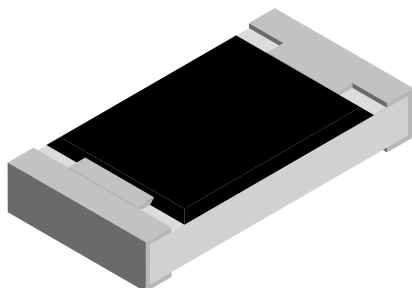




Thick Film Resistor/Capacitor Chip, Surface Mount



FEATURES

- Single component reduces board space and component counts
- X7R dielectric characteristic
- Wrap around termination
- Thick film resistor/capacitor element
- Inner electrode protection
- Flow and reflow solderable
- Automatic placement capability, standard size
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE INCH	SIZE METRIC	RESISTOR CHARACTERISTICS				CAPACITOR CHARACTERISTICS				
			POWER RATING $P_{70^{\circ}\text{C}}$ W	TEMP. COEFF. \pm ppm/ $^{\circ}\text{C}$	RESISTANCE TOLERANCE \pm %	RESISTANCE RANGE Ω	DIELECTRIC	TEMPERATURE COEFFICIENT %	CAP. TOL. \pm %	CAP. VOLTAGE V_{DC}	CAP. RANGE
CRCC1206	1206	3216	0.125	200	5	10 to 1M	X7R	± 15	20	50	10 pF to 270 pF

Notes

RESISTOR

- Operating temperature range: -55°C to $+125^{\circ}\text{C}$
- Technology: Thick film
- Packaging: See appropriate catalog or web page.
- Power rating depends on the maximum temperature at the solder point, the component placement density and the substrate material.

CAPACITOR

- Operating temperature range: X7R -55°C to $+125^{\circ}\text{C}$
- Maximum dissipation factor: 2.5 %

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR	X7R CAPACITOR
Rated dissipation at 70°C	W	0.125	-
Capacitor voltage rating	V	-	50
Dielectric withstanding voltage (5 s, 50 mA charge)	V_{DC}	-	125
Category temperature range	$^{\circ}\text{C}$	$-55 / +125$	$-55 / +125$
Insulation resistance	Ω	$> 10^{10}$	$> 10^{10}$
Weight/1000 pieces	g	0.65	2

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CRCC1206472J220MTF (preferred part numbering format)

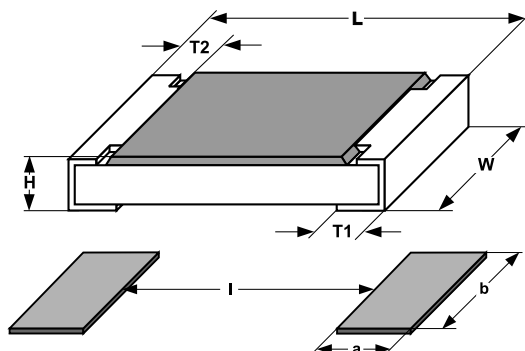
C	R	C	C	1	2	0	6	4	7	2	J	2	2	0	M	T	F
GLOBAL MODEL CRCC1206		RESISTANCE VALUE 2 digit significant figure, followed by a multiplier 100 = 10 Ω 683 = 68 k Ω 105 = 1.0 M Ω				RES. TOLERANCE F = ± 1 % G = ± 2 % J = ± 5 %		CAPACITANCE VALUE (pF) 2 digit significant figure, followed by a multiplier 100 = 10 pF 560 = 56 pF 271 = 270 pF				CAP. TOLERANCE K = ± 10 % M = ± 20 %		PACKAGING EA = Lead (Pb)-free, T/R (4000 pieces) TF = Tin/Lead, T/R (4000 pieces)			

Historical Part Number Example: CRCC1206472J220MR02 (will continue to be accepted)

CRCC1206	472	J	220	M	R02
MODEL	RESISTANCE VALUE	RES. TOLERANCE	CAPACITANCE VALUE	CAP. TOLERANCE	PACKAGING

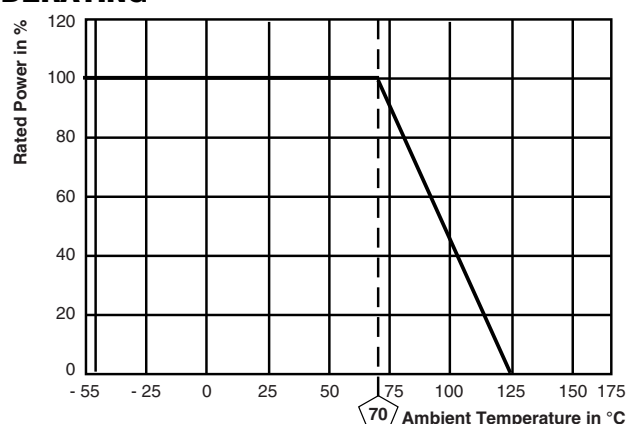
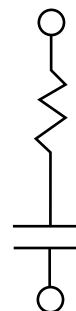
Note

- For additional information on packaging, refer to the Surface Mount Network Packaging document (www.vishay.com/doc?31540).

**DIMENSIONS**

SIZE		DIMENSIONS in millimeters				
INCH	METRIC	L	W	H	T1	T2
1206	3216	3.2 ± 0.15	1.6 ± 0.15	0.55 ± 0.15	0.5 ± 0.25	0.5 ± 0.25

SIZE		SOLDER PAD DIMENSIONS in millimeters					
		REFLOW SOLDERING			WAVE SOLDERING		
INCH	METRIC	a	b	l	a	b	l
1206	3216	0.9	1.7	2.0	1.1	1.7	2.2

DERATING**SCHEMATIC**

PERFORMANCE			
TEST	CONDITIONS OF TEST	TEST RESULTS (TYPICAL TEST LOTS)	
		R	C
Endurance test at 70 °C MIL-Std-202 method 108	1000 h at 70 °C, 1.5 h "ON", 0.5 h "OFF"	± (5 % + 2 Ω)	± 20 %
Dielectric withstanding voltage MIL-Std-202 method 301	125 V _{DC} , 5 s, 50 mA charge	No physical damage	
Thermal shock MIL-Std-202 method 107	100 cycles, -55 °C to +125 °C	± (5 % + 2 Ω)	± 20 %
Moisture MIL-Std-202 method 106	Omit steps 7A and B	± (5 % + 2 Ω)	± 20 %
Resistance to soldering heat EIA 575	10 s at 260 °C solder bath temperature	± (5 % + 2 Ω)	± 20 %
High temperature exposure EIA 575	125 °C for 100 h	± (5 % + 2 Ω)	± 20 %
Low temperature operation EIA 575	1 h at -55 °C then 45 min at 50 V	± (5 % + 2 Ω)	± 20 %
Solderability and leaching EIA 575 3.12	Condition C	95 % coverage	

APPLICABLE SPECIFICATIONS

- IPC standards
- EIA 575



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