



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	$\pm 2\% + 0.1 \text{ ohm}$	Rated Voltage X 2.5, 5 seconds
Soldering Heat	$\pm 2\% + 0.1 \text{ ohm}$	260 °C ± 5 °C, 10 seconds ± 1 second
Temperature Cycling (5)	$\pm 1\% + 0.1 \text{ ohm}$	125 °C (30 minutes) - normal (15 minutes) -55 °C (30 minutes) - normal (15 minutes)
Moisture Load Life	$\pm 3\% + 0.1 \text{ ohm}$	1000 hours
Load Life	$\pm 3\% + 0.1 \text{ ohm}$	1000 hours

Characteristics

Characteristics	CAT16/CAY16
Number of Elements	2 (J2), 4 (F4, J4), 8 (F8, J8)
Power Rating Per Resistor @ 70 °C	0.0625 W
Package Power Rating @ 70 °C	0.250 W (0.125 W for J2)
Temperature Coefficient of Resistance	$\pm 200 \text{ PPM/}^\circ\text{C}$
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

Soldering Profile for RoHS Compliant Chip Resistors and Arrays



How To Order

CA Y 16 - 103 J 4 LF

Chip Arrays

Type

- CAT16 = Concave Terminations
- CAY16 = Convex Terminations

Resistance Code

- For 1 % Tolerance:
 - <100 ohms - "R" represents decimal point (example: 24R3 = 24.3 ohms)
 - ≥ 100 ohms - First three digits are significant, fourth digit represents number of zeros to follow (example: 8252 = 82.5k ohms)
- For 5 % Tolerance:
 - <10 ohms - "R" represents decimal point (example: 4R7 = 4.7 ohms)
 - ≥ 10 ohms - First two digits are significant, third digit represents number of zeros to follow (example: 474 = 470k ohms)
- 000 = Zero Ohm Jumper

Resistance Tolerance

- J = $\pm 5\%$ (2, 4, 8 resistor pkg. and 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)

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](#).

*RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

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Users should verify actual device performance in their specific applications.

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Derating Curve

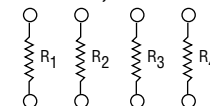


Schematics

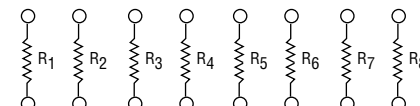
CAT16-J2
CAY16-J2



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



CAT16-F8, -J8
CAY16-J8



Dimensions

Model	A	A'	B	C	D	E	F
CAT16-F4	0.40 ± 0.15 (.016 ± .006)	—	3.20 ± 0.20 (.126 ± .008)	0.80 ± 0.10 (.032 ± .004)	1.60 ± 0.20 (.063 ± .008)	0.50 ± 0.10 (.020 ± .004)	0.30 ± 0.15 (.012 ± .006)
CAT16-J4	0.40 ± 0.15 (.016 ± .006)	—	3.20 ± 0.20 (.126 ± .008)	0.80 ± 0.10 (.032 ± .004)	1.55 ± 0.25 (.061 ± .0098)	0.50 ± 0.10 (.020 ± .004)	0.30 ± 0.20 (.012 ± .008)
CAY16-F4, -J4	0.50 ± 0.15 (.002 ± .006)	0.70 ± 0.10 (.027 ± .004)	3.20 ± 0.20 (.126 ± .008)	0.80 ± 0.05 (.032 ± .002)	1.60 ± 0.20 (.063 ± .008)	0.50 ± 0.10 (.020 ± .004)	0.30 ± 0.20 (.012 ± .008)
CAT16-J2	0.40 ± 0.15 (.016 ± .006)	—	1.60 ± 0.15 (.063 ± .006)	0.80 ± 0.05 (.032 ± .002)	1.60 ± 0.15 (.063 ± .006)	0.60 ± 0.15 (.024 ± .006)	0.30 ± 0.20 (.012 ± .008)
CAY16-J2	—	0.60 ± 0.15 (.024 ± .006)	1.60 ± 0.15 (.063 ± .006)	0.76 ± 0.10 (.030 ± .004)	1.60 ± 0.15 (.063 ± .006)	$0.45 + 0.15/-0.10$ (.018 + 0.006/-0.004)	0.30 ± 0.20 (.012 ± .008)
CAT16-F8, -J8	0.40 ± 0.15 (.016 ± .006)	—	6.40 ± 0.20 (.252 ± .008)	0.80 ± 0.15 (.032 ± .006)	1.60 ± 0.20 (.063 ± .008)	0.60 ± 0.15 (.024 ± .006)	0.30 ± 0.20 (.012 ± .008)
CAY16-J8	0.30 ± 0.15 (.012 ± .006)	0.30 ± 0.15 (.012 ± .006)	3.80 ± 0.20 (.15 ± .008)	0.50 ± 0.05 (.02 ± .002)	1.60 ± 0.20 (.063 ± .008)	0.50 ± 0.10 (.02 ± .004)	0.30 ± 0.15 (.012 ± .006)

Configurations

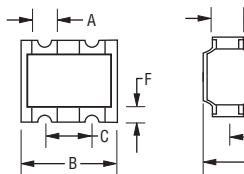
CAT16-F4, -J4



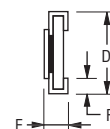
CAY16-F4, -J4



CAT16-J2



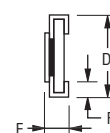
CAY16-J2



CAT16-F8, -J8



CAY16-J8



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

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Land Patterns

CAT16-F4, -J4, -F8, -J8



CAY16-F4, -J4, -J8



CAT16-J2



CAY16-J2



Model	a	b	p	f
CAT16-F4, -J4, -F8, -J8	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.2 \text{ to } 2.6}{(.087 \text{ to } .102)}$
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	$\frac{3.60 \pm 0.20}{(.142 \pm .008)}$	$\frac{3.50 \pm .005}{(.138 \pm .004)}$	$\frac{8.0 \pm 0.3}{(.315 \pm .012)}$	$\frac{9.0 \pm 0.3}{(.354 \pm .012)}$	$\frac{11.4 \pm 1.0}{(.449 \pm .040)}$
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. 09/14

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Chip Resistor Arrays - Application Note

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Component Placement

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

Soldering

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

