



Features

- RoHS compliant*
- Convex and concave terminals
- 2, 4 or 8 isolated elements available
- Resistance tolerance $\pm 1\%$ and $\pm 5\%$
- Resistance range: 10 ohms to 1 megohm

CAT/CAY 16 Series - Chip Resistor Arrays

Specifications

Requirement	Characteristics	Test Method
Short Time Overload	$\pm 1\%$ ($\pm 2\%$ for CAT16-F8, -J8 & CAY16-J8)	Rated Voltage X 2.5, 5 seconds
Soldering Heat	$\pm 1\%$	260 °C $\pm 5\%$ °C, 10 seconds ± 1 second
Temperature Cycling (5)	$\pm 1\%$	125 °C (30 minutes) - normal (15 minutes) -30 °C (30 minutes) - normal (15 minutes)
Moisture Load Life	$\pm 2\%$ ($\pm 3\%$ for CAT16-F8, -J8 & CAY16-J8)	1000 hours
Load Life	$\pm 2\%$ ($\pm 3\%$ for CAT16-F8, -J8 & CAY16-J8)	1000 hours

Characteristics

Characteristics	CAT16/CAY16
Number of Elements	2 (J2), 4 (F4, J4), 8 (F8, J8)
Power Rating Per Resistor	62 mW (31 mW for CAY16-J8)
Resistance Tolerance	$\pm 1\%$, $\pm 5\%$
Resistance Range: E24 (J), E96 + E24 (F) Zero-Ohm Jumper < 0.05 ohm	10 ohms - 1 megohm
Max. Working Voltage	50 V (25 V for CAY16-J8)
Operating Temp. Range	-55 °C - 125 °C

How To Order

CA Y 16 - 103 J 4 LF

Chip Arrays _____

Type _____

- CAT16 = Concave Terminations
- CAY16 = Convex Terminations

Resistance Code _____

- 103 = 10 K ohms
- 1003 = 100 K ohms (1 % tolerance)
- 000 = Zero-ohm

Resistance Tolerance _____

- J = $\pm 5\%$ (Use "J" for zero-ohm jumper)
- F = $\pm 1\%$ (4 resistor pkg. and CAT16-F8)

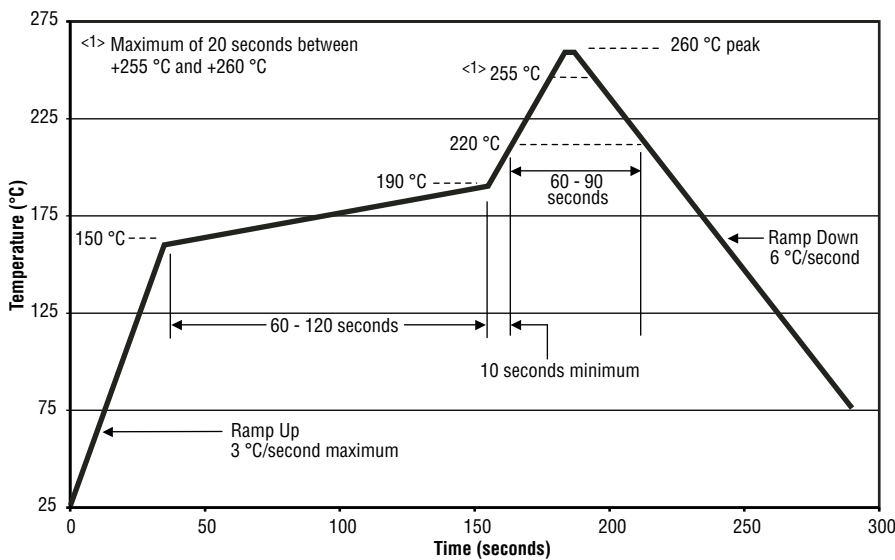
Resistors _____

- 2 = 2 Isolated Resistors
- 4 = 4 Isolated Resistors
- 8 = 8 Isolated Resistors

Terminations _____

- LF = Tin-plated (RoHS compliant)

Soldering Profile for RoHS Compliant Chip Resistors and Arrays



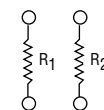
Packaging Size

J2 0606 Package Size
 F4, J4 1206 Package Size
 F8 2406 Package Size for CAT16
 J8 2406 Package Size for CAT16;
 1506 Package Size for CAY16

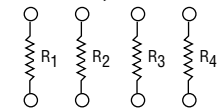
For Standard Values Used in Capacitors, Inductors, and Resistors, [click here](#).

Schematics

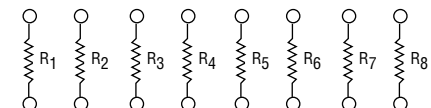
**CAT16-J2
CAY16-J2**



**CAT16-F4, -J4
CAY16-F4, -J4**



**CAT16-F8, -J8
CAY16-J8**



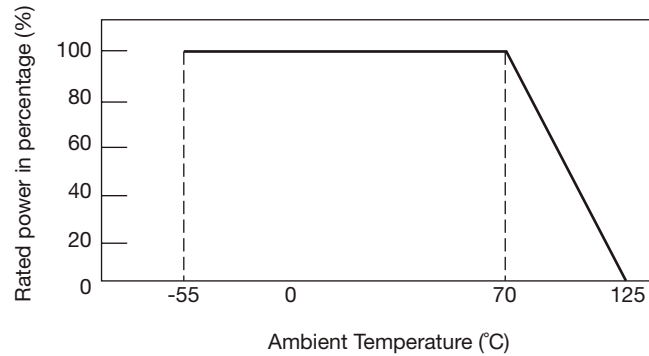
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex.
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Derating Curve

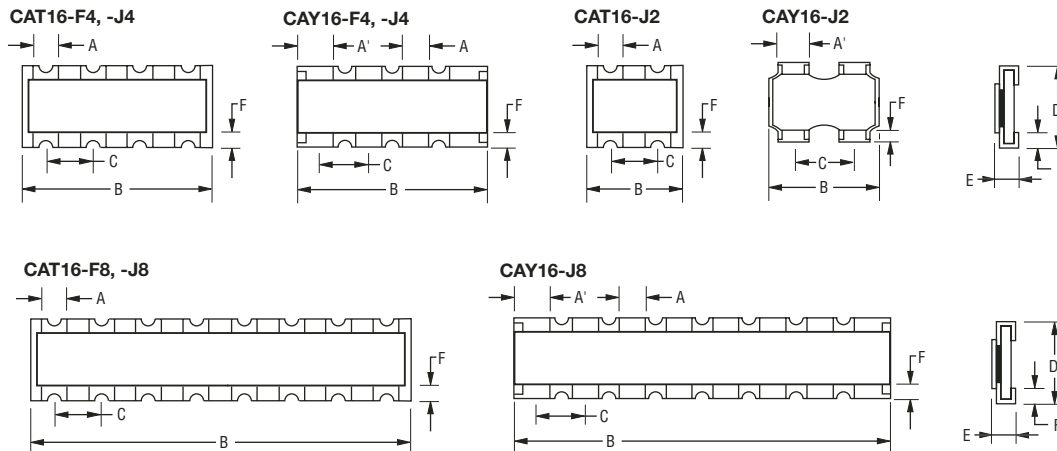


Dimensions

Model	A	A'	B	C	D	E	F
CAT16-F4, -J4	$\frac{0.40 \pm 0.15}{(.016 \pm .006)}$	—	$\frac{3.20 \pm 0.20}{(.126 \pm .008)}$	$\frac{0.80 \pm 0.05}{(.032 \pm .002)}$	$\frac{1.60 \pm 0.20}{(.063 \pm .008)}$	$\frac{0.50 \pm 0.10}{(.020 \pm .004)}$	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$
CAY16-F4, -J4	$\frac{0.50 \pm 0.15}{(.002 \pm .006)}$	$\frac{0.70 \pm 0.10}{(.027 \pm .008)}$	$\frac{3.20 \pm 0.20}{(.126 \pm .008)}$	$\frac{0.80 \pm 0.05}{(.032 \pm .002)}$	$\frac{1.60 \pm 0.20}{(.063 \pm .008)}$	$\frac{0.50 \pm 0.10}{(.020 \pm .004)}$	$\frac{0.30 \pm 0.20}{(.012 \pm .008)}$
CAT16-J2	$\frac{0.40 \pm 0.15}{(.016 \pm .006)}$	—	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.80 \pm 0.05}{(.032 \pm .002)}$	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.60 \pm 0.15}{(.024 \pm .006)}$	$\frac{0.30 \pm 0.20}{(.012 \pm .008)}$
CAY16-J2	—	$\frac{0.60 \pm 0.15}{(.024 \pm .006)}$	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.76 \pm 0.10}{(.030 \pm .004)}$	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.45 + 0.15 / - 0.10}{(.018 + 0.006 / - 0.004)}$	$\frac{0.30 \pm 0.20}{(.012 \pm .008)}$
CAT16-F8, -J8	$\frac{0.40 \pm 0.15}{(.016 \pm .006)}$	—	$\frac{6.40 \pm 0.20}{(.252 \pm .008)}$	$\frac{0.80 \pm 0.15}{(.032 \pm .006)}$	$\frac{1.60 \pm 0.20}{(.063 \pm .008)}$	$\frac{0.60 \pm 0.15}{(.024 \pm .006)}$	$\frac{0.30 \pm 0.20}{(.012 \pm .008)}$
CAY16-J8	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$	$\frac{3.80 \pm 0.20}{(.15 \pm .008)}$	$\frac{0.50 \pm 0.05}{(.02 \pm .002)}$	$\frac{1.60 \pm 0.20}{(.063 \pm .008)}$	$\frac{0.50 \pm 0.10}{(.02 \pm .004)}$	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$

DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Configurations

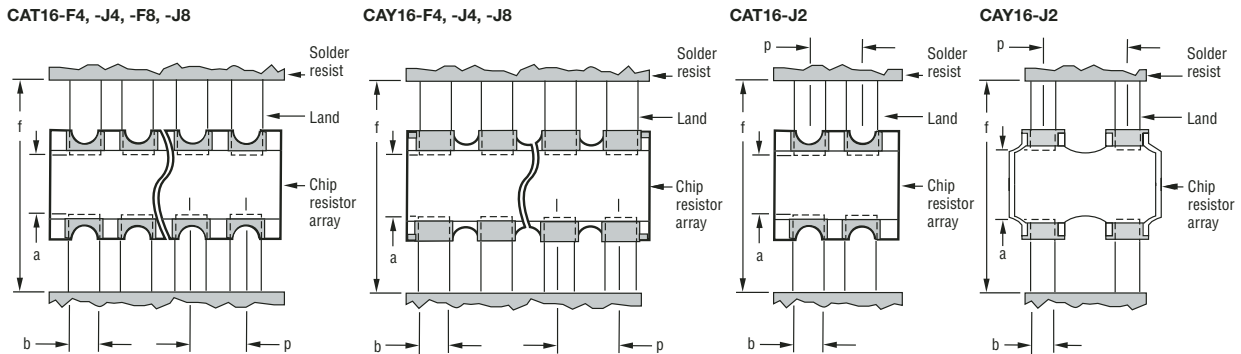


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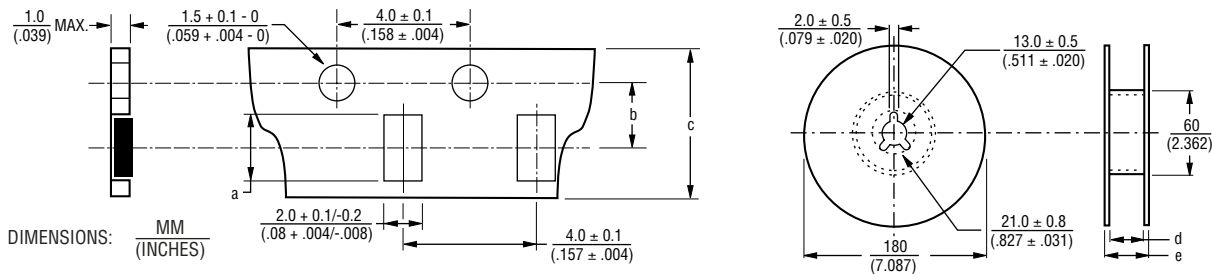
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Land Patterns



Model	a	b	p	f
CAT16-F4, -J4, -F8, -J8	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.0 \text{ to } 2.2}{(.079 \text{ to } .087)}$
CAY16-F4, -J4	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.4 \text{ to } 2.8}{(.094 \text{ to } .11)}$
CAY16-J8	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.3 \text{ to } 0.35}{(.012 \text{ to } .014)}$	$\frac{0.50}{(.020)}$	$\frac{2.0 \text{ to } 2.2}{(.079 \text{ to } .087)}$
CAT16-J2	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.2 \text{ to } 2.6}{(.087 \text{ to } .102)}$
CAY16-J2	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.5}{(.016 \text{ to } .020)}$	$\frac{0.80}{(.032)}$	$\frac{2.0 \text{ to } 2.6}{(.079 \text{ to } .102)}$

Packaging Dimensions



Model	a	b	c	d	e
CAT16-F4, -J4 & CAY16-F4, J4	$\frac{3.40 \pm 0.10}{(.134 \pm .004)}$	$\frac{3.50 \pm .005}{(.138 \pm .004)}$	$\frac{8.0 \pm 0.3}{(.315 \pm .012)}$	$\frac{9.0 \pm 0.3}{(.354 \pm .012)}$	$\frac{11.4 \pm 1.0}{(.449 \pm .040)}$
CAT16-J2 & CAY16-J2	$\frac{1.80 \pm 0.10}{(.070 \pm .004)}$	$\frac{3.50 \pm .005}{(.138 \pm .004)}$	$\frac{8.0 \pm 0.3}{(.315 \pm .012)}$	$\frac{9.0 \pm 0.3}{(.354 \pm .012)}$	$\frac{11.4 \pm 1.0}{(.449 \pm .040)}$
CAT16-F8, -J8	$\frac{6.90 \pm 0.20}{(.272 \pm .008)}$	$\frac{5.50 \pm 0.10}{(.217 \pm .004)}$	$\frac{12.0 \pm 0.2}{(.472 \pm .008)}$	$\frac{13.0 \pm 0.2}{(.512 \pm .008)}$	$\frac{15.4 \pm 1.0}{(.606 \pm .040)}$
CAY16-J8	$\frac{4.10 \pm 0.15}{(.161 \pm .012)}$	$\frac{3.50 \pm 0.05}{(.138 \pm .002)}$	$\frac{8.0 \pm 0.3}{(.315 \pm .012)}$	$\frac{9.0 \pm 0.3}{(.354 \pm .012)}$	$\frac{11.4 \pm 1.0}{(.449 \pm .040)}$

- 5,000 pcs. per reel (J2, J4, CAY16-J8)
- 4,000 pcs. per reel (CAT16-F8, -J8)
- Paper tape

REV. 01/09

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Chip Resistor Arrays - Application Note

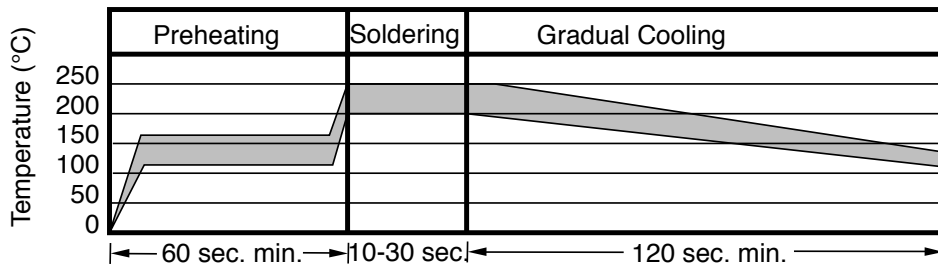


Component Placement

- a. Reduce the mechanical stress to a minimum during and after placing of the unit in order not to damage the terminals and protective coating.
- b. Misplacement of components may cause solder bridges.

Soldering

- a. Reflow soldering: Recommendation is shown in the following chart.
- b. Wave soldering: Recommendation according to IEC standards.
- c. Hand soldering: Don't touch the protective coating of the part. Solder within 3 seconds when the temperature is over 280 °C.



Cleaning

A recommended cleaning method is shown in the following table.

Solvents	Cleaning Condition	
	Dipping	Ultrasonic Wave Washing
Isopropyl alcohol	5 minutes maximum	1 minute maximum Power: 20 W/L Frequency: 10 to 100 kHz