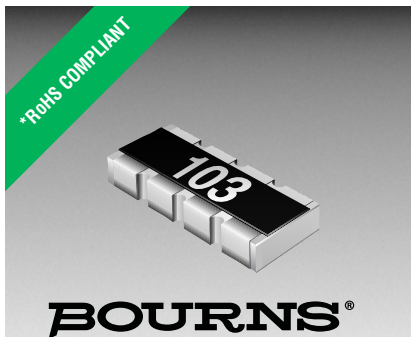




## Features

- 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

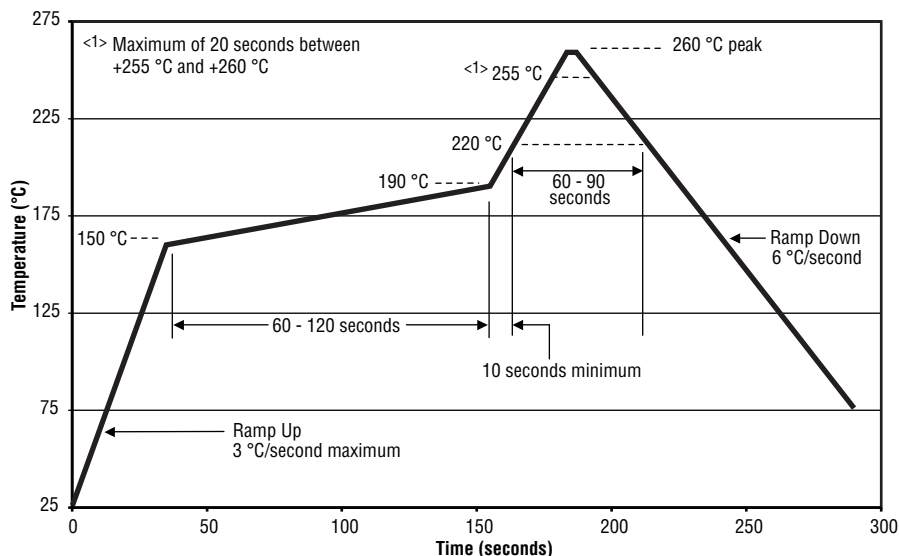
### Specifications

| 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 $\pm 5$ °C, 10 seconds $\pm 1$ second                                           |
| Temperature Cycling (5) | $\pm 1\% + 0.1 \text{ ohm}$ | 125 °C (30 minutes) - normal (15 minutes)<br>-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<br>(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)<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)
    - $\geq 100$  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)
    - $\geq 10$  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.

Specifications are subject to change without notice.

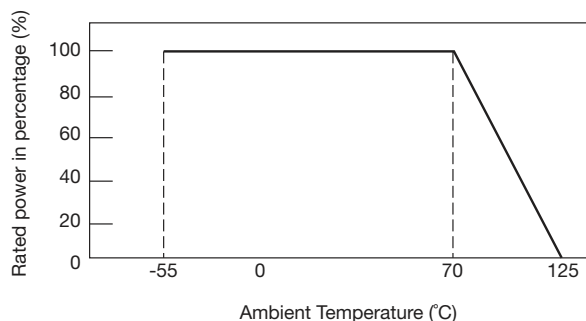
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

# CAT/CAY 16 Series - Chip Resistor Arrays

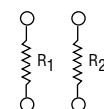
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## Derating Curve

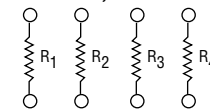


## Schematics

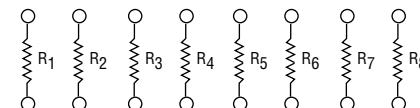
**CAT16-J2**  
**CAY16-J2**



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



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

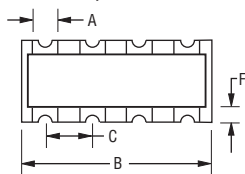


## Dimensions

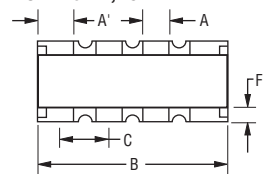
| Model         | A                                       | A'                                      | B                                       | C                                       | D                                        | E                                                     | F              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

## Configurations

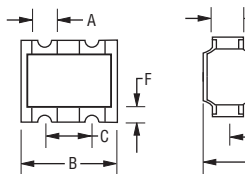
**CAT16-F4, -J4**



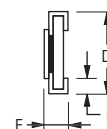
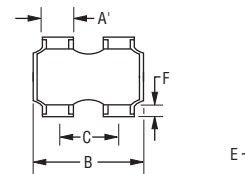
**CAY16-F4, -J4**



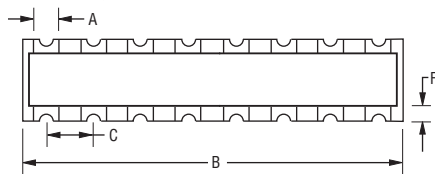
**CAT16-J2**



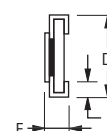
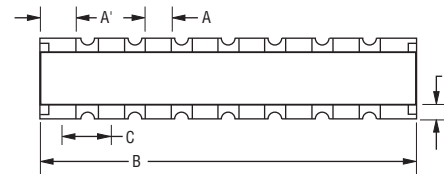
**CAY16-J2**



**CAT16-F8, -J8**



**CAY16-J8**



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

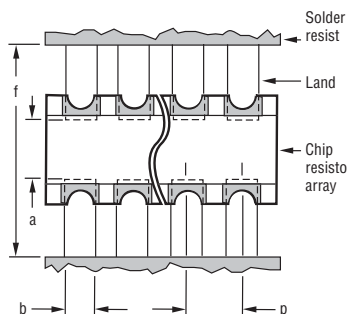
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# CAT/CAY 16 Series - Chip Resistor Arrays

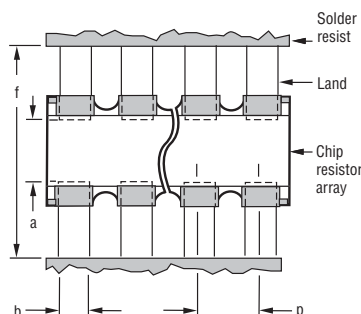
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## Land Patterns

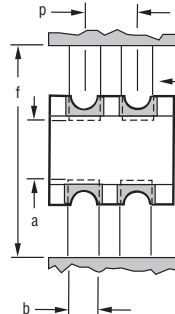
CAT16-F4, -J4, -F8, -J8



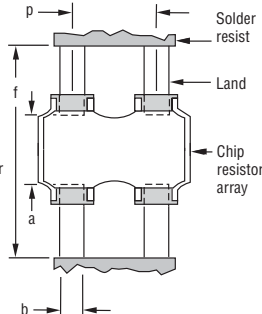
CAY16-F4, -J4, -J8



CAT16-J2

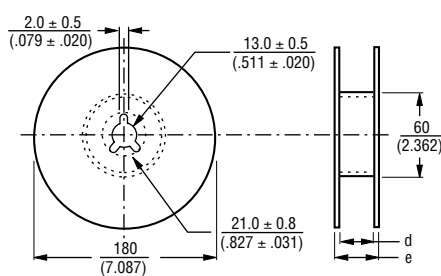
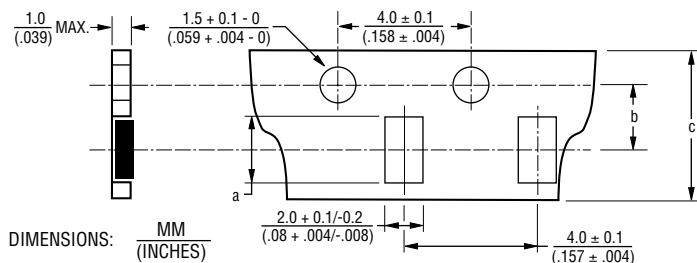


CAY16-J2



| 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

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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.

