Type M15 to M50 Multilayer Ceramic Capacitors

COG (NPO). X7R & Z5U Capacitors

Type M15 to M50 conformally coated radial leaded capacitors cover a wide range of temperature coefficients for a wide variety of applications.

Highlights

- Conformally coated, radial leaded
- Coating meets UL94V-0
- IECQ approved to:
  - QC300601/US0002 - NPO
  - QC300701/US0002 - X7R
  - QC300701/US0004 - Z5U

Specifications

Capacitance Range:	1 pF to 6.8 µF
Voltage Range:	50, 100, 200 Vdc
Capacitance Tolerance:	See ratings tables
Temperature Coefficient:	COG (NPO), X7R & Z5U
Available in Tape and Ammo Pack Configuration:	Add 'TA' to end of catalog part number

Ratings — RoHS Compliant

COG (NPO) Temperature Coefficient
200 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15G109D2-F	1.0 pF	.150	.210	.130	.100
M20G109D2-F	1.0 pF	.200	.260	.150	.100
M22G109D2-F	1.0 pF	.200	.260	.150	.200
M15G159D2-F	1.5 pF	.150	.210	.130	.100
M20G159D2-F	1.5 pF	.200	.260	.150	.100
M22G159D2-F	1.5 pF	.200	.260	.150	.200
M15G229D2-F	2.2 pF	.150	.210	.130	.100
M20G229D2-F	2.2 pF	.200	.260	.150	.100
M22G229D2-F	2.2 pF	.200	.260	.150	.200
M15G279D2-F	2.7 pF	.150	.210	.130	.100
M20G279D2-F	2.7 pF	.200	.260	.150	.100
M22G279D2-F	2.7 pF	.200	.260	.150	.200
M15G339D2-F	3.3 pF	.150	.210	.130	.100
M20G339D2-F	3.3 pF	.200	.260	.150	.100
M22G339D2-F	3.3 pF	.200	.260	.150	.200
M15G399D2-F	3.9 pF	.150	.210	.130	.100
M20G399D2-F	3.9 pF	.200	.260	.150	.100
M22G399D2-F	3.9 pF	.200	.260	.150	.200
M15G479D2-F	4.7 pF	.150	.210	.130	.100
M20G479D2-F	4.7 pF	.200	.260	.150	.100
M22G479D2-F	4.7 pF	.200	.260	.150	.200
M15G569D2-F	5.6 pF	.150	.210	.130	.100
M20G569D2-F	5.6 pF	.200	.260	.150	.100
M22G569D2-F	5.6 pF	.200	.260	.150	.200
M15G689D2-F	6.8 pF	.150	.210	.130	.100
M20G689D2-F	6.8 pF	.200	.260	.150	.100
M22G689D2-F	6.8 pF	.200	.260	.150	.200
M15G829D2-F	8.2 pF	.150	.210	.130	.100
M20G829D2-F	8.2 pF	.200	.260	.150	.100
M22G829D2-F	8.2 pF	.200	.260	.150	.200
M15G100*2-F	10 pF	.150	.210	.130	.100
M20G100*2-F	10 pF	.200	.260	.150	.100
M22G100*2-F	10 pF	.200	.260	.150	.200
M15G120*2-F	12 pF	.150	.210	.130	.100
M20G120*2-F	12 pF	.200	.260	.150	.100
M22G120*2-F	12 pF	.200	.260	.150	.200
M15G150*2-F	15 pF	.150	.210	.130	.100
M20G150*2-F	15 pF	.200	.260	.150	.100
M22G150*2-F	15 pF	.200	.260	.150	.200
M15G180*2-F	18 pF	.150	.210	.130	.100
M20G180*2-F	18 pF	.200	.260	.150	.100
M22G180*2-F	18 pF	.200	.260	.150	.200
M15G220*2-F	22 pF	.150	.210	.130	.100
M20G220*2-F	22 pF	.200	.260	.150	.100
M22G220*2-F	22 pF	.200	.260	.150	.200
M15G270*2-F	27 pF	.150	.210	.130	.100
M20G270*2-F	27 pF	.200	.260	.150	.100
M22G270*2-F	27 pF	.200	.260	.150	.200
M15G330*2-F	33 pF	.150	.210	.130	.100
M20G330*2-F	33 pF	.200	.260	.150	.100
M22G330*2-F	33 pF	.200	.260	.150	.200
M15G390*2-F	39 pF	.150	.210	.130	.100
M20G390*2-F	39 pF	.200	.260	.150	.100
M22G390*2-F	39 pF	.200	.260	.150	.200
M15G470*2-F	47 pF	.150	.210	.130	.100
M20G470*2-F	47 pF	.200	.260	.150	.100
M22G470*2-F	47 pF	.200	.260	.150	.200
M15G560*2-F	56 pF	.150	.210	.130	.100
M20G560*2-F	56 pF	.200	.260	.150	.100
M22G560*2-F	56 pF	.200	.260	.150	.200
M15G680*2-F	68 pF	.150	.210	.130	.100
M20G680*2-F	68 pF	.200	.260	.150	.100
M22G680*2-F	68 pF	.200	.260	.150	.200
M15G820*2-F	82 pF	.150	.210	.130	.100
M20G820*2-F	82 pF	.200	.260	.150	.100
M22G820*2-F	82 pF	.200	.260	.150	.200
M15G101*2-F	100 pF	.150	.210	.130	.100
M20G101*2-F	100 pF	.200	.260	.150	.100
M22G101*2-F	100 pF	.200	.260	.150	.200
M15G121*2-F	120 pF	.150	.210	.130	.100
M20G121*2-F	120 pF	.200	.260	.150	.100
M22G121*2-F	120 pF	.200	.260	.150	.200
M15G151*2-F	150 pF	.150	.210	.130	.100
M20G151*2-F	150 pF	.200	.260	.150	.100
M22G151*2-F	150 pF	.200	.260	.150	.200
M15G181*2-F	180 pF	.150	.210	.130	.100
M20G181*2-F	180 pF	.200	.260	.150	.100
M22G181*2-F	180 pF	.200	.260	.150	.200
M15G221*2-F	220 pF	.150	.210	.130	.100
M20G221*2-F	220 pF	.200	.260	.150	.100
M22G221*2-F	220 pF	.200	.260	.150	.200
M15G271*2-F	270 pF	.150	.210	.130	.100
M20G271*2-F	270 pF	.200	.260	.150	.100
M22G271*2-F	270 pF	.200	.260	.150	.200
M15G331*2-F	330 pF	.150	.210	.130	.100
M20G331*2-F	330 pF	.200	.260	.150	.100
M22G331*2-F	330 pF	.200	.260	.150	.200
M15G391*2-F	390 pF	.150	.210	.130	.100
M20G391*2-F	390 pF	.200	.260	.150	.100
M22G391*2-F	390 pF	.200	.260	.150	.200
M15G471*2-F	470 pF	.150	.210	.130	.100
M20G471*2-F	470 pF	.200	.260	.150	.100
M22G471*2-F	470 pF	.200	.260	.150	.200
M20G561*2-F	560 pF	.200	.260	.150	.100
M22G561*2-F	560 pF	.200	.260	.150	.200
M20G681*2-F	680 pF	.200	.260	.150	.100
M22G681*2-F	680 pF	.200	.260	.150	.200
M20G821*2-F	820 pF	.200	.260	.150	.100
M22G821*2-F	820 pF	.200	.260	.150	.200

Add 'TR' to end of part number for Tape & Reel
M15, M20, M22 - 2,500 per reel
M30 - 1,500; M40 - 1,000 per reel; M50 - N/A
(Available in full reels only)

*Insert proper letter symbol for tolerance
1 pF to 8.2 pF available in D = ±.5 pF only
10 pF to 22 pF: J = ±5%; K = ±10%
27 pF to 47 pF: G = ±2%; J = ±5%; K = ±10%
56 pF & Up: F = ±1%; G = ±2%; J = ±5%; K = ±10%

Type M15 to M50 Multilayer Ceramic Capacitors

Ratings

RoHS Compliant

COG (NPO) Temperature Coefficient

200 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M20G102*2-F	1000 pF	.200	.260	.150	.100
M22G102*2-F	1000 pF	.200	.260	.150	.200
M20G122*2-F	1200 pF	.200	.260	.150	.100
M22G122*2-F	1200 pF	.200	.260	.150	.200
M20G152*2-F	1500 pF	.200	.260	.150	.100
M22G152*2-F	1500 pF	.200	.260	.150	.200
M20G182*2-F	1800 pF	.200	.260	.150	.100
M22G182*2-F	1800 pF	.200	.260	.150	.200
M20G222*2-F	2200 pF	.200	.260	.150	.100
M22G222*2-F	2200 pF	.200	.260	.150	.200
M20G272*2-F	2700 pF	.200	.260	.150	.100
M22G272*2-F	2700 pF	.200	.260	.150	.200
M30G272*2-F	2700 pF	.300	.360	.200	.200
M20G332*2-F	3300 pF	.200	.260	.150	.100
M22G332*2-F	3300 pF	.200	.260	.150	.200
M30G332*2-F	3300 pF	.300	.360	.200	.200
M30G392*2-F	3900 pF	.300	.360	.200	.200
M30G472*2-F	4700 pF	.300	.360	.200	.200
M30G562*2-F	5600 pF	.300	.360	.200	.200
M30G682*2-F	6800 pF	.300	.360	.200	.200
M30G822*2-F	8200 pF	.300	.360	.200	.200
M30G103*2-F	.010 uF	.300	.360	.200	.200
M30G123*2-F	.012 uF	.300	.360	.200	.200
M40G123*2-F	.012 uF	.400	.460	.200	.200
M30G153*2-F	.015 uF	.300	.360	.200	.200
M40G153*2-F	.015 uF	.400	.460	.200	.200
M30G183*2-F	.018 uF	.300	.360	.200	.200
M40G183*2-F	.018 uF	.400	.460	.200	.200
M40G223*2-F	.022 uF	.400	.460	.200	.200
M40G273*2-F	.027 uF	.400	.460	.200	.200
M40G333*2-F	.033 uF	.400	.460	.200	.200
M40G393*2-F	.039 uF	.400	.460	.200	.200
M50G393*2-F	.039 uF	.500	.560	.250	.400
M40G473*2-F	.047 uF	.400	.460	.200	.200
M50G473*2-F	.047 uF	.500	.560	.250	.400
M50G563*2-F	.056 uF	.500	.560	.250	.400
M50G683*2-F	.068 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

100 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15G121*1-F	120 pF	.150	.210	.130	.100
M15G151*1-F	150 pF	.150	.210	.130	.100
M15G181*1-F	180 pF	.150	.210	.130	.100
M15G221*1-F	220 pF	.150	.210	.130	.100
M15G271*1-F	270 pF	.150	.210	.130	.100
M15G331*1-F	330 pF	.150	.210	.130	.100
M15G391*1-F	390 pF	.150	.210	.130	.100
M15G471*1-F	470 pF	.150	.210	.130	.100
M15G561*1-F	560 pF	.150	.210	.130	.100
M15G681*1-F	680 pF	.150	.210	.130	.100
M20G681*1-F	680 pF	.200	.260	.150	.100
M22G681*1-F	680 pF	.200	.260	.150	.200
M15G821*1-F	820 pF	.150	.210	.130	.100
M20G821*1-F	820 pF	.200	.260	.150	.100
M22G821*1-F	820 pF	.200	.260	.150	.200
M15G102*1-F	1000 pF	.150	.210	.130	.100
M20G102*1-F	1000 pF	.200	.260	.150	.100
M22G102*1-F	1000 pF	.200	.260	.150	.200
M20G122*1-F	1200 pF	.200	.260	.150	.100
M22G122*1-F	1200 pF	.200	.260	.150	.200
M20G152*1-F	1500 pF	.200	.260	.150	.100
M22G152*1-F	1500 pF	.200	.260	.150	.200
M20G182*1-F	1800 pF	.200	.260	.150	.100
M22G182*1-F	1800 pF	.200	.260	.150	.200
M20G222*1-F	2200 pF	.200	.260	.150	.100
M22G222*1-F	2200 pF	.200	.260	.150	.200
M20G272*1-F	2700 pF	.200	.260	.150	.100
M22G272*1-F	2700 pF	.200	.260	.150	.200
M20G332*1-F	3300 pF	.200	.260	.150	.100
M22G332*1-F	3300 pF	.200	.260	.150	.200
M30G332*1-F	3300 pF	.300	.360	.200	.200
M20G392*1-F	3900 pF	.200	.260	.150	.100
M22G392*1-F	3900 pF	.200	.260	.150	.200
M30G392*1-F	3900 pF	.300	.360	.200	.200
M20G472*1-F	4700 pF	.200	.260	.150	.100
M22G472*1-F	4700 pF	.200	.260	.150	.200
M30G472*1-F	4700 pF	.300	.360	.200	.200
M20G562*1-F	5600 pF	.200	.260	.150	.100
M22G562*1-F	5600 pF	.200	.260	.150	.200
M30G562*1-F	5600 pF	.300	.360	.200	.200
M30G682*1-F	6800 pF	.300	.360	.200	.200
M30G822*1-F	8200 pF	.300	.360	.200	.200
M30G103*1-F	.01 uF	.300	.360	.200	.200
M30G123*1-F	.012 uF	.300	.360	.200	.200
M30G153*1-F	.015 uF	.300	.360	.200	.200
M30G183*1-F	.018 uF	.300	.360	.200	.200
M30G223*1-F	.022 uF	.300	.360	.200	.200
M30G273*1-F	.027 uF	.300	.360	.200	.200
M40G273*1-F	.027 uF	.400	.460	.200	.200
M40G333*1-F	.033 uF	.400	.460	.200	.200
M40G393*1-F	.039 uF	.400	.460	.200	.200
M50G393*1-F	.039 uF	.500	.560	.250	.400
M40G473*1-F	.047 uF	.400	.460	.200	.200
M50G473*1-F	.047 uF	.500	.560	.250	.400
M40G563*1-F	.056 uF	.400	.460	.200	.200
M50G563*1-F	.056 uF	.500	.560	.250	.400
M40G683*1-F	.068 uF	.400	.460	.200	.200
M50G683*1-F	.068 uF	.500	.560	.250	.400
M50G823*1-F	.082 uF	.500	.560	.250	.400
M50G104*1-F	.1 uF	.500	.560	.250	.400
M50G124*1-F	.12 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

X7R Temperature Coefficient

200 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15R101*2-F	100 pF	.150	.210	.130	.100
M15R121*2-F	120 pF	.150	.210	.130	.100
M15R151*2-F	150 pF	.150	.210	.130	.100
M15R181*2-F	180 pF	.150	.210	.130	.100
M15R221*2-F	220 pF	.150	.210	.130	.100
M15R271*2-F	270 pF	.150	.210	.130	.100
M15R331*2-F	330 pF	.150	.210	.130	.100
M15R391*2-F	390 pF	.150	.210	.130	.100
M15R471*2-F	470 pF	.150	.210	.130	.100
M15R561*2-F	560 pF	.150	.210	.130	.100
M15R681*2-F	680 pF	.150	.210	.130	.100
M15R821*2-F	820 pF	.150	.210	.130	.100
M15R102*2-F	1000 pF	.150	.210	.130	.100
M20R102*2-F	1000 pF	.200	.260	.150	.100
M22R102*2-F	1000 pF	.200	.260	.150	.200
M15R122*2-F	1200 pF	.150	.210	.130	.100
M20R122*2-F	1200 pF	.200	.260	.150	.100
M22R122*2-F	1200 pF	.200	.260	.150	.200
M15R152*2-F	1500 pF	.150	.210	.130	.100
M20R152*2-F	1500 pF	.200	.260	.150	.100
M22R152*2-F	1500 pF	.200	.260	.150	.200
M15R182*2-F	1800 pF	.150	.210	.130	.100
M20R182*2-F	1800 pF	.200	.260	.150	.100
M22R182*2-F	1800 pF	.200	.260	.150	.200
M15R222*2-F	2200 pF	.150	.210	.130	.100
M20R222*2-F	2200 pF	.200	.260	.150	.100
M22R222*2-F	2200 pF	.200	.260	.150	.200

Add 'TR' to end of part number for Tape & Reel

M15, M20, M22 - 2,500 per reel

M30 - 1,500 per reel Full reels only on all

M40 - 1,000 per reel; sizes.

M50 - N/A

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

Type M15 to M50 Multilayer Ceramic Capacitors

Ratings

RoHS Compliant

X7R Temperature Coefficient
200 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M20R272*2-F	2700 pF	.200	.260	.150	.100
M22R272*2-F	2700 pF	.200	.260	.150	.200
M20R332*2-F	3300 pF	.200	.260	.150	.100
M22R332*2-F	3300 pF	.200	.260	.150	.200
M20R392*2-F	3900 pF	.200	.260	.150	.100
M22R392*2-F	3900 pF	.200	.260	.150	.200
M20R472*2-F	4700 pF	.200	.260	.150	.100
M22R472*2-F	4700 pF	.200	.260	.150	.200
M20R562*2-F	5600 pF	.200	.260	.150	.100
M22R562*2-F	5600 pF	.200	.260	.150	.200
M20R682*2-F	6800 pF	.200	.260	.150	.100
M22R682*2-F	6800 pF	.200	.260	.150	.200
M20R822*2-F	8200 pF	.200	.260	.150	.100
M22R822*2-F	8200 pF	.200	.260	.150	.200
M20R103*2-F	.010 uF	.200	.260	.150	.100
M22R103*2-F	.010 uF	.200	.260	.150	.200
M20R123*2-F	.012 uF	.200	.260	.150	.100
M22R123*2-F	.012 uF	.200	.260	.150	.200
M20R153*2-F	.015 uF	.200	.260	.150	.100
M22R153*2-F	.015 uF	.200	.260	.150	.200
M30R153*2-F	.015 uF	.300	.360	.200	.200
M20R183*2-F	.018 uF	.200	.260	.150	.100
M22R183*2-F	.018 uF	.200	.260	.150	.200
M30R183*2-F	.018 uF	.300	.360	.200	.200
M20R223*2-F	.022 uF	.200	.260	.150	.100
M22R223*2-F	.022 uF	.200	.260	.150	.200
M30R223*2-F	.022 uF	.300	.360	.200	.200
M30R273*2-F	.027 uF	.300	.360	.200	.200
M30R333*2-F	.033 uF	.300	.360	.200	.200
M30R393*2-F	.039 uF	.300	.360	.200	.200
M30R473*2-F	.047 uF	.300	.360	.200	.200
M30R563*2-F	.056 uF	.300	.360	.200	.200
M30R683*2-F	.068 uF	.300	.360	.200	.200
M30R823*2-F	.082 uF	.300	.360	.200	.200
M40R823*2-F	.082 uF	.400	.460	.200	.200
M30R104*2-F	.10 uF	.300	.360	.200	.200
M40R104*2-F	.10 uF	.400	.460	.200	.200
M40R124*2-F	.12 uF	.400	.460	.200	.200
M40R154*2-F	.15 uF	.400	.460	.200	.200
M40R184*2-F	.18 uF	.400	.460	.200	.200
M40R224*2-F	.22 uF	.400	.460	.200	.200
M50R224*2-F	.22 uF	.500	.560	.250	.400
M40R274*2-F	.27 uF	.400	.460	.200	.200
M50R274*2-F	.27 uF	.500	.560	.250	.400
M50R334*2-F	.33 uF	.500	.560	.250	.400
M50R394*2-F	.39 uF	.500	.560	.250	.400
M50R474*2-F	.47 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

100 Vdc X7R

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15R821*1-F	820 pF	.150	.210	.130	.100
M15R102*1-F	1000 pF	.150	.210	.130	.100
M15R122*1-F	1200 pF	.150	.210	.130	.100
M15R152*1-F	1500 pF	.150	.210	.130	.100
M15R182*1-F	1800 pF	.150	.210	.130	.100
M15R222*1-F	2200 pF	.150	.210	.130	.100
M15R272*1-F	2700 pF	.150	.210	.130	.100
M15R332*1-F	3300 pF	.150	.210	.130	.100
M15R392*1-F	3900 pF	.150	.210	.130	.100
M15R472*1-F	4700 pF	.150	.210	.130	.100
M20R472*1-F	4700 pF	.200	.260	.150	.100
M22R472*1-F	4700 pF	.200	.260	.150	.200
M15R562*1-F	5600 pF	.150	.210	.130	.100
M20R562*1-F	5600 pF	.200	.260	.150	.100
M22R562*1-F	5600 pF	.200	.260	.150	.200
M15R682*1-F	6800 pF	.150	.210	.130	.100
M20R682*1-F	6800 pF	.200	.260	.150	.100
M22R682*1-F	6800 pF	.200	.260	.150	.200
M15R822*1-F	8200 pF	.150	.210	.130	.100
M20R822*1-F	8200 pF	.200	.260	.150	.100
M22R822*1-F	8200 pF	.200	.260	.150	.200
M15R103*1-F	.010 uF	.150	.210	.130	.100
M20R103*1-F	.010 uF	.200	.260	.150	.100
M22R103*1-F	.010 uF	.200	.260	.150	.200
M20R123*1-F	.012 uF	.200	.260	.150	.100
M22R123*1-F	.012 uF	.200	.260	.150	.200
M20R153*1-F	.015 uF	.200	.260	.150	.100
M22R153*1-F	.015 uF	.200	.260	.150	.200
M20R183*1-F	.018 uF	.200	.260	.150	.100
M22R183*1-F	.018 uF	.200	.260	.150	.200
M20R223*1-F	.022 uF	.200	.260	.150	.100
M22R223*1-F	.022 uF	.200	.260	.150	.200
M20R273*1-F	.027 uF	.200	.260	.150	.100
M22R273*1-F	.027 uF	.200	.260	.150	.200
M20R333*1-F	.033 uF	.200	.260	.150	.100
M22R333*1-F	.033 uF	.200	.260	.150	.200
M20R393*1-F	.039 uF	.200	.260	.150	.100
M22R393*1-F	.039 uF	.200	.260	.150	.200
M20R473*1-F	.047 uF	.200	.260	.150	.100
M22R473*1-F	.047 uF	.200	.260	.150	.200
M20R563*1-F	.056 uF	.200	.260	.150	.100
M22R563*1-F	.056 uF	.200	.260	.150	.200
M20R683*1-F	.068 uF	.200	.260	.150	.100
M22R683*1-F	.068 uF	.200	.260	.150	.200
M30R683*1-F	.068 uF	.300	.360	.200	.200
M20R823*1-F	.082 uF	.200	.260	.150	.100
M22R823*1-F	.082 uF	.200	.260	.150	.200
M30R823*1-F	.082 uF	.300	.360	.200	.200
M20R104*1-F	.10 uF	.200	.260	.150	.100
M22R104*1-F	.10 uF	.200	.260	.150	.200
M30R104*1-F	.10 uF	.300	.360	.200	.200
M30R124*1-F	.12 uF	.300	.360	.200	.200
M30R154*1-F	.15 uF	.300	.360	.200	.200
M30R184*1-F	.18 uF	.300	.360	.200	.200
M30R224*1-F	.22 uF	.300	.360	.200	.200
M30R274*1-F	.27 uF	.300	.360	.200	.200
M30R334*1-F	.33 uF	.300	.360	.200	.200
M40R334*1-F	.33 uF	.400	.460	.200	.200
M30R394*1-F	.39 uF	.300	.360	.200	.200
M40R394*1-F	.39 uF	.400	.460	.200	.200
M30R474*1-F	.47 uF	.300	.360	.200	.200
M40R474*1-F	.47 uF	.400	.460	.200	.200
M40R564*1-F	.56 uF	.400	.460	.200	.200
M40R684*1-F	.68 uF	.400	.460	.200	.200
M50R684*1-F	.68 uF	.500	.560	.250	.400
M40R824*1-F	.82 uF	.400	.460	.200	.200
M50R824*1-F	.82 uF	.500	.560	.250	.400
M40R105*1-F	1.0 uF	.400	.460	.200	.200
M50R105*1-F	1.0 uF	.500	.560	.250	.400
M50R125*1-F	1.2 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

50 Vdc X7R

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15R332*5-F	3300 pF	.150	.210	.130	.100
M15R392*5-F	3900 pF	.150	.210	.130	.100
M15R472*5-F	4700 pF	.150	.210	.130	.100
M15R562*5-F	5600 pF	.150	.210	.130	.100
M15R682*5-F	6800 pF	.150	.210	.130	.100
M15R822*5-F	8200 pF	.150	.210	.130	.100
M15R103*5-F	.010 uF	.150	.210	.130	.100
M15R123*5-F	.012 uF	.150	.210	.130	.100
M20R123*5-F	.012 uF	.200	.260	.150	.100
M22R123*5-F	.012 uF	.200	.260	.150	.200
M15R153*5-F	.015 uF	.150	.210	.130	.100
M20R153*5-F	.015 uF	.200	.260	.150	.100

Add 'TR' to end of part number for Tape & Reel

M15, M20, M22 - 2,500 per reel

M30 - 1,500 per reel Full reels only on all sizes

M40 - 1,000 per reel

M50 - N/A

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

Type M15 to M50 Multilayer Ceramic Capacitors

Ratings

RoHS Compliant

X7R Temperature Coefficient
50 Vdc X7R

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M22R153*5-F	.015 uF	.200	.260	.150	.200
M15R183*5-F	.018 uF	.150	.210	.130	.100
M20R183*5-F	.018 uF	.200	.260	.150	.100
M22R183*5-F	.018 uF	.200	.260	.150	.200
M15R223*5-F	.022 uF	.150	.210	.130	.100
M20R223*5-F	.022 uF	.200	.260	.150	.100
M22R223*5-F	.022 uF	.200	.260	.150	.200
M15R273*5-F	.027 uF	.150	.210	.130	.100
M20R273*5-F	.027 uF	.200	.260	.150	.100
M22R273*5-F	.027 uF	.200	.260	.150	.200
M15R333*5-F	.033 uF	.150	.210	.130	.100
M20R333*5-F	.033 uF	.200	.260	.150	.100
M22R333*5-F	.033 uF	.200	.260	.150	.200
M20R393*5-F	.039 uF	.200	.260	.150	.100
M22R393*5-F	.039 uF	.200	.260	.150	.200
M20R473*5-F	.047 uF	.200	.260	.150	.100
M22R473*5-F	.047 uF	.200	.260	.150	.200
M20R563*5-F	.056 uF	.200	.260	.150	.100
M22R563*5-F	.056 uF	.200	.260	.150	.200
M20R683*5-F	.068 uF	.200	.260	.150	.100
M22R683*5-F	.068 uF	.200	.260	.150	.200
M20R823*5-F	.082 uF	.200	.260	.150	.100
M22R823*5-F	.082 uF	.200	.260	.150	.200
M20R104*5-F	.10 uF	.200	.260	.150	.100
M22R104*5-F	.10 uF	.200	.260	.150	.200
M20R124*5-F	.12 uF	.200	.260	.150	.100
M22R124*5-F	.12 uF	.200	.260	.150	.200
M20R154*5-F	.15 uF	.200	.260	.150	.100
M22R154*5-F	.15 uF	.200	.260	.150	.200
M30R154*5-F	.15 uF	.300	.360	.200	.200
M20R184*5-F	.18 uF	.200	.260	.150	.100
M22R184*5-F	.18 uF	.200	.260	.150	.200
M30R184*5-F	.18 uF	.300	.360	.200	.200
M20R224*5-F	.22 uF	.200	.260	.150	.100
M22R224*5-F	.22 uF	.200	.260	.150	.200
M30R224*5-F	.22 uF	.300	.360	.200	.200
M20R274*5-F	.27 uF	.200	.260	.150	.100
M22R274*5-F	.27 uF	.200	.260	.150	.200
M30R274*5-F	.27 uF	.300	.360	.200	.200
M30R334*5-F	.33 uF	.300	.360	.200	.200
M30R394*5-F	.39 uF	.300	.360	.200	.200
M30R474*5-F	.47 uF	.300	.360	.200	.200
M30R564*5-F	.56 uF	.300	.360	.200	.200
M30R684*5-F	.68 uF	.300	.360	.200	.200
M30R824*5-F	.82 uF	.300	.360	.200	.200
M30R105*5-F	1.0 uF	.300	.360	.200	.200
M40R105*5-F	1.0 uF	.400	.460	.200	.200
M40R125*5-F	1.2 uF	.400	.460	.200	.200
M40R155*5-F	1.5 uF	.400	.460	.200	.200
M40R185*5-F	1.8 uF	.400	.460	.200	.200
M40R225*5-F	2.2 uF	.400	.460	.200	.200
M50R225*5-F	2.2 uF	.500	.560	.250	.400
M50R275*5-F	2.7 uF	.500	.560	.250	.400
M50R335*5-F	3.3 uF	.500	.560	.250	.400
M50R395*5-F	3.9 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

Z5U Temperature Coefficient
100 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15U102*1-F	1000 pF	.150	.210	.130	.100
M15U122*1-F	1200 pF	.150	.210	.130	.100
M15U152*1-F	1500 pF	.150	.210	.130	.100
M15U182*1-F	1800 pF	.150	.210	.130	.100
M15U222*1-F	2200 pF	.150	.210	.130	.100
M15U272*1-F	2700 pF	.150	.210	.130	.100
M15U332*1-F	3300 pF	.150	.210	.130	.100
M15U392*1-F	3900 pF	.150	.210	.130	.100
M15U472*1-F	4700 pF	.150	.210	.130	.100
M15U562*1-F	5600 pF	.150	.210	.130	.100
M15U682*1-F	6800 uF	.150	.210	.130	.100
M15U822*1-F	8200 pF	.150	.210	.130	.100
M15U103*1-F	.010 Uf	.150	.210	.130	.100
M20U103*1-F	.010 uF	.200	.260	.150	.100
M22U103*1-F	.010 uF	.200	.260	.150	.200
M15U123*1-F	.012 uF	.150	.210	.130	.100
M20U123*1-F	.012 uF	.200	.260	.150	.100
M22U123*1-F	.012 uF	.200	.260	.150	.200
M15U153*1-F	.015 uF	.150	.210	.130	.100
M20U153*1-F	.015 uF	.200	.260	.150	.100
M22U153*1-F	.015 uF	.200	.260	.150	.200
M15U183*1-F	.018 uF	.150	.210	.130	.100
M20U183*1-F	.018 uF	.200	.260	.150	.100
M22U183*1-F	.018 uF	.200	.260	.150	.200
M20U223*1-F	.022 uF	.200	.260	.150	.100
M22U223*1-F	.022 uF	.200	.260	.150	.200
M20U273*1-F	.027 uF	.200	.260	.150	.100
M22U273*1-F	.027 uF	.200	.260	.150	.200
M20U333*1-F	.033 uF	.200	.260	.150	.100
M22U333*1-F	.033 uF	.200	.260	.150	.200
M20U393*1-F	.039 uF	.200	.260	.150	.100
M22U393*1-F	.039 uF	.200	.260	.150	.200
M20U473*1-F	.047 uF	.200	.260	.150	.100
M22U473*1-F	.047 uF	.200	.260	.150	.200
M20U563*1-F	.056 uF	.200	.260	.150	.100
M22U563*1-F	.056 uF	.200	.260	.150	.200
M20U683*1-F	.068 uF	.200	.260	.150	.100
M22U683*1-F	.068 uF	.200	.260	.150	.200
M20U823*1-F	.082 uF	.200	.260	.150	.100
M22U823*1-F	.082 uF	.200	.260	.150	.200
M20U104*1-F	.10 uF	.200	.260	.150	.100
M22U104*1-F	.10 uF	.200	.260	.150	.200
M30U104*1-F	.10 uF	.300	.360	.200	.200
M20U124*1-F	.12 uF	.200	.260	.150	.100
M22U124*1-F	.12 uF	.200	.260	.150	.200
M30U124*1-F	.12 uF	.300	.360	.200	.200
M20U154*1-F	.15 uF	.200	.260	.150	.100
M22U154*1-F	.15 uF	.200	.260	.150	.200
M30U154*1-F	.15 uF	.300	.360	.200	.200
M30U184*1-F	.18 uF	.300	.360	.200	.200
M30U224*1-F	.22 uF	.300	.360	.200	.200
M30U274*1-F	.27 uF	.300	.360	.200	.200
M30U334*1-F	.33 uF	.300	.360	.200	.200
M40U334*1-F	.33 uF	.400	.460	.200	.200
M30U394*1-F	.39 uF	.300	.360	.200	.200
M40U394*1-F	.39 uF	.400	.460	.200	.200
M30U474*1-F	.47 uF	.300	.360	.200	.200
M40U474*1-F	.47 uF	.400	.460	.200	.200
M40U564*1-F	.56 uF	.400	.460	.200	.200
M40U684*1-F	.68 uF	.400	.460	.200	.200
M40U824*1-F	.82 uF	.400	.460	.200	.200
M40U105*1-F	1.0 uF	.400	.460	.200	.200
M50U105*1-F	1.0 uF	.500	.560	.250	.400
M40U125*1-F	1.2 uF	.400	.460	.200	.200
M50U125*1-F	1.2 uF	.500	.560	.250	.400
M40U155*1-F	1.5 uF	.400	.460	.200	.200
M50U155*1-F	1.5 uF	.500	.560	.250	.400
M50U185*1-F	1.8 uF	.500	.560	.250	.400
M50U225*1-F	2.2 uF	.500	.560	.250	.400

*Insert proper letter symbol for tolerance

K = 10%; M = ±20%

Add 'TR' to end of part number for Tape & Reel
M15, M20, M22 - 2,500 per reel
M30 - 1,500 per reel Full reels only on all
M40 - 1,000 per reel; sizes.
M50 - N/A

Ratings

RoHS Compliant

Z5U Temperature Coefficient
50 Vdc

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15U472*5-F	4700 pF	.150	.210	.130	.100
M15U562*5-F	5600 pF	.150	.210	.130	.100
M15U682*5-F	6800 pF	.150	.210	.130	.100
M15U822*5-F	8200 pF	.150	.210	.130	.100
M15U103*5-F	.010 uF	.150	.210	.130	.100
M15U123*5-F	.012 uF	.150	.210	.130	.100
M15U153*5-F	.015 uF	.150	.210	.130	.100
M15U183*5-F	.018 uF	.150	.210	.130	.100
M15U223*5-F	.022 uF	.150	.210	.130	.100
M15U273*5-F	.027 uF	.150	.210	.130	.100
M20U273*5-F	.027 uF	.200	.260	.150	.100
M22U273*5-F	.027 uF	.200	.260	.150	.200
M15U333*5-F	.033 uF	.150	.210	.130	.100
M20U333*5-F	.033 uF	.200	.260	.150	.100
M22U333*5-F	.033 uF	.200	.260	.150	.200
M15U393*5-F	.039 uF	.150	.210	.130	.100
M20U393*5-F	.039 uF	.200	.260	.150	.100
M22U393*5-F	.039 uF	.200	.260	.150	.200
M15U473*5-F	.047 uF	.150	.210	.130	.100
M20U473*5-F	.047 uF	.200	.260	.150	.100
M22U473*5-F	.047 uF	.200	.260	.150	.200
M15U563*5-F	.056 uF	.150	.210	.130	.100
M20U563*5-F	.056 uF	.200	.260	.150	.100
M22U563*5-F	.056 uF	.200	.260	.150	.200

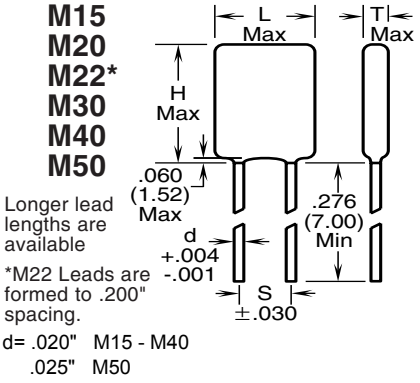
Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M15U683*5-F	.068 uF	.150	.210	.130	.100
M20U683*5-F	.068 uF	.200	.260	.150	.100
M22U683*5-F	.068 uF	.200	.260	.150	.200
M20U823*5-F	.082 uF	.200	.260	.150	.100
M22U823*5-F	.082 uF	.200	.260	.150	.200
M15U104*5-F	.10 uF	.150	.210	.130	.100
M20U104*5-F	.10 uF	.200	.260	.150	.100
M22U104*5-F	.10 uF	.200	.260	.150	.200
M20U124*5-F	.12 uF	.200	.260	.150	.100
M22U124*5-F	.12 uF	.200	.260	.150	.200
M20U154*5-F	.15 uF	.200	.260	.150	.100
M22U154*5-F	.15 uF	.200	.260	.150	.200
M20U184*5-F	.18 uF	.200	.260	.150	.100
M22U184*5-F	.18 uF	.200	.260	.150	.200
M20U224*5-F	.22 uF	.200	.260	.150	.100
M22U224*5-F	.22 uF	.200	.260	.150	.200
M20U274*5-F	.27 uF	.200	.260	.150	.100
M22U274*5-F	.27 uF	.200	.260	.150	.200
M30U274*5-F	.27 uF	.300	.360	.200	.200
M20U334*5-F	.33 uF	.200	.260	.150	.100
M22U334*5-F	.33 uF	.200	.260	.150	.200
M30U334*5-F	.33 uF	.300	.360	.200	.200
M20U394*5-F	.39 uF	.200	.260	.150	.100
M22U394*5-F	.39 uF	.200	.260	.150	.200
M30U394*5-F	.39 uF	.300	.360	.200	.200

Catalog Part Number	Cap	Sizes (Inches) L	H	T	S
M20U474*5-F	.47 uF	.200	.260	.150	.100
M22U474*5-F	.47 uF	.200	.260	.150	.200
M30U474*5-F	.47 uF	.300	.360	.200	.200
M20U564*5-F	.56 uF	.200	.260	.150	.100
M22U564*5-F	.56 uF	.200	.260	.150	.200
M30U564*5-F	.56 uF	.300	.360	.200	.200
M30U684*5-F	.68 uF	.300	.360	.200	.200
M30U824*5-F	.82 uF	.300	.360	.200	.200
M30U105*5-F	1.0 uF	.300	.360	.200	.200
M30U125*5-F	1.2 uF	.300	.360	.200	.200
M40U125*5-F	1.2 uF	.400	.460	.200	.200
M30U155*5-F	1.5 uF	.300	.360	.200	.200
M40U155*5-F	1.5 uF	.400	.460	.200	.200
M30U185*5-F	1.8 uF	.300	.360	.200	.200
M40U185*5-F	1.8 uF	.400	.460	.200	.200
M40U225*5-F	2.2 uF	.400	.460	.200	.200
M40U275*5-F	2.7 uF	.400	.460	.200	.200
M40U335*5-F	3.3 uF	.400	.460	.200	.200
M40U395*5-F	3.9 uF	.400	.460	.200	.200
M50U395*5-F	3.9 uF	.500	.560	.250	.400
M40U475*5-F	4.7 uF	.400	.460	.200	.200
M50U475*5-F	4.7 uF	.500	.560	.250	.400
M50U565*5-F	5.6 uF	.500	.560	.250	.400
M50U685*5-F	6.8 uF	.500	.560	.250	.400

Add 'TR' to end of part number for Tape & Reel
M15, M20, M22 - 2,500 per reel
M30 - 1,500 per reel Full reels only on all
M40 - 1,000 per reel; sizes.
M50 - N/A

*Insert proper letter symbol for tolerance
K = 10%; M = ±20%

Outline Drawing



M30 Z5U 100 V 104 - 334 leads are formed to .200”
M30 X7R 50 V 154-105 leads are formed to .200”

OCEAN CHIPS
Океан Электроники
Поставка электронных компонентов

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**».

AVIC 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).

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