

# MLCC with Dipped Radial Lead

Commercial Grade

General (Up to 50V)

FK Series

**Type:**            **FK28, FK18**  
                         **FK24, FK14**  
                         **FK26, FK16**  
                         **FK20, FK11**  
                         **FK22**

**Issue date:**     **March 2013**

- All specifications are subject to change without notice.
  - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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Conformity to RoHS Directive

## General (Up to 50V) FK Series

### FEATURES

- High capacitance has been achieved through improvements in the thinning process of ceramic dielectric layers and multi-layer lamination technology.
- High reliability is maintained under specified environmental conditions.
- Low residual inductance and excellent frequency characteristics has been achieved.
- The leads are formed with a "kink" to achieve consistent insertion heights and facilitate the release of gases during soldering for dramatically improved solderability.
- Taping specifications are available for automatic insertions, which contribute to reduce on-board costs.

### PRODUCT IDENTIFICATION

FK 28 C0G 1H 101 J □□□□  
(1) (2) (3) (4) (5) (6) (7)

(1) Series name

(2) Dimensions and shapes of lead wire



Dimensions in mm							
Type	L max.	W max.	T max.	F	ℓ	ød	Fig
28	4.0	5.5	2.5	5.0±1.0	7±2	0.5+0.1,-0.03	1
24	4.5	5.5	2.5	5.0±1.0	7±2	0.5+0.1,-0.03	1
26	5.5	6.0	3.5	5.0±1.0	7±2	0.5+0.1,-0.03	1
20	5.5	7.0	4.0	5.0±1.0	7±2	0.5+0.1,-0.03	1
22	7.5	8.0	4.0	5.0±1.0	7±2	0.5+0.1,-0.03	1
18	4.0	5.5	2.5	2.5±0.8	5+3,-1	0.5+0.1,-0.03	2
14	4.5	5.5	2.5	2.5±0.8	5+3,-1	0.5+0.1,-0.03	2
16	5.5	6.0	3.5	2.5±0.8	5+3,-1	0.5+0.1,-0.03	2
11	5.5	7.0	4.0	2.5±0.8	5+3,-1	0.5+0.1,-0.03	2

(3) Capacitance temperature characteristics

Class 1 (Temperature compensation)

Temperature characteristics	Capacitance change	Temperature range
C0G	0±30ppm/°C	-55 to +125°C

Class 2 (Temperature stable and general purpose)

Temperature characteristics	Capacitance change	Temperature range
X7R	±15%	-55 to +125°C
X5R	±15%	-55 to +85°C
X7S	±22%	-55 to +125°C

(4) Rated voltage E<sub>dc</sub>

0J	6.3V
1A	10V
1C	16V
1E	25V
1H	50V

(5) Nominal capacitance

The capacitance is expressed in three digit codes and in units of pico farads (pF).

The first and second digits identify the first and second significant figures of the capacitance.

The third digit identifies the multiplier.

0R5	0.5pF
010	1pF
100	10pF
102	1,000pF

(6) Capacitance tolerance

Symbol	Tolerance	Applicable capacitance range
C	±0.25pF	10pF max.
D	±0.5pF	
J	±5%	Over 10pF
K	±10%	
M	±20%	

(7) TDK internal code

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**CAPACITANCE RANGES: CLASS 1 (TEMPERATURE COMPENSATION)**
**FK28 AND FK18 TYPES**
**SHAPES AND DIMENSIONS**

**RATED VOLTAGE Edc: 50V**

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No. FK28 type	FK18 type
C0G	1pF	±0.25pF	50	FK28C0G1H010C	FK18C0G1H010C
C0G	1.5pF	±0.25pF	50	FK28C0G1H1R5C	FK18C0G1H1R5C
C0G	2pF	±0.25pF	50	FK28C0G1H020C	FK18C0G1H020C
C0G	2.2pF	±0.25pF	50	FK28C0G1H2R2C	FK18C0G1H2R2C
C0G	3pF	±0.25pF	50	FK28C0G1H030C	FK18C0G1H030C
C0G	3.3pF	±0.25pF	50	FK28C0G1H3R3C	FK18C0G1H3R3C
C0G	4pF	±0.25pF	50	FK28C0G1H040C	FK18C0G1H040C
C0G	4.7pF	±0.25pF	50	FK28C0G1H4R7C	FK18C0G1H4R7C
C0G	5pF	±0.25pF	50	FK28C0G1H050C	FK18C0G1H050C
C0G	6pF	±0.5pF	50	FK28C0G1H060D	FK18C0G1H060D
C0G	6.8pF	±0.5pF	50	FK28C0G1H6R8D	FK18C0G1H6R8D
C0G	7pF	±0.5pF	50	FK28C0G1H070D	FK18C0G1H070D
C0G	8pF	±0.5pF	50	FK28C0G1H080D	FK18C0G1H080D
C0G	9pF	±0.5pF	50	FK28C0G1H090D	FK18C0G1H090D
C0G	10pF	±0.5pF	50	FK28C0G1H100D	FK18C0G1H100D
C0G	12pF	±5%	50	FK28C0G1H120J	FK18C0G1H120J
C0G	15pF	±5%	50	FK28C0G1H150J	FK18C0G1H150J
C0G	18pF	±5%	50	FK28C0G1H180J	FK18C0G1H180J
C0G	22pF	±5%	50	FK28C0G1H220J	FK18C0G1H220J
C0G	27pF	±5%	50	FK28C0G1H270J	FK18C0G1H270J
C0G	33pF	±5%	50	FK28C0G1H330J	FK18C0G1H330J
C0G	39pF	±5%	50	FK28C0G1H390J	FK18C0G1H390J
C0G	47pF	±5%	50	FK28C0G1H470J	FK18C0G1H470J
C0G	56pF	±5%	50	FK28C0G1H560J	FK18C0G1H560J
C0G	68pF	±5%	50	FK28C0G1H680J	FK18C0G1H680J
C0G	82pF	±5%	50	FK28C0G1H820J	FK18C0G1H820J
C0G	100pF	±5%	50	FK28C0G1H101J	FK18C0G1H101J
C0G	120pF	±5%	50	FK28C0G1H121J	FK18C0G1H121J
C0G	150pF	±5%	50	FK28C0G1H151J	FK18C0G1H151J
C0G	180pF	±5%	50	FK28C0G1H181J	FK18C0G1H181J
C0G	220pF	±5%	50	FK28C0G1H221J	FK18C0G1H221J
C0G	270pF	±5%	50	FK28C0G1H271J	FK18C0G1H271J
C0G	330pF	±5%	50	FK28C0G1H331J	FK18C0G1H331J
C0G	390pF	±5%	50	FK28C0G1H391J	FK18C0G1H391J
C0G	470pF	±5%	50	FK28C0G1H471J	FK18C0G1H471J
C0G	560pF	±5%	50	FK28C0G1H561J	FK18C0G1H561J
C0G	680pF	±5%	50	FK28C0G1H681J	FK18C0G1H681J
C0G	820pF	±5%	50	FK28C0G1H821J	FK18C0G1H821J
C0G	1000pF	±5%	50	FK28C0G1H102J	FK18C0G1H102J
C0G	1200pF	±5%	50	FK28C0G1H122J	FK18C0G1H122J
C0G	1500pF	±5%	50	FK28C0G1H152J	FK18C0G1H152J
C0G	1800pF	±5%	50	FK28C0G1H182J	FK18C0G1H182J
C0G	2200pF	±5%	50	FK28C0G1H222J	FK18C0G1H222J
C0G	2700pF	±5%	50	FK28C0G1H272J	FK18C0G1H272J
C0G	3300pF	±5%	50	FK28C0G1H332J	FK18C0G1H332J
C0G	3900pF	±5%	50	FK28C0G1H392J	FK18C0G1H392J
C0G	4700pF	±5%	50	FK28C0G1H472J	FK18C0G1H472J
C0G	5600pF	±5%	50	FK28C0G1H562J	FK18C0G1H562J
C0G	6800pF	±5%	50	FK28C0G1H682J	FK18C0G1H682J
C0G	8200pF	±5%	50	FK28C0G1H822J	FK18C0G1H822J
C0G	10000pF	±5%	50	FK28C0G1H103J	FK18C0G1H103J

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## FK24 AND FK14 TYPES

### SHAPES AND DIMENSIONS



#### RATED VOLTAGE Edc: 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK24 type	FK14 type
C0G	2700pF	±5%	50	FK24C0G1H272J	FK14C0G1H272J
C0G	3300pF	±5%	50	FK24C0G1H332J	FK14C0G1H332J
C0G	3900pF	±5%	50	FK24C0G1H392J	FK14C0G1H392J
C0G	4700pF	±5%	50	FK24C0G1H472J	FK14C0G1H472J
C0G	5600pF	±5%	50	FK24C0G1H562J	FK14C0G1H562J
C0G	6800pF	±5%	50	FK24C0G1H682J	FK14C0G1H682J
C0G	8200pF	±5%	50	FK24C0G1H822J	FK14C0G1H822J
C0G	10000pF	±5%	50	FK24C0G1H103J	FK14C0G1H103J
C0G	15000pF	±5%	50	FK24C0G1H153J	FK14C0G1H153J
C0G	22000pF	±5%	50	FK24C0G1H223J	FK14C0G1H223J
C0G	33000pF	±5%	50	FK24C0G1H333J	FK14C0G1H333J

## FK26 AND FK16 TYPES

### SHAPES AND DIMENSIONS



#### RATED VOLTAGE Edc: 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK26 type	FK16 type
C0G	4700pF	±5%	50	FK26C0G1H472J	FK16C0G1H472J
C0G	5600pF	±5%	50	FK26C0G1H562J	FK16C0G1H562J
C0G	6800pF	±5%	50	FK26C0G1H682J	FK16C0G1H682J
C0G	8200pF	±5%	50	FK26C0G1H822J	FK16C0G1H822J
C0G	10000pF	±5%	50	FK26C0G1H103J	FK16C0G1H103J
C0G	15000pF	±5%	50	FK26C0G1H153J	FK16C0G1H153J
C0G	22000pF	±5%	50	FK26C0G1H223J	FK16C0G1H223J
C0G	33000pF	±5%	50	FK26C0G1H333J	FK16C0G1H333J
C0G	47000pF	±5%	50	FK26C0G1H473J	FK16C0G1H473J
C0G	68000pF	±5%	50	FK26C0G1H683J	FK16C0G1H683J
C0G	0.1μF	±5%	50	FK26C0G1H104J	FK16C0G1H104J

## FK20 AND FK11 TYPES

### SHAPES AND DIMENSIONS



#### RATED VOLTAGE Edc: 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK20 type	FK11 type
C0G	22000pF	±5%	50	FK20C0G1H223J	FK11C0G1H223J
C0G	33000pF	±5%	50	FK20C0G1H333J	FK11C0G1H333J
C0G	47000pF	±5%	50	FK20C0G1H473J	FK11C0G1H473J
C0G	68000pF	±5%	50	FK20C0G1H683J	FK11C0G1H683J
C0G	0.1μF	±5%	50	FK20C0G1H104J	FK11C0G1H104J

## FK22 TYPE

### SHAPES AND DIMENSIONS



#### RATED VOLTAGE Edc: 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.
				FK22 type
C0G	0.15μF	±5%	50	FK22C0G1H154J
C0G	0.22μF	±5%	50	FK22C0G1H224J

**CAPACITANCE RANGES: CLASS 2 (TEMPERATURE STABLE)**
**FK28 AND FK18 TYPES**
**SHAPES AND DIMENSIONS**

**RATED VOLTAGE E<sub>dc</sub>: 6.3 to 50V**

Temperature characteristics	Capacitance	Tolerance	Rated voltage E <sub>dc</sub> (V)	Part No. FK28 type	FK18 type
X7R	1000pF	±10%	50	FK28X7R1H102K	FK18X7R1H102K
X7R	1500pF	±10%	50	FK28X7R1H152K	FK18X7R1H152K
X7R	2200pF	±10%	50	FK28X7R1H222K	FK18X7R1H222K
X7R	3300pF	±10%	50	FK28X7R1H332K	FK18X7R1H332K
X7R	4700pF	±10%	50	FK28X7R1H472K	FK18X7R1H472K
X7R	6800pF	±10%	50	FK28X7R1H682K	FK18X7R1H682K
X7R	10000pF	±10%	50	FK28X7R1H103K	FK18X7R1H103K
X7R	15000pF	±10%	50	FK28X7R1H153K	FK18X7R1H153K
X7R	22000pF	±10%	50	FK28X7R1H223K	FK18X7R1H223K
X7R	33000pF	±10%	50	FK28X7R1H333K	FK18X7R1H333K
X7R	47000pF	±10%	50	FK28X7R1H473K	FK18X7R1H473K
X7R	68000pF	±10%	50	FK28X7R1H683K	FK18X7R1H683K
X7R	0.1μF	±10%	50	FK28X7R1H104K	FK18X7R1H104K
X7R	0.15μF	±10%	50	FK28X7R1H154K	FK18X7R1H154K
X7R	0.22μF	±10%	50	FK28X7R1H224K	FK18X7R1H224K
X7R	0.1μF	±10%	25	FK28X7R1E104K	FK18X7R1E104K
X7R	0.15μF	±10%	25	FK28X7R1E154K	FK18X7R1E154K
X7R	0.22μF	±10%	25	FK28X7R1E224K	FK18X7R1E224K
X7R	0.33μF	±10%	25	FK28X7R1E334K	FK18X7R1E334K
X7R	0.47μF	±10%	25	FK28X7R1E474K	FK18X7R1E474K
X7R	0.68μF	±10%	25	FK28X7R1E684K	FK18X7R1E684K
X7R	1μF	±10%	25	FK28X7R1E105K	FK18X7R1E105K
X7R	0.22μF	±10%	16	FK28X7R1C224K	FK18X7R1C224K
X7R	0.33μF	±10%	16	FK28X7R1C334K	FK18X7R1C334K
X7R	0.47μF	±10%	16	FK28X7R1C474K	FK18X7R1C474K
X7R	0.68μF	±10%	16	FK28X7R1C684K	FK18X7R1C684K
X7R	1μF	±10%	16	FK28X7R1C105K	FK18X7R1C105K
X7R	1.5μF	±10%	6.3	FK28X7R0J155K	FK18X7R0J155K
X7R	2.2μF	±10%	6.3	FK28X7R0J225K	FK18X7R0J225K
X5R	0.22μF	±10%	25	FK28X5R1E224K	FK18X5R1E224K
X5R	0.33μF	±10%	25	FK28X5R1E334K	FK18X5R1E334K
X5R	0.47μF	±10%	25	FK28X5R1E474K	FK18X5R1E474K
X5R	0.68μF	±10%	25	FK28X5R1E684K	FK18X5R1E684K
X5R	1μF	±10%	25	FK28X5R1E105K	FK18X5R1E105K
X5R	0.47μF	±10%	16	FK28X5R1C474K	FK18X5R1C474K
X5R	0.68μF	±10%	16	FK28X5R1C684K	FK18X5R1C684K
X5R	1μF	±10%	16	FK28X5R1C105K	FK18X5R1C105K
X5R	1.5μF	±10%	16	FK28X5R1C155K	FK18X5R1C155K
X5R	2.2μF	±10%	16	FK28X5R1C225K	FK18X5R1C225K
X5R	0.33μF	±10%	10	FK28X5R1A334K	FK18X5R1A334K
X5R	0.47μF	±10%	10	FK28X5R1A474K	FK18X5R1A474K
X5R	0.68μF	±10%	10	FK28X5R1A684K	FK18X5R1A684K
X5R	1μF	±10%	10	FK28X5R1A105K	FK18X5R1A105K
X5R	1.5μF	±10%	10	FK28X5R1A155K	FK18X5R1A155K
X5R	2.2μF	±10%	10	FK28X5R1A225K	FK18X5R1A225K
X5R	3.3μF	±10%	10	FK28X5R1A335K	FK18X5R1A335K
X5R	4.7μF	±10%	10	FK28X5R1A475K	FK18X5R1A475K

**RATED VOLTAGE Edc: 6.3 to 50V**

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK28 type	FK18 type
X5R	1 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J105K	FK18X5R0J105K
X5R	1.5 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J155K	FK18X5R0J155K
X5R	2.2 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J225K	FK18X5R0J225K
X5R	3.3 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J335K	FK18X5R0J335K
X5R	4.7 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J475K	FK18X5R0J475K
X5R	6.8 $\mu$ F	$\pm$ 10%	6.3	FK28X5R0J685K	FK18X5R0J685K
X5R	10 $\mu$ F	$\pm$ 20%	6.3	FK28X5R0J106M	FK18X5R0J106M

## FK24 AND FK14 TYPES

### SHAPES AND DIMENSIONS



### RATED VOLTAGE Edc: 6.3 to 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK24 type	FK14 type
X7R	0.15 $\mu$ F	$\pm 10\%$	50	FK24X7R1H154K	FK14X7R1H154K
X7R	0.22 $\mu$ F	$\pm 10\%$	50	FK24X7R1H224K	FK14X7R1H224K
X7R	0.33 $\mu$ F	$\pm 10\%$	50	FK24X7R1H334K	FK14X7R1H334K
X7R	0.47 $\mu$ F	$\pm 10\%$	50	FK24X7R1H474K	FK14X7R1H474K
X7R	0.68 $\mu$ F	$\pm 10\%$	50	FK24X7R1H684K	FK14X7R1H684K
X7R	1 $\mu$ F	$\pm 10\%$	50	FK24X7R1H105K	FK14X7R1H105K
X7R	0.47 $\mu$ F	$\pm 10\%$	25	FK24X7R1E474K	FK14X7R1E474K
X7R	0.68 $\mu$ F	$\pm 10\%$	25	FK24X7R1E684K	FK14X7R1E684K
X7R	1 $\mu$ F	$\pm 10\%$	25	FK24X7R1E105K	FK14X7R1E105K
X7R	1.5 $\mu$ F	$\pm 10\%$	25	FK24X7R1E155K	FK14X7R1E155K
X7R	2.2 $\mu$ F	$\pm 10\%$	25	FK24X7R1E225K	FK14X7R1E225K
X7R	3.3 $\mu$ F	$\pm 10\%$	25	FK24X7R1E335K	FK14X7R1E335K
X7R	4.7 $\mu$ F	$\pm 10\%$	25	FK24X7R1E475K	FK14X7R1E475K
X7R	0.68 $\mu$ F	$\pm 10\%$	16	FK24X7R1C684K	FK14X7R1C684K
X7R	1 $\mu$ F	$\pm 10\%$	16	FK24X7R1C105K	FK14X7R1C105K
X7R	1.5 $\mu$ F	$\pm 10\%$	16	FK24X7R1C155K	FK14X7R1C155K
X7R	2.2 $\mu$ F	$\pm 10\%$	16	FK24X7R1C225K	FK14X7R1C225K
X7R	3.3 $\mu$ F	$\pm 10\%$	16	FK24X7R1C335K	FK14X7R1C335K
X7R	4.7 $\mu$ F	$\pm 10\%$	16	FK24X7R1C475K	FK14X7R1C475K
X7R	6.8 $\mu$ F	$\pm 10\%$	6.3	FK24X7R0J685K	FK14X7R0J685K
X7R	10 $\mu$ F	$\pm 10\%$	6.3	FK24X7R0J106K	FK14X7R0J106K
X5R	0.68 $\mu$ F	$\pm 10\%$	25	FK24X5R1E684K	FK14X5R1E684K
X5R	1 $\mu$ F	$\pm 10\%$	25	FK24X5R1E105K	FK14X5R1E105K
X5R	1.5 $\mu$ F	$\pm 10\%$	25	FK24X5R1E155K	FK14X5R1E155K
X5R	2.2 $\mu$ F	$\pm 10\%$	25	FK24X5R1E225K	FK14X5R1E225K
X5R	3.3 $\mu$ F	$\pm 10\%$	25	FK24X5R1E335K	FK14X5R1E335K
X5R	4.7 $\mu$ F	$\pm 10\%$	25	FK24X5R1E475K	FK14X5R1E475K
X5R	1 $\mu$ F	$\pm 10\%$	16	FK24X5R1C105K	FK14X5R1C105K
X5R	1.5 $\mu$ F	$\pm 10\%$	16	FK24X5R1C155K	FK14X5R1C155K
X5R	2.2 $\mu$ F	$\pm 10\%$	16	FK24X5R1C225K	FK14X5R1C225K
X5R	3.3 $\mu$ F	$\pm 10\%$	16	FK24X5R1C335K	FK14X5R1C335K
X5R	4.7 $\mu$ F	$\pm 10\%$	16	FK24X5R1C475K	FK14X5R1C475K
X5R	10 $\mu$ F	$\pm 10\%$	16	FK24X5R1C106K	FK14X5R1C106K
X5R	1.5 $\mu$ F	$\pm 10\%$	10	FK24X5R1A155K	FK14X5R1A155K
X5R	2.2 $\mu$ F	$\pm 10\%$	10	FK24X5R1A225K	FK14X5R1A225K
X5R	3.3 $\mu$ F	$\pm 10\%$	10	FK24X5R1A335K	FK14X5R1A335K
X5R	4.7 $\mu$ F	$\pm 10\%$	10	FK24X5R1A475K	FK14X5R1A475K
X5R	6.8 $\mu$ F	$\pm 10\%$	10	FK24X5R1A685K	FK14X5R1A685K
X5R	10 $\mu$ F	$\pm 10\%$	10	FK24X5R1A106K	FK14X5R1A106K
X5R	4.7 $\mu$ F	$\pm 10\%$	6.3	FK24X5R0J475K	FK14X5R0J475K
X5R	6.8 $\mu$ F	$\pm 10\%$	6.3	FK24X5R0J685K	FK14X5R0J685K
X5R	10 $\mu$ F	$\pm 10\%$	6.3	FK24X5R0J106K	FK14X5R0J106K
X5R	15 $\mu$ F	$\pm 20\%$	6.3	FK24X5R0J156M	FK14X5R0J156M
X5R	22 $\mu$ F	$\pm 20\%$	6.3	FK24X5R0J226M	FK14X5R0J226M



## FK26 AND FK16 TYPES SHAPES AND DIMENSIONS



### RATED VOLTAGE Edc: 6.3 to 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK26 type	FK16 type
X7R	0.47 $\mu$ F	$\pm 10\%$	50	FK26X7R1H474K	FK16X7R1H474K
X7R	0.68 $\mu$ F	$\pm 10\%$	50	FK26X7R1H684K	FK16X7R1H684K
X7R	1 $\mu$ F	$\pm 10\%$	50	FK26X7R1H105K	FK16X7R1H105K
X7R	1.5 $\mu$ F	$\pm 10\%$	50	FK26X7R1H155K	FK16X7R1H155K
X7R	2.2 $\mu$ F	$\pm 10\%$	50	FK26X7R1H225K	FK16X7R1H225K
X7R	0.68 $\mu$ F	$\pm 10\%$	25	FK26X7R1E684K	FK16X7R1E684K
X7R	1 $\mu$ F	$\pm 10\%$	25	FK26X7R1E105K	FK16X7R1E105K
X7R	1.5 $\mu$ F	$\pm 10\%$	25	FK26X7R1E155K	FK16X7R1E155K
X7R	2.2 $\mu$ F	$\pm 10\%$	25	FK26X7R1E225K	FK16X7R1E225K
X7R	3.3 $\mu$ F	$\pm 10\%$	25	FK26X7R1E335K	FK16X7R1E335K
X7R	4.7 $\mu$ F	$\pm 10\%$	25	FK26X7R1E475K	FK16X7R1E475K
X7R	6.8 $\mu$ F	$\pm 10\%$	25	FK26X7R1E685K	FK16X7R1E685K
X7R	10 $\mu$ F	$\pm 10\%$	25	FK26X7R1E106K	FK16X7R1E106K
X7R	3.3 $\mu$ F	$\pm 10\%$	16	FK26X7R1C335K	FK16X7R1C335K
X7R	4.7 $\mu$ F	$\pm 10\%$	16	FK26X7R1C475K	FK16X7R1C475K
X7R	6.8 $\mu$ F	$\pm 10\%$	16	FK26X7R1C685K	FK16X7R1C685K
X7R	10 $\mu$ F	$\pm 10\%$	16	FK26X7R1C106K	FK16X7R1C106K
X5R	1 $\mu$ F	$\pm 10\%$	50	FK26X5R1H105K	FK16X5R1H105K
X5R	1.5 $\mu$ F	$\pm 10\%$	25	FK26X5R1E155K	FK16X5R1E155K
X5R	2.2 $\mu$ F	$\pm 10\%$	25	FK26X5R1E225K	FK16X5R1E225K
X5R	3.3 $\mu$ F	$\pm 10\%$	25	FK26X5R1E335K	FK16X5R1E335K
X5R	4.7 $\mu$ F	$\pm 10\%$	25	FK26X5R1E475K	FK16X5R1E475K
X5R	3.3 $\mu$ F	$\pm 10\%$	16	FK26X5R1C335K	FK16X5R1C335K
X5R	4.7 $\mu$ F	$\pm 10\%$	16	FK26X5R1C475K	FK16X5R1C475K
X5R	6.8 $\mu$ F	$\pm 10\%$	16	FK26X5R1C685K	FK16X5R1C685K
X5R	10 $\mu$ F	$\pm 10\%$	16	FK26X5R1C106K	FK16X5R1C106K
X5R	6.8 $\mu$ F	$\pm 10\%$	10	FK26X5R1A685K	FK16X5R1A685K
X5R	10 $\mu$ F	$\pm 10\%$	10	FK26X5R1A106K	FK16X5R1A106K
X5R	6.8 $\mu$ F	$\pm 10\%$	6.3	FK26X5R0J685K	FK16X5R0J685K
X5R	10 $\mu$ F	$\pm 10\%$	6.3	FK26X5R0J106K	FK16X5R0J106K
X5R	15 $\mu$ F	$\pm 20\%$	6.3	FK26X5R0J156M	FK16X5R0J156M
X5R	22 $\mu$ F	$\pm 20\%$	6.3	FK26X5R0J226M	FK16X5R0J226M
X5R	33 $\mu$ F	$\pm 20\%$	6.3	FK26X5R0J336M	FK16X5R0J336M
X5R	47 $\mu$ F	$\pm 20\%$	6.3	FK26X5R0J476M	FK16X5R0J476M

## FK20 AND FK11 TYPES SHAPES AND DIMENSIONS



### RATED VOLTAGE Edc: 6.3 to 50V

Temperature characteristics	Capacitance	Tolerance	Rated voltage Edc(V)	Part No.	
				FK20 type	FK11 type
X7R	0.68 $\mu$ F	$\pm 10\%$	50	FK20X7R1H684K	FK11X7R1H684K
X7R	1 $\mu$ F	$\pm 10\%$	50	FK20X7R1H105K	FK11X7R1H105K
X7R	1.5 $\mu$ F	$\pm 10\%$	50	FK20X7R1H155K	FK11X7R1H155K
X7R	2.2 $\mu$ F	$\pm 10\%$	50	FK20X7R1H225K	FK11X7R1H225K
X7R	3.3 $\mu$ F	$\pm 10\%$	50	FK20X7R1H335K	FK11X7R1H335K
X7R	4.7 $\mu$ F	$\pm 10\%$	50	FK20X7R1H475K	FK11X7R1H475K
X7R	2.2 $\mu$ F	$\pm 10\%$	25	FK20X7R1E225K	FK11X7R1E225K
X7R	3.3 $\mu$ F	$\pm 10\%$	25	FK20X7R1E335K	FK11X7R1E335K
X7R	4.7 $\mu$ F	$\pm 10\%$	25	FK20X7R1E475K	FK11X7R1E475K
X7R	6.8 $\mu$ F	$\pm 10\%$	25	FK20X7R1E685K	FK11X7R1E685K
X7R	10 $\mu$ F	$\pm 10\%$	25	FK20X7R1E106K	FK11X7R1E106K
X7R	10 $\mu$ F	$\pm 10\%$	16	FK20X7R1C106K	FK11X7R1C106K
X7R	15 $\mu$ F	$\pm 20\%$	16	FK20X7R1C156M	FK11X7R1C156M
X7R	22 $\mu$ F	$\pm 20\%$	16	FK20X7R1C226M	FK11X7R1C226M
X7R	22 $\mu$ F	$\pm 20\%$	10	FK20X7R1A226M	FK11X7R1A226M
X5R	2.2 $\mu$ F	$\pm 10\%$	50	FK20X5R1H225K	FK11X5R1H225K
X5R	3.3 $\mu$ F	$\pm 10\%$	50	FK20X5R1H335K	FK11X5R1H335K
X5R	4.7 $\mu$ F	$\pm 10\%$	25	FK20X5R1E475K	FK11X5R1E475K
X5R	6.8 $\mu$ F	$\pm 10\%$	25	FK20X5R1E685K	FK11X5R1E685K
X5R	10 $\mu$ F	$\pm 10\%$	25	FK20X5R1E106K	FK11X5R1E106K
X5R	10 $\mu$ F	$\pm 10\%$	16	FK20X5R1C106K	FK11X5R1C106K
X5R	15 $\mu$ F	$\pm 20\%$	16	FK20X5R1C156M	FK11X5R1C156M
X5R	22 $\mu$ F	$\pm 20\%$	16	FK20X5R1C226M	FK11X5R1C226M
X5R	15 $\mu$ F	$\pm 20\%$	10	FK20X5R1A156M	FK11X5R1A156M
X5R	22 $\mu$ F	$\pm 20\%$	10	FK20X5R1A226M	FK11X5R1A226M
X5R	22 $\mu$ F	$\pm 20\%$	6.3	FK20X5R0J226M	FK11X5R0J226M
X5R	33 $\mu$ F	$\pm 20\%$	6.3	FK20X5R0J336M	FK11X5R0J336M
X5R	47 $\mu$ F	$\pm 20\%$	6.3	FK20X5R0J476M	FK11X5R0J476M
X5R	68 $\mu$ F	$\pm 20\%$	6.3	FK20X5R0J686M	FK11X5R0J686M
X5R	100 $\mu$ F	$\pm 20\%$	6.3	FK20X5R0J107M	FK11X5R0J107M
X7S	4.7 $\mu$ F	$\pm 10\%$	50	FK20X7S1H475K	FK11X7S1H475K
X7S	6.8 $\mu$ F	$\pm 10\%$	50	FK20X7S1H685K	FK11X7S1H685K
X7S	10 $\mu$ F	$\pm 10\%$	50	FK20X7S1H106K	FK11X7S1H106K

## FK22 TYPE

### SHAPES AND DIMENSIONS



### RATED VOLTAGE Edc: 6.3 to 50V

Temperature characteristics	Capacitance (pF)	Tolerance	Rated voltage Edc(V)	Part No.
				FK22 type
X7R	1.5 $\mu$ F	$\pm 10\%$	50	FK22X7R1H155K
X7R	2.2 $\mu$ F	$\pm 10\%$	50	FK22X7R1H225K
X7R	3.3 $\mu$ F	$\pm 10\%$	50	FK22X7R1H335K
X7R	4.7 $\mu$ F	$\pm 10\%$	50	FK22X7R1H475K
X7R	6.8 $\mu$ F	$\pm 10\%$	50	FK22X7R1H685K
X7R	4.7 $\mu$ F	$\pm 10\%$	25	FK22X7R1E475K
X7R	6.8 $\mu$ F	$\pm 10\%$	25	FK22X7R1E685K
X7R	10 $\mu$ F	$\pm 10\%$	25	FK22X7R1E106K
X7R	15 $\mu$ F	$\pm 20\%$	25	FK22X7R1E156M
X7R	22 $\mu$ F	$\pm 20\%$	25	FK22X7R1E226M
X7R	15 $\mu$ F	$\pm 20\%$	16	FK22X7R1C156M
X7R	22 $\mu$ F	$\pm 20\%$	16	FK22X7R1C226M
X7R	33 $\mu$ F	$\pm 20\%$	16	FK22X7R1C336M
X5R	4.7 $\mu$ F	$\pm 10\%$	50	FK22X5R1H475K
X5R	6.8 $\mu$ F	$\pm 10\%$	50	FK22X5R1H685K
X5R	15 $\mu$ F	$\pm 20\%$	25	FK22X5R1E156M
X5R	22 $\mu$ F	$\pm 20\%$	25	FK22X5R1E226M
X5R	33 $\mu$ F	$\pm 20\%$	16	FK22X5R1C336M
X5R	33 $\mu$ F	$\pm 20\%$	10	FK22X5R1A336M
X5R	47 $\mu$ F	$\pm 20\%$	10	FK22X5R1A476M
X5R	68 $\mu$ F	$\pm 20\%$	6.3	FK22X5R0J686M
X5R	100 $\mu$ F	$\pm 20\%$	6.3	FK22X5R0J107M

• For more information about products with other capacitance or other data, please contact us.

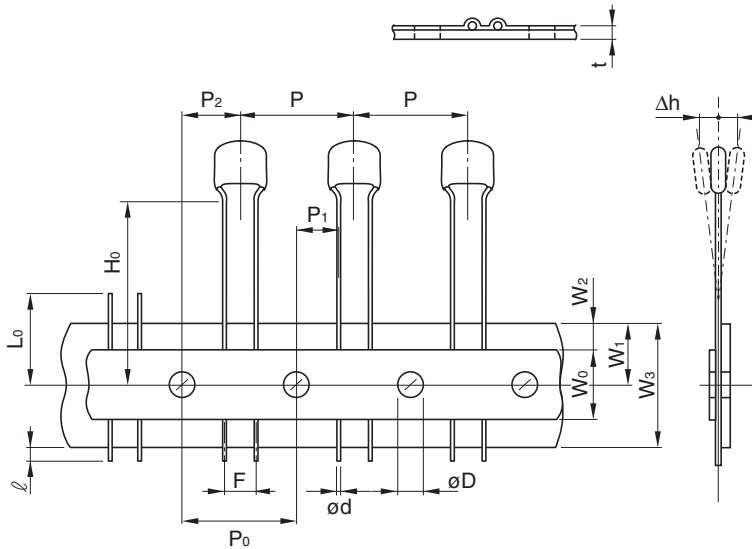
• All specifications are subject to change without notice.

## PACKAGING STYLES

### TAPING DIMENSIONS

#### FK1 Series

(FK18, FK14, FK16, FK11 Types)



Symbol	Dimensions (mm)
$P$	$12.7 \pm 1.0$
$P_0^{*1}$	$12.7 \pm 0.3$
$P_1$	$5.1 \pm 0.7$
$P_2$	$6.35 \pm 1.3$
$W_0$	$12.0 \pm 1.0$
$W_1$	$9.0 \pm 0.5$
$W_2^{*2}$	$3.0 \text{max.}$
$W_3$	$18.0 + 1.0, -0.5$
$H_0$	$16.0 \pm 0.5$
$l$	$1.0 \text{max.}$
$L_0^{*3}$	$11.0 \text{max.}$
$F$	$2.5 + 0.5, -0.2$
$\phi d$	$\phi 0.5 + 0.1, -0.03$
$\phi D$	$\phi 4.0 \pm 0.2$
$\Delta h$	$0 \pm 2$

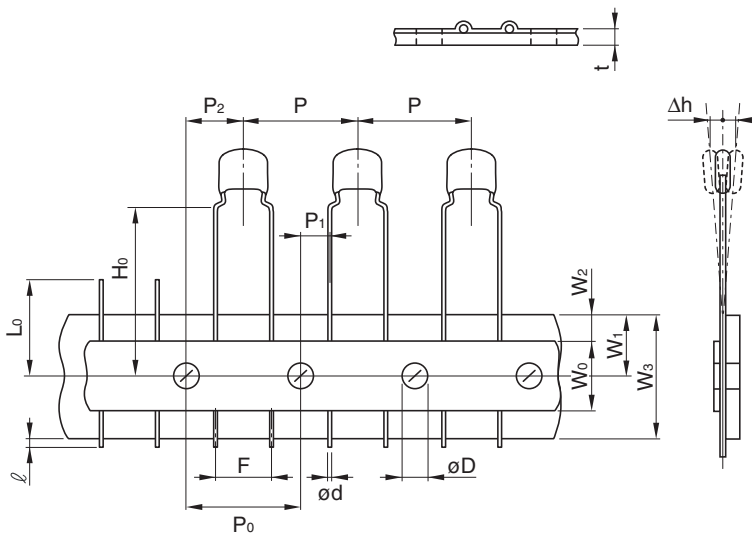
\*1 Accumulated pitch tolerance shall be  $\pm 2 \text{mm}$  for 20 pitches.

\*2 Adhesive tape shall not stick out from carrier tape.

\*3 The number of consecutive gaps in the product shall be three or less.

#### FK2 Series

(FK28, FK24, FK26, FK20, FK22 Types)



Symbol	Dimensions (mm)
$P$	$12.7 \pm 1.0$
$P_0^{*1}$	$12.7 \pm 0.3$
$P_1$	$3.85 \pm 0.7$
$P_2$	$6.35 \pm 1.3$
$W_0$	$12.0 \pm 1.0$
$W_1$	$9.0 \pm 0.5$
$W_2^{*2}$	$3.0 \text{max.}$
$W_3$	$18.0 + 1.0, -0.5$
$H_0$	$16.0 \pm 0.5$
$l$	$1.0 \text{max.}$
$t$	$0.6 \pm 0.2$
$L_0^{*3}$	$11.0 \text{max.}$
$F$	$5.0 + 0.8, -0.2$
$\phi d$	$\phi 0.5 + 0.1, -0.03$
$\phi D$	$\phi 4.0 \pm 0.2$
$\Delta h$	$0 \pm 2$

\*1 Accumulated pitch tolerance shall be  $\pm 2 \text{mm}$  for 20 pitches.

\*2 Adhesive tape shall not stick out from carrier tape.

\*3 The number of consecutive gaps in the product shall be three or less.

## PACKAGING QUANTITIES

Type	Quantity
FK28, FK18	
FK24, FK14	2000 pieces/1box
FK26, FK16	
FK20, FK11	1500 pieces/1box
FK22	

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