Chip Resistor Arrays

Features

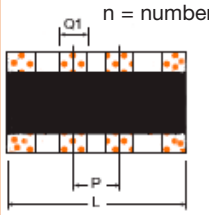
Chip resistor arrays have been designed to fit in wherever greater density is required. Available in banks of 2, 4 or 8 resistors in one package. Suitable for flow and reflow soldering.

Dimensions

Unit: mm

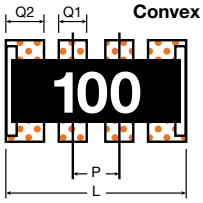
Series	L	W	T	P (Ref.)	Q1	Q2	C	Terminal T
CRN06	1.4 ± 0.1	0.6 ± 0.1	0.35 ± 0.1	0.4 ± 0.1	0.2 ± 0.1	-	0.15 ± 0.05	N/A
CRN10	0.5 X n ± 0.05	1.0 ± 0.05	0.35 ± 0.05	0.5 ± 0.15	0.3 ± 0.1	0.4 ± 0.1	0.25 ± 0.05	Convex/Concave
CRN16	0.8 X n ± 0.1	1.6 ± 0.1	0.5 ± 0.1	0.8 ± 0.2	0.5 ± 0.15	0.6 ± 0.15	0.25 ± 0.15	Convex/Concave
CRN 31-8	6.4 ± 0.2	3.1 ± 0.2	0.6 ± 0.1	1.27 ± 0.2	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 ± 0.2	0.8 ± 0.2	1.1 ± 0.15	0.3 ± 0.2	Convex/Concave
CRN 34-8	6.4 ± 0.2	3.1 ± 0.2	0.6 ± 0.1	1.27 ± 0.2	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 ± 0.25	0.34 ± 0.15	0.49 ± 0.15	0.2+0.2-0.1	Convex

n = number of resistive elements.

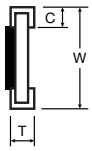


CRN06 (only)

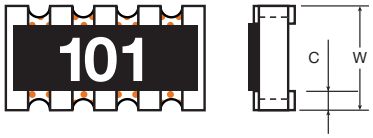
Note: Drawings shown to the right are for CRN10, CRN16 and CRN 32-4 only.



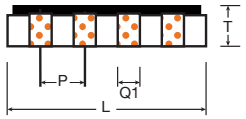
Convex Terminal



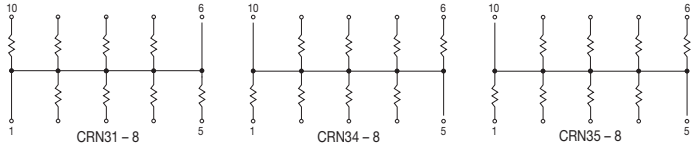
Concave Terminal



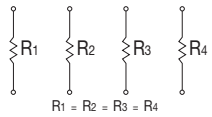
Side View (Concave)



Bussed Arrays: All resistance values are the same



Isolated Arrays: CRN 06, 10, 16 & 32



Rating

Series	Rated Power at 70°C	Maximum Working Voltage	Maximum Overload Voltage	TCR	* Resistance Range	Tolerance	Operating Temperature Range	Quantity per Reel
CRN06-4	0.03W	12.5V	25V	±200ppm/°C	0,1Ω ~ 10MΩ	J	-55°C ~ 125°C	10,000
*CRN10	0.063W	25V	50V	±200PPM/°C	0,10Ω ~ 1MΩ	F	-55°C ~ 150°C	10,000
					0,1Ω ~ 10MΩ	J		
**CRN16	0.063W	50V	100V	±200PPM/°C	0,10Ω ~ 1MΩ	F	-55°C ~ 150°C	5,000
					0,1Ω ~ 10MΩ	J		
CRN31-8	0.063W	100V	200V	±200PPM/°C	22Ω ~ 470K	F, J	-55°C ~ 150°C	4,000
CRN32-4	0.125W	200V	400V	±200PPM/°C	0,10Ω ~ 1MΩ	F, J	-55°C ~ 150°C	4,000
CRN34-8	0.063W	100V	200V	±200PPM/°C	22Ω ~ 470K	F, J	-55°C ~ 150°C	4,000
CRN35-8	0.031W	25V	50V	±250PPM/°C	10Ω ~ 100K	F, J	-55°C ~ 150°C	5,000

* Only available with 2 or 4 resistors. Concave in 4 element only.

** CRN16 Series with 2 or 8 resistors is available in 5% tolerance only.
CRN16 Series with 8 resistors is available in 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

CRN16 – 4 – XXX(X) J □ □ T

- **CRN16** — Series
- **4** — Number of Elements (2, 4 or 8)
- **XXX(X)** — Resistance Value Code (can be 3-digit or 4-digit marking. See page 48)
- **J** — Resistance Tolerance
  - F: ±1% (4-digit marking)
  - J: ±5% (3-digit marking)
  - Leave blank for zero ohm jumper (CRN16-4-000T)
- **□** — Convex termination is standard and requires no designation. C – add the letter "C" for Concave termination
- **□** — Standard termination finish for this product is 100% matte Tin (Sn). If a 100% Tin designation is required, add Sn.
- **T** — Packaging T: Tape

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

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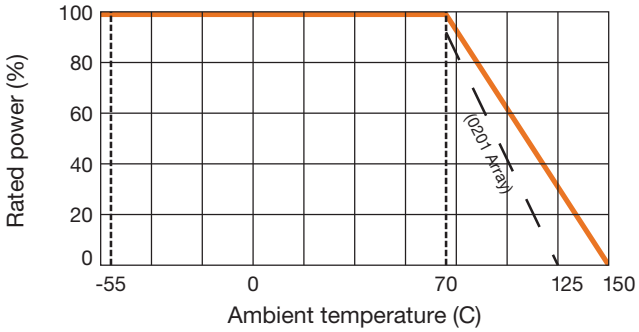
VENKEL LTD.

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.

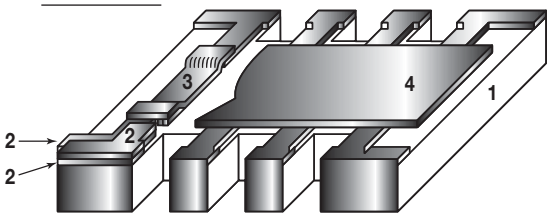
Characteristics

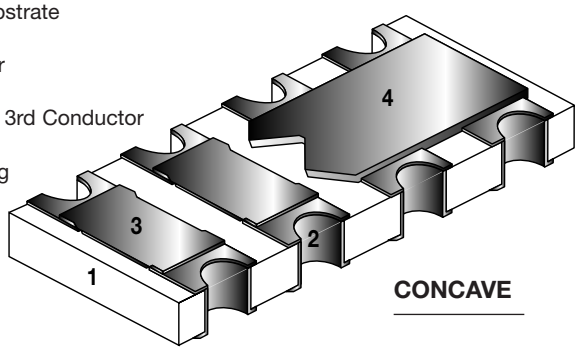
Description	Requirements	Test method JIS C 5202
Resistance Value	Within specified tolerance	
Resistance Temperature Coefficient	See Rating table	Measuring temperature +25°C/ -55°C/ +20°C/ +125°C
Short time Overload	Within ± (1% +0.05Ω) No major visible damage	2.5 times rated voltage 5 seconds
Insulation Resistance	At least 1,000 MΩ	CRN10: 50Vdc, CRN16/35: 100Vdc 1 minute CRN31/32: 500Vdc 1 minute
Terminal Strength	Within ± (1% +0.05Ω) 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 ± (1% +0.05Ω) No mechanical damage to the resistor body	10Hz → 55Hz → 10Hz 3 directions (X, Y, Z) 2 hours each Amplitude 1.5mm
Solder Heat Resistance	Within ± (1% +0.05Ω) 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 ± (1% +0.05Ω) No major visible damage	Cycle between -55°C and +150°C for 5 cycles
Load Life in Moisture	Within ± (3% +0.1Ω) No major visible damage	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 40°C, 95% RH 1,000 hours
Load Life	Within ± (3% +0.1Ω) No major visible damage	Rated voltage 1.5 hours "ON" 0.5 hours "OFF" 70°C 1,000 hours

Construction

1 – High Purity Alumina Substrate
2 – Termination
1) Ag/Pd 1st Conductor
2) Ni 2nd Conductor
3) 100% matte Tin (Sn) 3rd Conductor
3 – RuO_2 Resistor Material
4 – Glass Protective Coating

CONVEX





CONCAVE

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