Stacked Capacitors

KGP SERIES | COMMERCIAL GRADE

Click Here to View the KGP Series Datasheet

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 Application

HOW TO ORDER

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

DIMENSIONS, LEAD SHAPE

Case Size Inch (mm)	L (mm)	W (mm)	Max Thickness (mm)		E (mm)
			1 Stack	2 Stack	
1210	3.50 ± 0.40	2.50 ± 0.40	3.95 4.55	5.15 6.35 6.95 7.55	1.10 ± 0.15
1812	4.80 ± 0.40	3.20 ± 0.40			1.40 ± 0.15
1825	4.80 ± 0.40	6.30 ± 0.50			1.70 ± 0.15
2220	6.00 ± 0.50	5.00 ± 0.50			1.70 ± 0.15
2225	6.00 ± 0.50	6.30 ± 0.50			1.70 ± 0.15

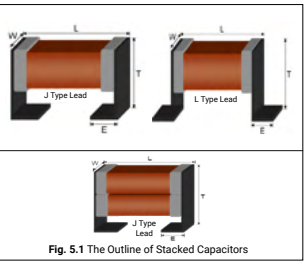

Fig. 5.1 The Outline of Stacked Capacitors

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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: Cap. < 30pF — Q Spec: Q ≥ 400 + 20C Cap. Range: Cap. ≥ 30pF — Q Spec: Q ≥ 1000	Cap. Range: 1210 ≥ 2.2µF — D.F. Spec: ≤5.0% Cap. Range: 1812~2225 ≥ 4.7µF — D.F. Spec: ≤5.0% Cap. Range: Other — D.F. Spec: ≤2.5%
Capacitance & Tan δ Test condition	Measured at the condition of 30~70% related humidity For 25°C at ambient temperature Cap. Range: Cap. < 1000pF — Test Condition: 1.0 ± 0.2Vrms, 1.0MHz ± 10% Cap. Range: Cap. ≥ 1000pF — Test Condition: 1.0 ± 0.2Vrms, 1.0KHz ± 10%	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 for 24 ± 2 hours before measurement Cap. Range: Cap. ≤ 10µF — C Test Condition: 1.0 ± 0.2Vrms, 1.0KHz ± 10% Cap. Range: Cap. > 10µF — C Test Condition: 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: 1210 ≥ 2.2µF — D.F. Spec: ≤5.0% Cap. Range: 1812~2225 ≥ 4.7µF — D.F. Spec: ≤5.0% Cap. Range: Other — D.F. Spec: ≤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: Cap. ≤ 10µF — Test Condition: 1.0 ± 0.2Vrms, 1.0KHz ± 10% Cap. Range: Cap. > 10µF — Test Condition: 0.5 ± 0.2Vrms, 120Hz ± 20%
Insulation Resistance Ur	≥ 10GΩ or RxC ≥ 100Ω-F, whichever is smaller
Operating Temperature	-55 to +125°C
Capacitance Characteristics	+22% ~ -33%
Termination	L / J type lead

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