180				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J	220				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	M	270				C	C	C	G	G	G	G	J	J	J	J	J	M	J	J	J	J	M	330				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M	390				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M	470				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M	560							G	G	G		J	J	J	J	M	J	J	J	J	J	M	680							G	G	G		J	J	J	J		J	J	J	J	J	P	820							G	G	G		J	J	J	J		J	J	J	J	J	M	1000							G	G	G		J	J	J	J		J	J	J	J	J	Q	1200											J	J	J	J		J	J	J	J	J	Q	1500											J	J	J	J		J	J	J	M	J	Q	1800											J	J	J			J	J	M	M			2200											J	J	N			J	J	M	P			2700											J	J	N			J	J	M	P			3300											J	J				J	J	M	P			3900											J	J				J	J	M	P			4700											J	J				J	J	M	P			5600																J	J	M				6800																M	M					8200																M	M					Cap (µF)	<table border="1"> <tr><td>0.010</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.012</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.015</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.018</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.022</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.027</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.033</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.039</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.047</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.068</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.082</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																						0.010																						0.012																						0.015																						0.018																						0.022																						0.027																						0.033																						0.039																						0.047																						0.068																						0.082																						0.1																						WVDC	25		50	16	25	50	16	25	50	100	16	25	50	100	200	16	25	50	100	200	500
0.5		A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1.0	B	A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1.2	B	A		C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1.5	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1.8	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
2.2	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
2.7	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
3.3	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
3.9	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
4.7	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
5.6	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
6.8	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
8.2	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
10	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
12	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
15	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
18	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
22	B	A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
27		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
33		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
39		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
47		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
56		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
68		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
82		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
100		A	A	C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
120				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
150				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
180				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	J																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
220				C	C	C	G	G	G	G	J	J	J	J	J	J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
270				C	C	C	G	G	G	G	J	J	J	J	J	M	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
330				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
390				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
470				C	C	C	G	G	G	G	J	J	J	J	M	J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
560							G	G	G		J	J	J	J	M	J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
680							G	G	G		J	J	J	J		J	J	J	J	J	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
820							G	G	G		J	J	J	J		J	J	J	J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1000							G	G	G		J	J	J	J		J	J	J	J	J	Q																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1200											J	J	J	J		J	J	J	J	J	Q																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1500											J	J	J	J		J	J	J	M	J	Q																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
1800											J	J	J			J	J	M	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
2200											J	J	N			J	J	M	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
2700											J	J	N			J	J	M	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
3300											J	J				J	J	M	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
3900											J	J				J	J	M	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
4700											J	J				J	J	M	P																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
5600																J	J	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
6800																M	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
8200																M	M																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
Cap (µF)	<table border="1"> <tr><td>0.010</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.012</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.015</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.018</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.022</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.027</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.033</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.039</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.047</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.068</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.082</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0.1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>																						0.010																						0.012																						0.015																						0.018																						0.022																						0.027																						0.033																						0.039																						0.047																						0.068																						0.082																						0.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
0.010																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.012																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.015																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.018																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.022																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.027																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.033																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.039																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.047																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.068																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.082																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
0.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
WVDC	25		50	16	25	50	16	25	50	100	16	25	50	100	200	16	25	50	100	200	500																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Letter	A	B	C	E	G	J	K	M	N	P	Q	X	Y	Z
Max. Thickness	0.33 (0.013)	0.22 (0.009)	0.56 (0.022)	0.71 (0.028)	0.90 (0.035)	0.94 (0.037)	1.02 (0.040)	1.27 (0.050)	1.40 (0.055)	1.52 (0.060)	1.78 (0.070)	2.29 (0.090)	2.54 (0.100)	2.79 (0.110)

SIZE	01005						0201						0402						0603						0805						1206					
	PAPER						EMBOSS						EMBOSS						EMBOSS						EMBOSS											



# COG (NP0) Dielectric



## Capacitance Range

### PREFERRED SIZES ARE SHADED

SIZE		1210					1812					1825					2220					2225				
Soldering		Reflow Only					Reflow Only					Reflow Only					Reflow Only					Reflow Only				
Packaging		Paper/Embossed					All Embossed					All Embossed					All Embossed					All Embossed				
(L) Length	mm (in.)	3.20 ± 0.20 (0.126 ± 0.008)					4.50 ± 0.30 (0.177 ± 0.012)					4.50 ± 0.30 (0.177 ± 0.012)					5.70 ± 0.40 (0.225 ± 0.016)					5.72 ± 0.25 (0.225 ± 0.010)				
(W) Width	mm (in.)	2.50 ± 0.20 (0.098 ± 0.008)					3.20 ± 0.20 (0.126 ± 0.008)					6.40 ± 0.40 (0.252 ± 0.016)					5.00 ± 0.40 (0.197 ± 0.016)					6.35 ± 0.25 (0.250 ± 0.010)				
(t) Terminal	mm (in.)	0.50 ± 0.25 (0.020 ± 0.010)					0.61 ± 0.36 (0.024 ± 0.014)					0.61 ± 0.36 (0.024 ± 0.014)					0.64 ± 0.39 (0.025 ± 0.015)					0.64 ± 0.39 (0.025 ± 0.015)				
WVDC		25	50	100	200	500	25	50	100	200	500	50	100	200	50	100	200	50	100	200	50	100	200			
Cap (pF)	0.5																									
	1.0																									
	1.2																									
	1.5																									
	1.8																									
	2.2																									
	2.7																									
	3.3																									
	3.9																									
	4.7																									
	5.6																									
	6.8																									
	8.2																									
	10					J																				
	12					J																				
	15					J																				
	18					J																				
	22					J																				
	27					J																				
	33					J																				
	39					J																				
	47					J																				
	56					J																				
	68					J																				
	82					J																				
	100					J																				
	120					J																				
	150					J																				
	180					J																				
	220					J																				
	270					J																				
	330					J																				
	390					M																				
	470					M																				
	560	J	J	J	J	M																				
	680	J	J	J	J	M																				
	820	J	J	J	J	M																				
	1000	J	J	J	J	M	K	K	K	K	M	M	M	M							M	M	P			
	1200	J	J	J	M	M	K	K	K	K	M	M	M	M							M	M	P			
	1500	J	J	J	M	M	K	K	K	K	M	M	M	M							M	M	P			
	1800	J	J	J	M		K	K	K	K	M	M	M	M							M	M	P			
	2200	J	J	J	Q		K	K	K	K	P	M	M	M							M	M	P			
	2700	J	J	J	Q		K	K	K	P	Q	M	M	M							M	M	P			
	3300	J	J	J			K	K	K	P	Q	M	M	M				X			M	M	P			
	3900	J	J	M			K	K	K	P	Q	M	M	M				X	X	X	M	M	P			
	4700	J	J	M			K	K	K	P	Q	M	M	M	X	X	X	X	X	X	M	M	P			
	5600	J	J				K	K	M	P	X	M	M	M	X	X	X	X	X	X	M	M	P			
	6800	J	J				K	K	M	X		M	M	M	X	X	X	X	X	X	M	M	P			
	8200	J	J				K	M	M		M	M	M	X	X	X	X	X	X	M	M	P				
Cap (µF)	0.010	J	J				K	M	M		M	M	M	X	X	X	X	X	X	M	M	P				
	0.012	J	J				K	M			M	M	M	X	X	X	X	X	X	M	M	P				
	0.015						M	M			M	M	M	X	X	X	X	X	X	M	M	Y				
	0.018						M	M			P	M		X	X	X	X	X	X	M	M	Y				
	0.022						M	M			P			X	X		X	X		M	Y	Y				
	0.027						M	M			P			X	X		X	X		P	Y	Y				
	0.033						M	M			P			X	X		X	X		P						
	0.039						M	M			P			Y			Y			P						
	0.047						M	M			P			Y			Y			P						
	0.068						M	M												P						
	0.082						M	M												Q						
	0.1																			Q						
WVDC		25	50	100	200	500	25	50	100	200	500	50	100	200	50	100	200	50	100	200	50	100	200			
SIZE		1210					1812					1825					2220					2225				
Letter	A	C	E	G	J	K	M	N	P	Q	X	Y	Z													
Max. Thickness	0.33 (0.013)	0.56 (0.022)	0.71 (0.028)	0.90 (0.035)	0.94 (0.037)	1.02 (0.040)	1.27 (0.050)	1.40 (0.055)	1.52 (0.060)	1.78 (0.070)	2.29 (0.090)	2.54 (0.100)	2.79 (0.110)													
	PAPER					EMBOSSSED																				



Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А