

Chip Resistor Arrays

Features

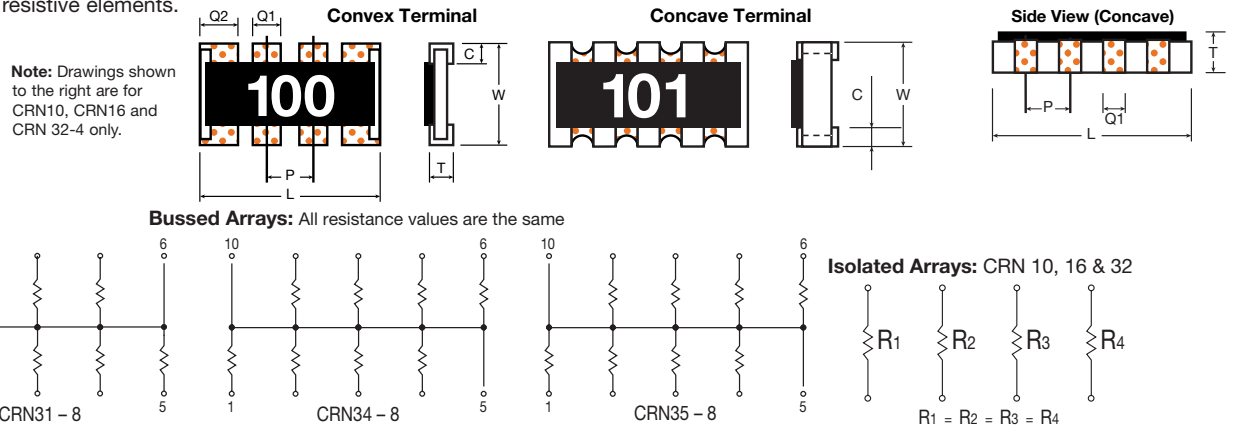
Chip resistor arrays have been designed to fit in wherever greater density is required. Available in banks of 2, 4 or 8 resistors in one package. Suitable for flow and reflow soldering.

Dimensions

Unit: mm

Series	L	W	T	P (REF.)	Q1	Q2	C	Terminal Type
CRN10	$0.5 \times n \pm 0.05$	1.0 ± 0.05	0.35 ± 0.05	0.5	0.30 ± 0.1	0.40 ± 0.1	0.25 ± 0.05	Convex/Concave
CRN16	$0.8 \times n \pm 0.1$	1.6 ± 0.1	0.5 ± 0.1	0.8	0.50 ± 0.15	0.60 ± 0.15	0.25 ± 0.15	Convex/Concave
CRN 31-8	6.4 ± 0.2	3.1 ± 0.2	0.6 ± 0.1	1.27	1.0 ± 0.2	NA	0.6 ± 0.2	Concave
CRN 32-4	5.08 ± 0.2	3.1 ± 0.2	0.55 ± 0.1	1.27	0.8 ± 0.2	1.10 ± 0.15	0.30 ± 0.20	Convex/Concave
CRN 34-8	6.4 ± 0.2	3.1 ± 0.2	0.6 ± 0.1	1.27	1.0 ± 0.2	NA	0.6 ± 0.2	Concave
CRN 35-8	3.2 ± 0.2	1.6 ± 0.2	0.6 ± 0.1	0.64	0.34 ± 0.15	0.49 ± 0.15	$0.2 \pm 0.2 - 0.1$	Convex

n = number of resistive elements.



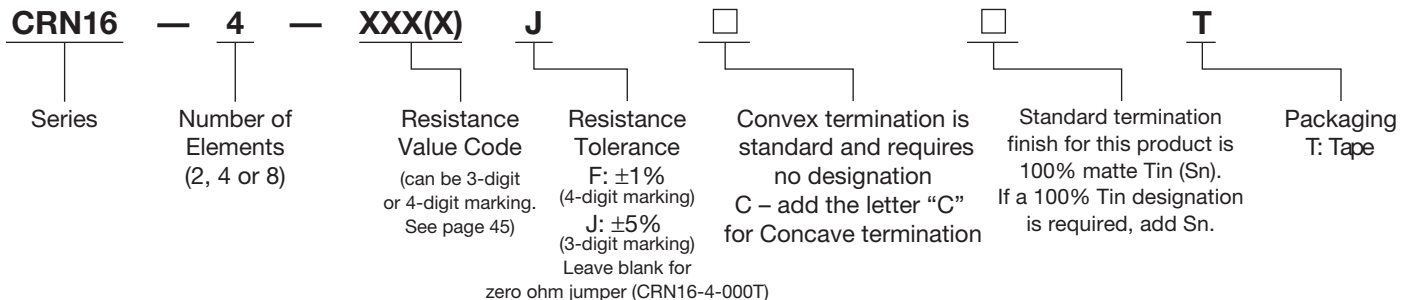
Rating

Series	Rated Power at 70°C	Maximum Working Voltage	Maximum Overload Voltage	TCR	* Resistance Range	Tolerance	Operating Temperature Range	Quantity per Reel
*CRN10	.063W	25V	50V	$\pm 200 \text{ PPM}/^\circ\text{C}$	0,10Ω ~ 1MΩ 0,1Ω ~ 10MΩ	F J	-55°C ~ 150°C	10,000
**CRN16	.063W	50V	100V	$\pm 200 \text{ PPM}/^\circ\text{C}$	0,10Ω ~ 1MΩ 0,1Ω ~ 10MΩ	F J	-55°C ~ 150°C	5,000
CRN31-8	.063W	100V	200V	$\pm 200 \text{ PPM}/^\circ\text{C}$	22Ω ~ 470K	F, J	-55°C ~ 150°C	4,000
CRN32-4	.125W	200V	400V	$\pm 200 \text{ PPM}/^\circ\text{C}$	0,10Ω ~ 1MΩ	F, J	-55°C ~ 150°C	4,000
CRN34-8	.063W	100V	200V	$\pm 200 \text{ PPM}/^\circ\text{C}$	22Ω ~ 470K	F, J	-55°C ~ 150°C	4,000
CRN35-8	.031W	25V	50V	$\pm 250 \text{ PPM}/^\circ\text{C}$	10Ω ~ 100K	F, J	-55°C ~ 150°C	5,000

* Only available with 2 or 4 resistors. Concave in 4 element only. ** The CRN16 Series is available with 8 resistors in 5% tolerance and Convex style termination only. Minimum order quantities may apply.

NOTE: Values under 10Ω may be available. Please consult your sales representative for availability.

How To Order



All components in this section are RoHS compliant per the EU directives and definitions.

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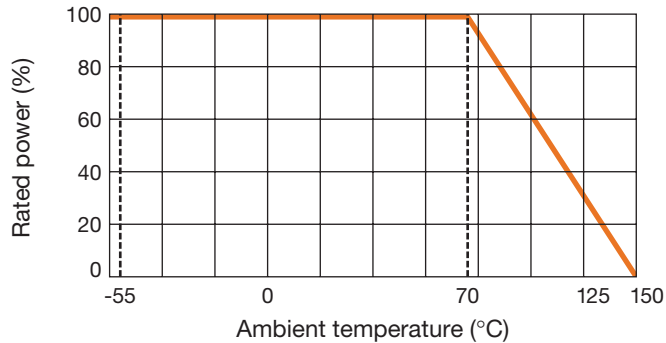
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VENKEL LTD.

DERATING CURVE



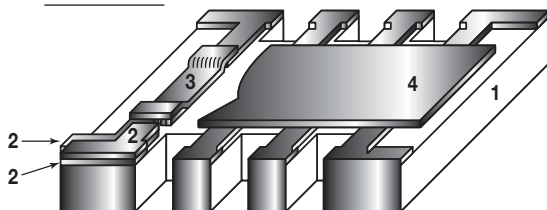
The resistors shall have a power rating based on continuous full-load operation at an ambient temperature of 70°C. For operation at ambient temperature in excess of 70°C, the load shall be derated in accordance with figure of Derating Curve.

Characteristics

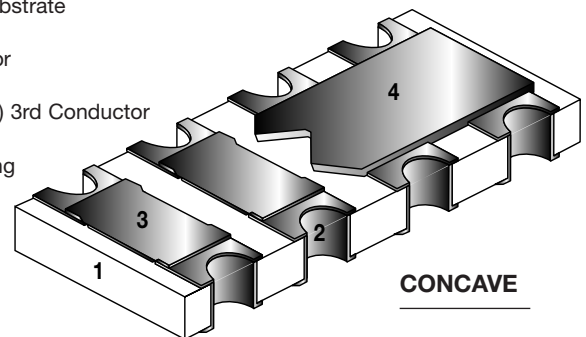
Description	Requirements	Test method JIS C 5202
Resistance Value	Within specified tolerance	
Resistance Temperature Coefficient	See Rating table	Measuring temperature +25°C/ -55°C/ +20°C/ +125°C
Short time Overload	Within \pm (1% +0.05 Ω) No major visible damage	2.5 times rated voltage 5 seconds
Insulation Resistance	At least 1,000 M Ω	CRN10: 50Vdc, CRN16/35: 100Vdc 1 minute CRN31/32: 500Vdc 1 minute
Terminal Strength	Within \pm (1% +0.05 Ω) No mechanical damage to the resistor body	Install a sample on the board and bend the board 3/45mm for 10 seconds
Resistance to Vibration	Within \pm (1% +0.05 Ω) No mechanical damage to the resistor body	10Hz \rightarrow 55Hz \rightarrow 10Hz 3 directions (X, Y, Z) 2 hours each Amplitude 1.5mm
Solder Heat Resistance	Within \pm (1% +0.05 Ω) No major visible damage	Dip into 260°C solder bath for 10 seconds
Solderability	At least 95% of the terminal surface must be covered by new solder	After dipping into flux, dip into 235°C solder bath for 2 seconds
Temperature Cycle	Within \pm (1% +0.05 Ω) No major visible damage	Cycle between -55°C and +150°C for 5 cycles
Load Life in Moisture	Within \pm (3% +0.1 Ω) No major visible damage	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 40°C, 95% RH 1,000 hours
Load Life	Within \pm (3% +0.1 Ω) No major visible damage	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 70°C 1,000 hours

Construction

CONVEX



- 1 – High Purity Alumina Substrate
- 2 – Termination
 - 1) Ag/Pd 1st Conductor
 - 2) Ni 2nd Conductor
 - 3) 100% matte Tin (Sn) 3rd Conductor
- 3 – RuO₂ Resistor Material
- 4 – Glass Protective Coating



CONCAVE