## Features

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

# CAT/CAY 16 Series - Chip Resistor Arrays

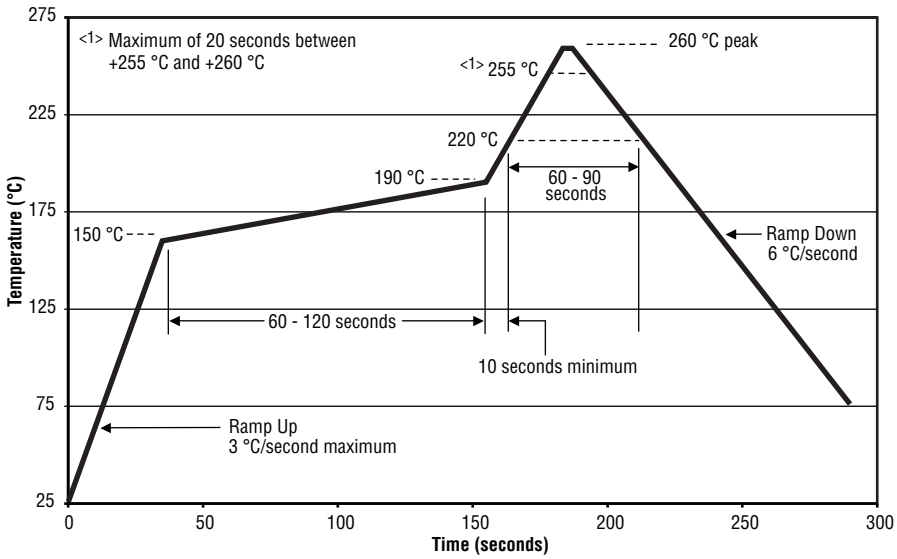
## Specifications

| Requirement | Characteristics | Test Method |
|---|---|---|
| Short Time Overload | ±2 % +0.1 ohm | Rated Voltage X 2.5, 5 seconds |
| Soldering Heat | ±2 % +0.1 ohm | 260 °C ±5 °C, 10 seconds ±1 second |
| Temperature Cycling (5) | ±1 % + 0.1 ohm | 125 °C (30 minutes) - normal (15 minutes)<br>-55 °C (30 minutes) - normal (15 minutes) |
| Moisture Load Life | ±3 % +0.1 ohm | 1000 hours |
| Load Life | ±3 % +0.1 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<br>(0.125 W for J2) |
| Temperature Coefficient of Resistance | ±200 PPM/°C |
| Resistance Tolerance | ±1 %, ±5 % |
| Resistance Range: E24 (J), E96 + E24 (F)<br>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 = ±5 % (2, 4, 8 resistor pkg. and for Zero Ohm Jumper)
- F = ±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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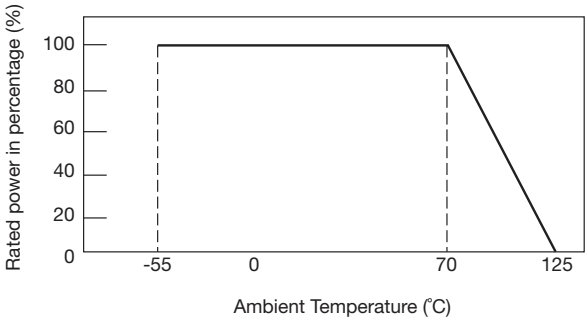
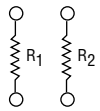
## Derating Curve

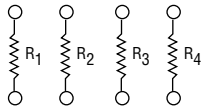



## Schematics

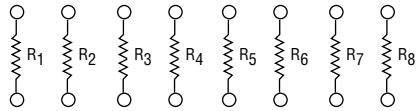
**CAT16-J2**
**CAY16-J2**




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




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

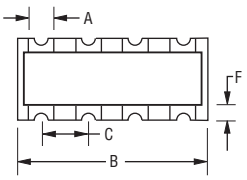



## Dimensions

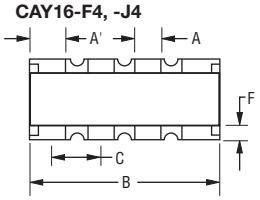
| Model | A | A' | B | C | D | E | F |
|---|---|---|---|---|---|---|---|
| CAT16-F4 | 0.40 ± 0.15 (.016 ± .006) | — | 3.20 ± 0.20 (.126 ± .008) | 0.80 ± 0.10 (.032 ± .004) | 1.60 ± 0.20 (.063 ± .008) | 0.50 ± 0.10 (.020 ± .004) | 0.30 ± 0.15 (.012 ± .006) |
| CAT16-J4 | 0.40 ± 0.15 (.016 ± .006) | — | 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

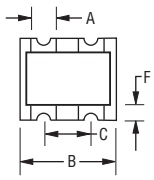
**CAT16-F4, -J4**



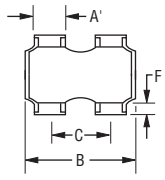

**CAY16-F4, -J4**

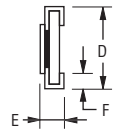



**CAT16-J2**



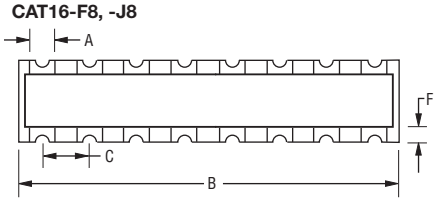

**CAY16-J2**



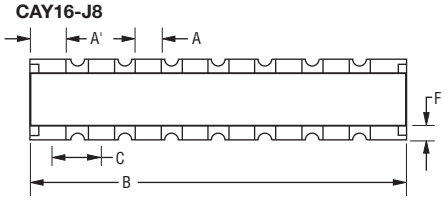



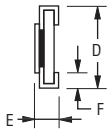

DIMENSIONS: MM / (INCHES)

**CAT16-F8, -J8**




**CAY16-J8**

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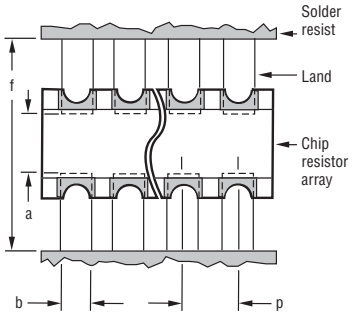
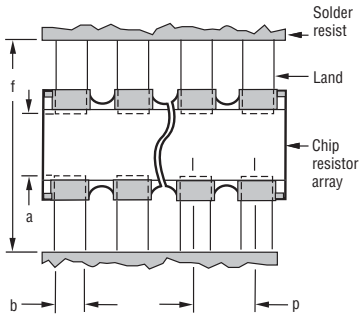
## Land Patterns

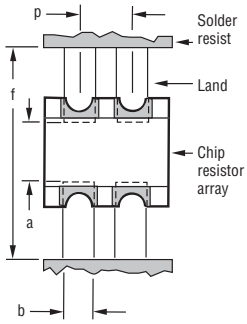
CAT16-F4, -J4, -F8, -J8



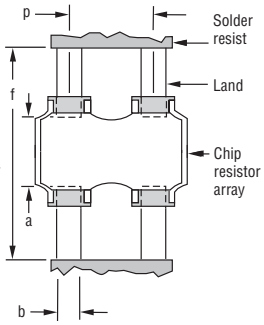

CAY16-F4, -J4, -J8




CAT16-J2

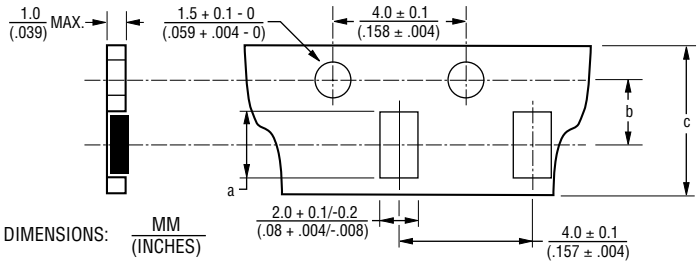


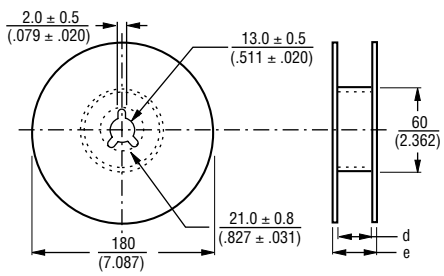

CAY16-J2




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

## Packaging Dimensions




| Model | a | b | c | d | e |
|---|---|---|---|---|---|
| CAT16-F4, -J4 & CAY16-F4, J4 | 3.60 ± 0.20 (.142 ± .008) | 3.50 ± .005 (.138 ± .004) | 8.0 ± 0.3 (.315 ± .012) | 9.0 ± 0.3 (.354 ± .012) | 11.4 ± 1.0 (.449 ± .040) |
| CAT16-J2 & CAY16-J2 | 1.80 ± 0.10 (.070 ± .004) | 3.50 ± .005 (.138 ± .004) | 8.0 ± 0.3 (.315 ± .012) | 9.0 ± 0.3 (.354 ± .012) | 11.4 ± 1.0 (.449 ± .040) |
| CAT16-F8, -J8 | 6.90 ± 0.20 (.272 ± .008) | 5.50 ± 0.10 (.217 ± .004) | 12.0 ± 0.2 (.472 ± .008) | 13.0 ± 0.2 (.512 ± .008) | 15.4 ± 1.0 (.606 ± .040) |
| CAY16-J8 | 4.10 ± 0.15 (.161 ± .012) | 3.50 ± 0.05 (.138 ± .002) | 8.0 ± 0.3 (.315 ± .012) | 9.0 ± 0.3 (.354 ± .012) | 11.4 ± 1.0 (.449 ± .040) |

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



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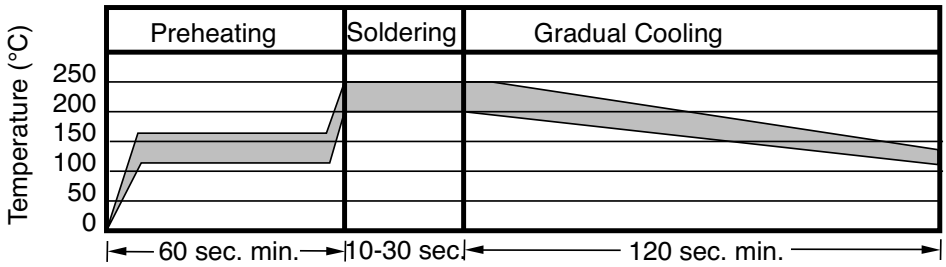
**Component Placement**

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.

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