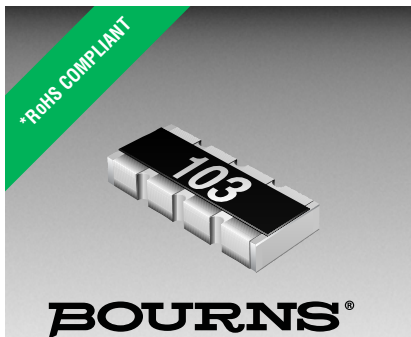




## Features

- 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

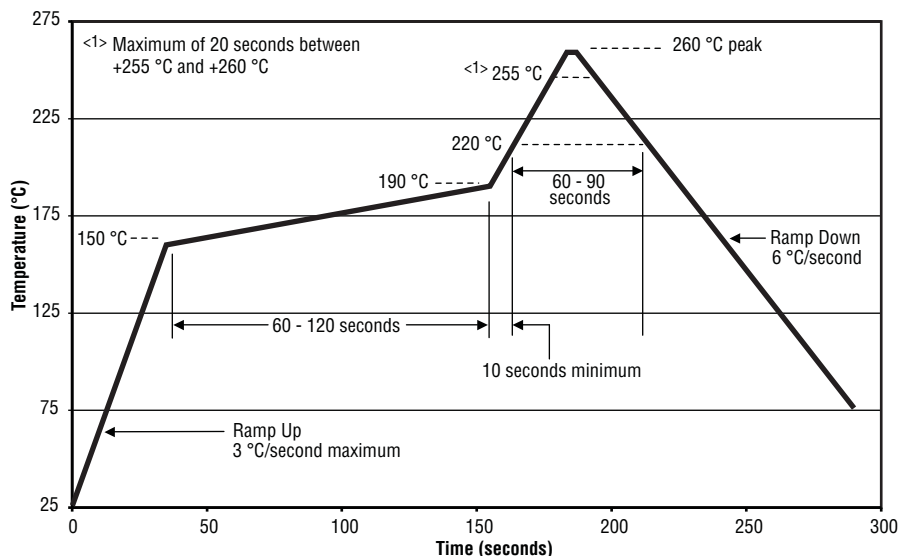
### Specifications

| 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.

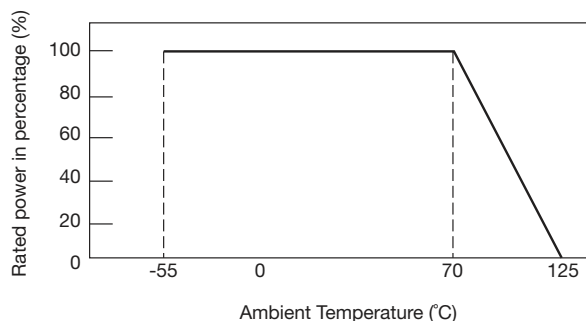
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# CAT/CAY 16 Series - Chip Resistor Arrays

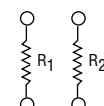
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## Derating Curve

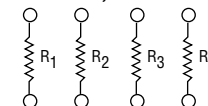


## Schematics

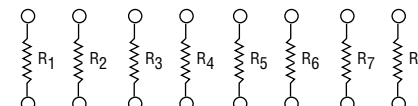
**CAT16-J2**  
**CAY16-J2**



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



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

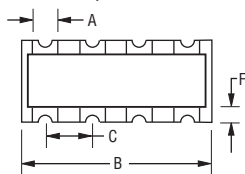


## Dimensions

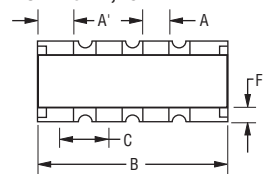
| Model         | A                                | A'                               | B                                | C                                | D                                 | E                                            | F                                |
|---------------|----------------------------------|----------------------------------|-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

## Configurations

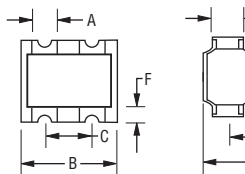
**CAT16-F4, -J4**



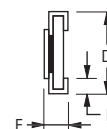
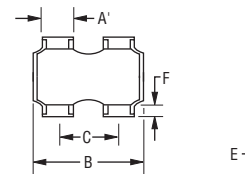
**CAY16-F4, -J4**



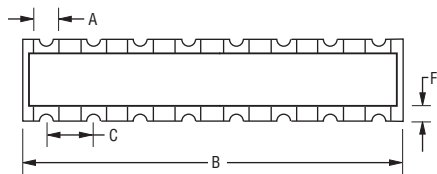
**CAT16-J2**



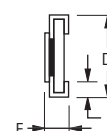
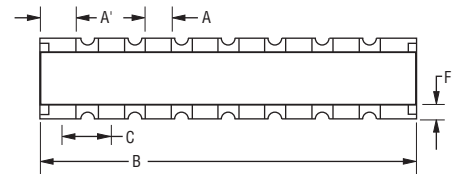
**CAY16-J2**



**CAT16-F8, -J8**



**CAY16-J8**



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

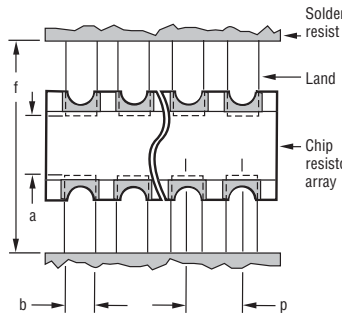
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# CAT/CAY 16 Series - Chip Resistor Arrays

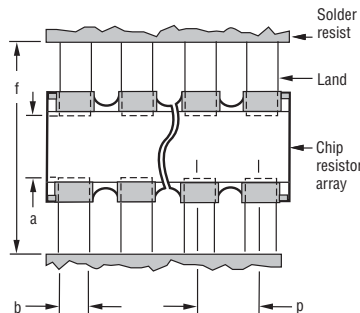
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## Land Patterns

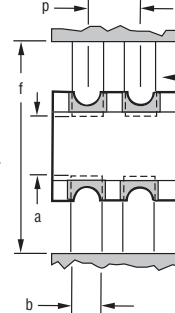
CAT16-F4, -J4, -F8, -J8



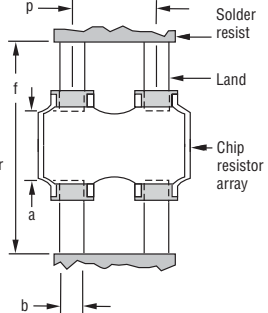
CAY16-F4, -J4, -J8



CAT16-J2

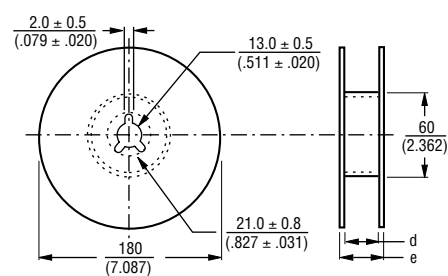
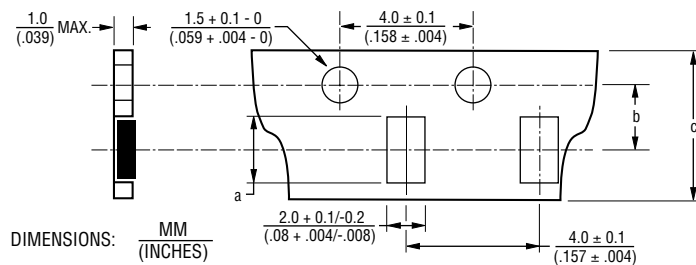


CAY16-J2



| 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

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.

