



RESISTIVE PRODUCTS – Model CRCC



CRCC

Surface-Mount Thick Film Resistor/Capacitor Chip

FEATURES

- Single component reduces board space and component count
- Processing speed and space reduction superior to individual components
- Provides a circuit solution within limited real estate constraints

APPLICATIONS

- Computer boards
- High-speed processing applications

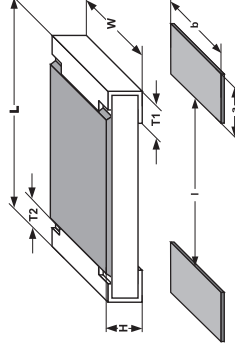
Thick Film, Rectangular Resistor/Capacitor Chip

FEATURES

- Single component reduces board space and component counts
- Choice of Dielectric Characteristics X7R or Y5U
- Wrap around termination
- Thick film Resistor/Capacitor element
- Inner electrode protection
- Flow & Reflow solderable
- Automatic placement capability, standard size



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]					
INCH	METRIC	a	b	I	a	b	I
1206	3216	0.9	1.7	2.0	1.1	1.7	2.2

STANDARD ELECTRICAL SPECIFICATIONS

GLOBAL MODEL	SIZE	RESISTOR			CAPACITOR				
		POWER RATING P _{70°C} W	TEMPERATURE COEFFICIENT ppm/°C	TOL %	VALUE RANGE Ω	TEMPERATURE COEFFICIENT %	VOLTAGE RATING VDC	VALUE RANGE pF	
CRCC1206	1206	0.125	200	5	10R - 1MΩ	± 15	20	50	10 - 270
CRCC1206	1206	0.125	200	5	10R - 1MΩ	+22, -56	20	50	270 - 1800

RESISTOR

- Operating Temperature Range: - 55°C to + 125°C
- Technology: thick film

CAPACITOR

- Operating Temperature Range: X7R - 55°C to + 125°C
- Y5U - 30°C to + 85°C
- Maximum Dissipation Factor: 2.5%

- 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

TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	RESISTOR	X7R CAPACITOR	Y5U CAPACITOR
Rated Dissipation at 70°C	W	0.125	-	-
Capacitor Voltage Rating	V	-	50	50
Dielectric Withstanding Voltage (5 seconds, 50mA Charge)	V _{dc}	-	125	125
Category Temperature Range	°C	- 55 / + 155	- 55 / + 125	- 30 / + 85
Insulation Resistance	Ω	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹⁰
Weight / 1000 pieces	g	0.65	2	5.5

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: CRCC120647J220MTF (preferred part numbering format)

GLOBAL MODEL	RESISTANCE VALUE	RES. TOLERANCE	RES. TOLERANCE	CAPACITANCE VALUE (pF)	CAP. TOLERANCE	PACKAGING
CRCC1206	472	J	M	220	M	R02

RESISTANCE VALUE: 2 digit significant figure, followed by a multiplier
100 = 10Ω
683 = 68KΩ
105 = 1.0MΩ

RES. TOLERANCE: F = ± 1%, G = ± 2%, J = ± 5%

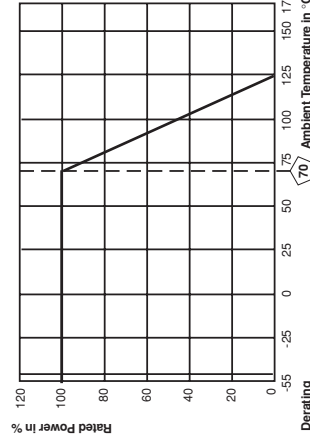
CAPACITANCE VALUE (pF): 2 digit significant figure, followed by a multiplier
100 = 10pF
271 = 270pF
182 = 1800pF

CAP. TOLERANCE: K = ± 10%, M = ± 20%

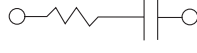
PACKAGING: EA=Lead Free TR(4000 Pcs), TF= TinLead TR(4000 Pcs)

Historical Part Number example: CRCC120647J220MR02 (will continue to be accepted)

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



SCHEMATIC



TEST	CONDITIONS OF TEST	TEST RESULTS		
		R	C	C
Endurance Test at 70°C MIL-Std-202 Method 108	1000 hours at 70°C, 1.5 hours "ON", 0.5 hours "OFF"	± (5% + 2Ω)	± 20%	± 20%
Dielectric Withstanding Voltage MIL-Std-202 Method 301	125Vdc, 5 seconds, 50mA charge	no physical damage		
Thermal Shock MIL-Std-202 Method 107	100 cycles, - 55 to + 125°C	± (5% + 2Ω)	± 20%	± 20%
Moisture MIL-Std-202 Method 106	Omit steps 7A and B	± (5% + 2Ω)	± 20%	± 20%
Resistance to Soldering Heat EIA 575	10 seconds at 260°C solder bath temperature	± (5% + 2Ω)	± 20%	± 20%
High Temperature Exposure EIA 575	125°C for 100 hours	± (5% + 2Ω)	± 20%	± 20%
Low Temperature Operation EIA 575	1 hour at - 55°C then 45 minutes at 50V	± (5% + 2Ω)	± 20%	± 20%
Solderability & Leaching EIA 575 3.1.2	Condition C		95% Coverage	

APPLICABLE SPECIFICATIONS

- IPC Standards
- EIA 575

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For technical questions, contact: ff2resistors@vishay.com