



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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

### Characteristics

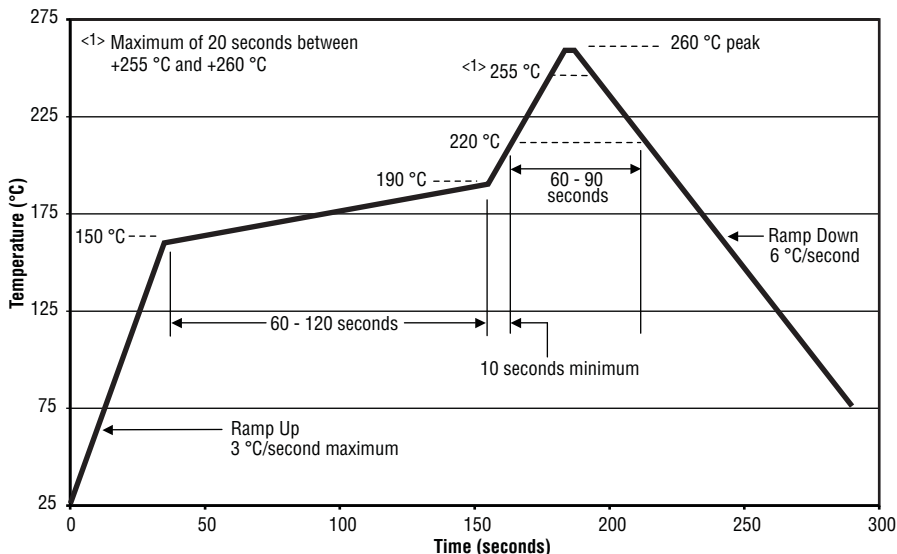
Characteristics	CAT16/CAY16
Number of Elements	2 (J2), 4 (F4, J4), 8 (F8, J8)
Power Rating Per Resistor @ 70 °C	0.0625 W
Package Power Rating @ 70 °C	0.250 W (0.125 W for J2)
Temperature Coefficient of Resistance	$\pm 200$ PPM/°C
Resistance Tolerance	$\pm 1\%$ , $\pm 5\%$
Resistance Range: E24 (J), E96 + 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

### 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)

### 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](#).

\*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.

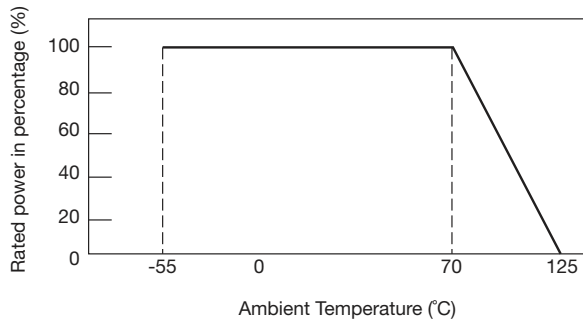
The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

# CAT/CAY 16 Series - Chip Resistor Arrays

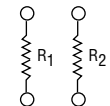
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## Derating Curve

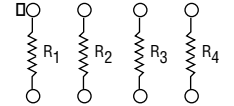


## Schematics

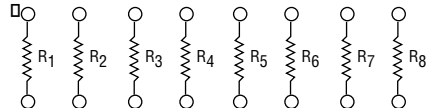
CAT16-J2□  
CAY16-J2



CAT16-F4, -J4□  
CAY16-F4, -J4□



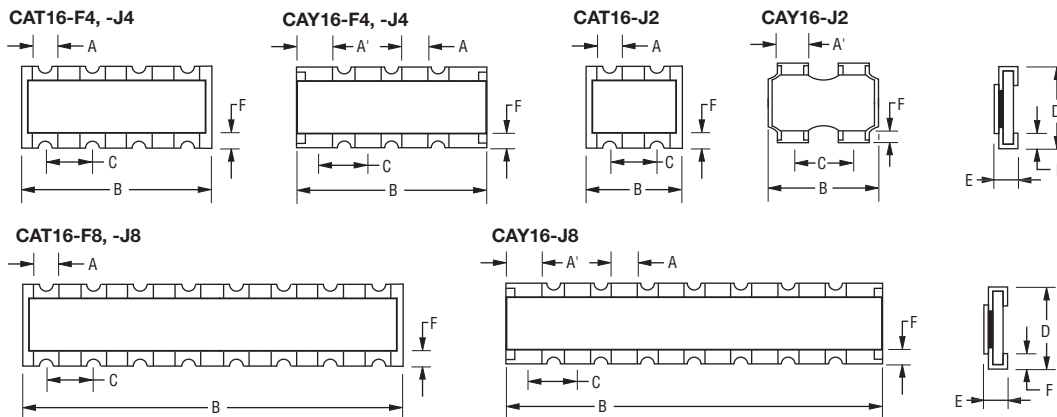
CAT16-F8, -J8□  
CAY16-J8□



## 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	—	$\frac{0.60 \pm 0.15}{(.024 \pm .006)}$	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.76 \pm 0.10}{(.030 \pm .004)}$	$\frac{1.60 \pm 0.15}{(.063 \pm .006)}$	$\frac{0.45 + 0.15/-0.10}{(.018 + 0.006/-0.004)}$	$\frac{0.30 \pm 0.20}{(.012 \pm .008)}$
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	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$	$\frac{3.80 \pm 0.20}{(.15 \pm .008)}$	$\frac{0.50 \pm 0.05}{(.02 \pm .002)}$	$\frac{1.60 \pm 0.20}{(.063 \pm .008)}$	$\frac{0.50 \pm 0.10}{(.02 \pm .004)}$	$\frac{0.30 \pm 0.15}{(.012 \pm .006)}$

## Configurations



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

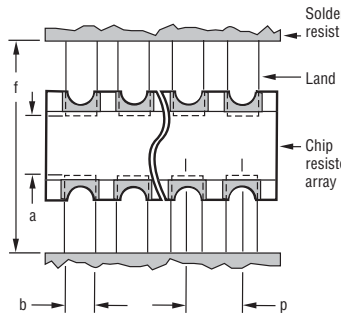
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# CAT/CAY 16 Series - Chip Resistor Arrays

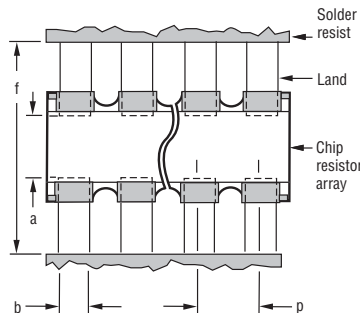
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## Land Patterns

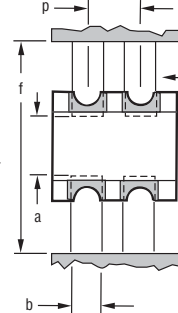
CAT16-F4, -J4, -F8, -J8



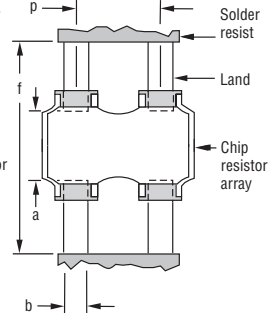
CAY16-F4, -J4, -J8



CAT16-J2

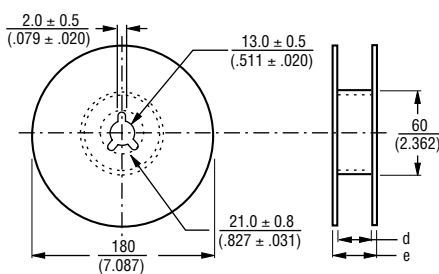
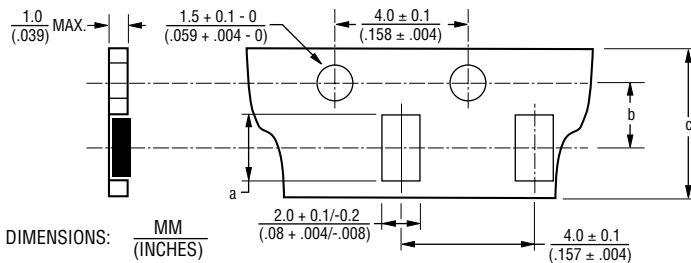


CAY16-J2



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.

