

KEY SPECIFICATIONS

Case Size: 1210, 1812, 1825, 2220, 2225

Rated Voltage: 50V to 1500V

Dielectric: X7R, X7T, C0G

Cap range available from 10nF to 47μF

TOP SELLING POINTS

- High cap value in same mounting area
- Excellent bending stress
- Restrain noise
- Suppression of weld cracking by thermal stress

APPLICATIONS

- Power Supplies
- DC-DC Converter
- High Voltage Coupling / DC Blocking
- Industrial Control Circuits
- Down-Hole Application
- Charging Station



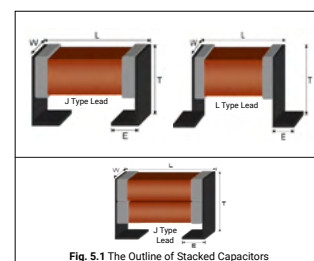
HOW TO ORDER

KGP	55	M	R7	1H	476	M	S	2	J
Series	Size	Thickness (Max mm)	Dielectric	Rated Voltage	Capacitance Code e.g.	Capacitance Tolerance	Packaging Code	No. of Stacked Chips	Lead Shape
Commercial Grade Stacked Cap (P)	32 = 1210 43 = 1812 44 = 1825 55 = 2220 56 = 2225	1210 case size "S" = 3.40mm 1812 case size "T" = 6.35mm 2220 case size "H" = 3.40mm "K" = 5.75mm "L" = 6.35mm "M" = 6.95mm	CG = C0G R7 = X7R T7 = X7T	1H = 50V 2A = 100V 2D = 200V 2E = 250V 2W = 450V 2H = 500V 2J = 630V 3A = 1000V 3N = 1500V	0.1μF = 104 1μF = 105	K = ±10% M = ±20%		1 = 1 Stack 2 = 2 Stack	L = L Shape J = J Shape



DIMENSIONS LEAD SPACE

Case Size Inch (mm)	L (mm)	W (mm)	Max Thickness (mm)		E (mm)
			1 Stack	2 Stack	
1210 (3225)	3.50 ± 0.40	2.50 ± 0.40	3.4	6.35	1.10 ± 0.15
1812 (4532)	4.80 ± 0.40	3.20 ± 0.40		5.75	1.40 ± 0.15
1825 (4563)	4.80 ± 0.40	6.30 ± 0.50		6.95	1.70 ± 0.15
2220 (5750)	6.00 ± 0.50	5.00 ± 0.50		5.15	1.70 ± 0.15
2225 (5763)	6.00 ± 0.50	6.30 ± 0.50			1.70 ± 0.15



GENERAL ELECTRICAL DATA

Dielectric	C0G		X7R	
Size	1210, 1812, 1825, 2220, 2225		1210, 1812, 1825, 2220, 2225	
Rated Voltage (WVDC)	50V, 100V, 200V, 250V, 500V, 630V, 1000V, 1500V		50V, 100V, 200V, 250V, 500V, 630V, 1000V, 1500V	
Capacitance Range	220nF Max.		47μF Max.	
Capacitance Tolerance	Reference to Table 5		Reference to Table 5	
Tan δ	Cap. Range	Q Spec.	Cap. Range	D.F. Spec.
	Cap. < 30pF	Q ≥ 400 + 20C	1210 ≥ 2.2μF	≤5.0%
	Cap. ≥ 30pF	Q ≥ 1000	1812~2225 ≥ 4.7μF	≤5.0%
Capacitance & Tan δ Test condition	Measured at the condition of 30~70% related humidity		Measured at the condition of 30~70% related humidity	
	For 25°C at ambient temperature		Preconditioning for Class II MLCC : Perform a heat treatment at 150 ± 10°C for 1 hour, then leave in ambient condition for 24 ± 2 hours before measurement	
	Cap. Range	Test Condition	Cap. Range	C Test Condition
	Cap. < 1000pF	1.0 ± 0.2Vrms, 1.0MHz ± 10%	Cap. ≤ 10μF	1.0 ± 0.2Vrms, 1.0KHz ± 10%
	Cap. ≥ 1000pF	1.0 ± 0.2Vrms, 1.0KHz ± 10%	Cap. > 10μF	0.5 ± 0.2Vrms, 120Hz ± 20%
Insulation Resistance Ur	≥ 10GΩ or RxC ≥ 500Ω-F, whichever is smaller		≥ 10GΩ or RxC ≥ 100Ω-F, whichever is smaller	
Operating Temperature	-55 to +125°C		-55 to +125°C	
Capacitance Characteristics	±30ppm / °C		±15%	
Termination	L / J type lead		L / J type lead	

Dielectric	X7T	
Size	1210, 1812, 2220	
Rated Voltage (WVDC)	250V, 450V, 630V	
Capacitance Range	4.7μF Max.	
Capacitance Tolerance	Reference to Table 5	
Tan δ	Cap. Range	D.F. Spec.
	1210 ≥ 2.2μF	≤5.0%
	1812~2225 ≥ 4.7μF	≤5.0%
	Other	≤2.5%
Capacitance & Tan δ Test condition	Measured at the condition of 30~70% related humidity	
	Preconditioning for Class II MLCC : Perform a heat treatment at 150 ± 10°C for 1 hour, then leave in ambient condition (25°C) for 24 ± 2 hours before measurement	
	Cap. Range	Test Condition
	Cap. ≤ 10μF	1.0 ± 0.2Vrms, 1.0KHz ± 10%
Insulation Resistance Ur	≥ 10GΩ or RxC ≥ 100Ω-F, whichever is smaller	
	-55 to +125°C	
	+22% ~ -33%	
	L / J type lead	

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