

## Features

- RoHS compliant\*
- Convex terminal style
- 4 isolated elements available
- Resistance tolerance: 1 % and 5 %

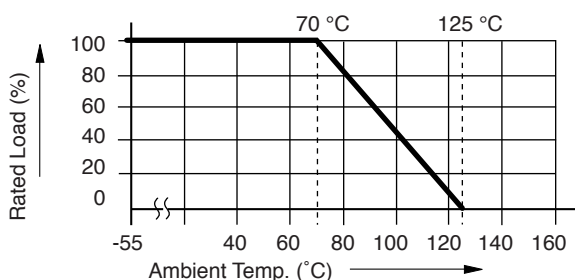
- Resistance range: 3  $\Omega$  to 1 M $\Omega$  and zero jumper
- AEC-Q200 compliant

## CAY16A-LF Series – Thick Film Chip Arrays

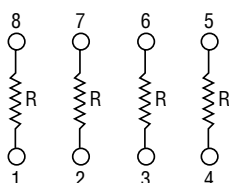
### Electrical Characteristics

Characteristic	CAY16A-xxx4LF
Number of Elements (Isolated)	4
Power Rating @ 70 °C per Resistor	63 mW
Resistor Tolerance	1 %, 5 %
Resistor Range & TCR (E24 + E96 for 1 %, E24 for 5 %) plus zero ohm jumper	1 %, 10 ~ 1 M $\Omega$ ... 200 ppm/°C 5 %, 10 ~ 1 M $\Omega$ ... 200 ppm/°C 5 %, 3 ~ 9, 1 $\Omega$ ... 400 ppm/°C
Maximum Overload Voltage	100 V
Maximum Working Voltage	50 V
Operating Temperature Range	-55 to +125 °C
Rating Temperature	+70 °C
Packaging	5,000 pieces per reel
Zero Ohm Jumper Current Rating / Max. Resistance (per element)	1 A / 2.5 A / 50 m $\Omega$ max.

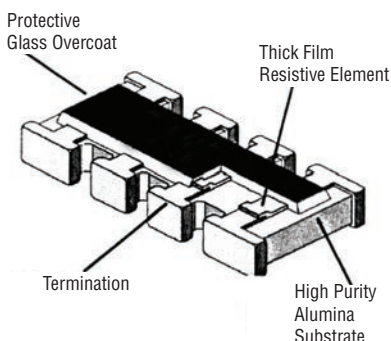
### Derating Curve



### Isolated Circuit



### Construction

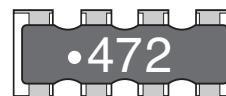


### Additional Information

Click these links for more information:



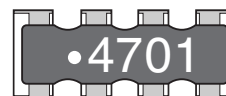
### Typical Part Marking



#### ±5 % (E24)

3 digits; first two digits are significant, third digit is the number of zeroes to follow.

EX: 472 = 4700  $\Omega$  = 4.7K  $\Omega$   
000 = 0  $\Omega$



#### ±1 % (E96)

4 digits; first three digits are significant, fourth digit is the number of zeroes to follow.

EX: 4701 = 4700  $\Omega$  = 4.7K  $\Omega$

### Storage Conditions

5~35 °C, 40~75 % RH, 2 years



**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
Specifications are subject to change without notice.

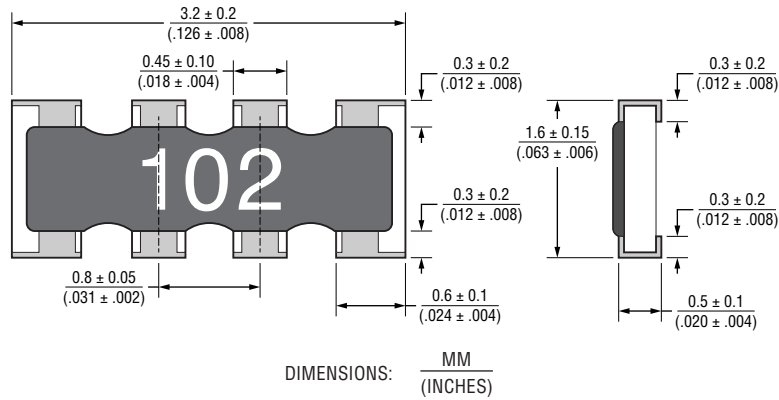
Users should verify actual device performance in their specific applications.

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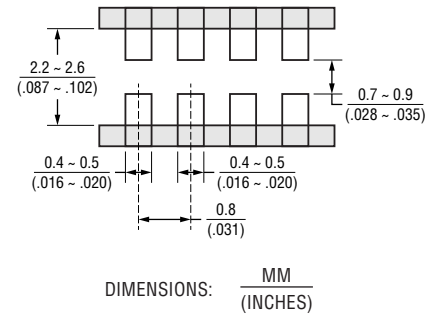
## CAY16A-LF Series – Thick Film Chip Arrays

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### Product Dimensions



### Recommended Pad Layout



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## CAY16A-LF Series – Thick Film Chip Arrays

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### How to Order

CA Y 16 A - 103 J 4 LF

#### Series

CA = Chip Array

#### Type

Y = Convex

#### Model

16 = 06 Package Width

#### Feature

A = AEC-Q200 Compliant

#### Resistance Code

For 1 % Tolerance: (E96)

<100 Ω – “R” represents decimal point (example 24R3 = 24.3 Ω)

≥100 Ω – First three digits are significant, fourth digit represents number of zeroes to follow (example: 8252 = 82.5k Ω).

For 5 % Tolerance: (E24)

<10 Ω – “R” represents decimal point (example 4R7 = 4.7 Ω)

≥10 Ω – First two digits are significant, third digit represents the number of zeroes to follow (example: 474 = 470k Ω)

000 = Zero Ohm Jumper.

#### Resistance Tolerance

F = ±1 % J = ±5 %

#### Number of Resistors

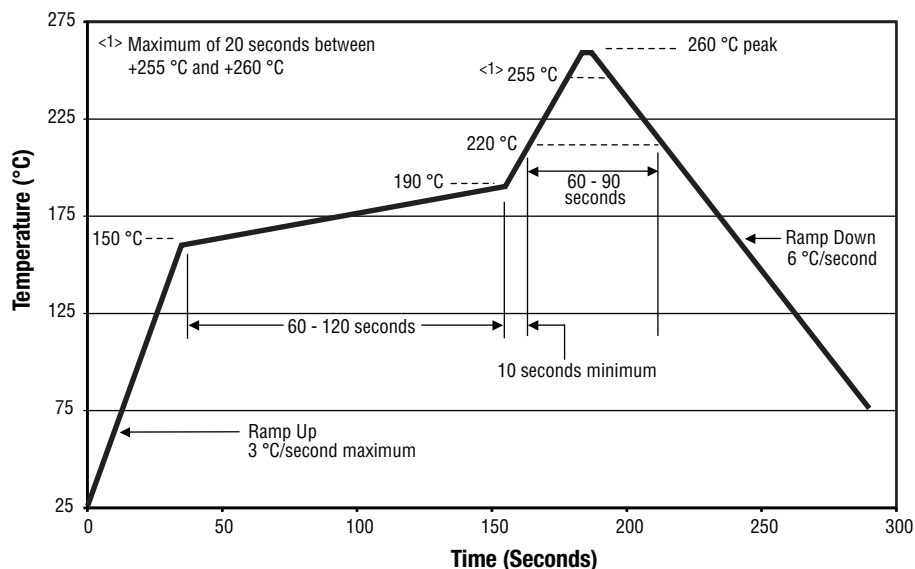
4 = 4 Resistors

#### Special Characteristics

LF = Tin-plated Terminations (RoHS Compliant)

For Standard Values Used in Capacitors, Inductors, and Resistors, [click here](#).

### Soldering Profile



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## CAY16A-LF Series – Thick Film Chip Arrays

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### Performance Characteristics (AEC-Q200)

Test	Procedure	Test Limits
Short Time Overload	2.5 X rated voltage for 5 sec.	$\pm (2.0 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
High Temperature Exposure (Storage)	1000 hrs. @ T=125 °C. Unpowered. Measurement at 24 $\pm$ 2 hours after test conclusion.	1 %: $\pm (1.0 \% + 0.05 \Omega)$ 5 %: $\pm (2.0 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Temperature Cycling	1000 Cycles (-55 °C to +125 °C) Measurement at 24 $\pm$ 4 hours after test conclusion. 30 min. maximum dwell time at each temperature extreme. 1 min. maximum transition time.	$\pm (2.0 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Moisture Resistance	T=24 hours / Cycle, 10 Cycles. Notes: Steps 7a & 7b not required. Unpowered.	$\pm (2.0 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Biased Humidity	1000 hours 85 °C / 85 % RH. Note: Specified conditions: 10 % of operating power (not exceeding max. working voltage). Measurement at 24 $\pm$ 2 hours after test conclusion.	$\pm (3 \% + 0.1 \Omega)$ 0 $\Omega$ : 100 m $\Omega$ or less
Operational Life	1000 hours T <sub>A</sub> =125 °C at 35 % rated power. Measurement at 24 $\pm$ 4 hours after test conclusion.	$\pm (3 \% + 0.1 \Omega)$ 0 $\Omega$ : 100 m $\Omega$ or less
Mechanical Shock	Wave Form: Tolerance for half sine shock pulse. Peak value is 100 g's. Normal duration (D) is 6 ms.	$\pm (1 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Vibration	5 g's for 20 min., 12 cycles each of 3 orientations. Note: Test from 10-2000 Hz.	$\pm (1 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Resistance to Soldering Heat	Condition B: Immerse the specimens in an eutectic solder at 260 $\pm$ 5 °C for 10 $\pm$ 1 s.	$\pm (1 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Thermal Shock	-55 °C / +155 °C. Note: Number of cycles required: 300, Maximum transfer time: 20 seconds, dwell time: 15 minutes. Air to Air.	$\pm (1 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
ESD	Verify the voltage setting at 500 V	$\pm (2 \% + 0.1 \Omega)$
Solderability	Method B, aging 4 hours at 155 °C dry heat Lead-free solder bath at 235 $\pm$ 3 °C Dipping time: 3 $\pm$ 0.5 seconds	> 95 % area covered with tin
Flammability	V-0 or V-1 are acceptable. Electrical test not required.	V-0 or V-1
Board Flex (Bending)	The duration of the applied forces shall be 60 (+ 5) sec.	$\pm (1 \% + 0.1 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less
Terminal Strength (SMD)	Force of 1.8 kg for 60 seconds.	$\pm (1 \% + 0.05 \Omega)$ 0 $\Omega$ : 50 m $\Omega$ or less

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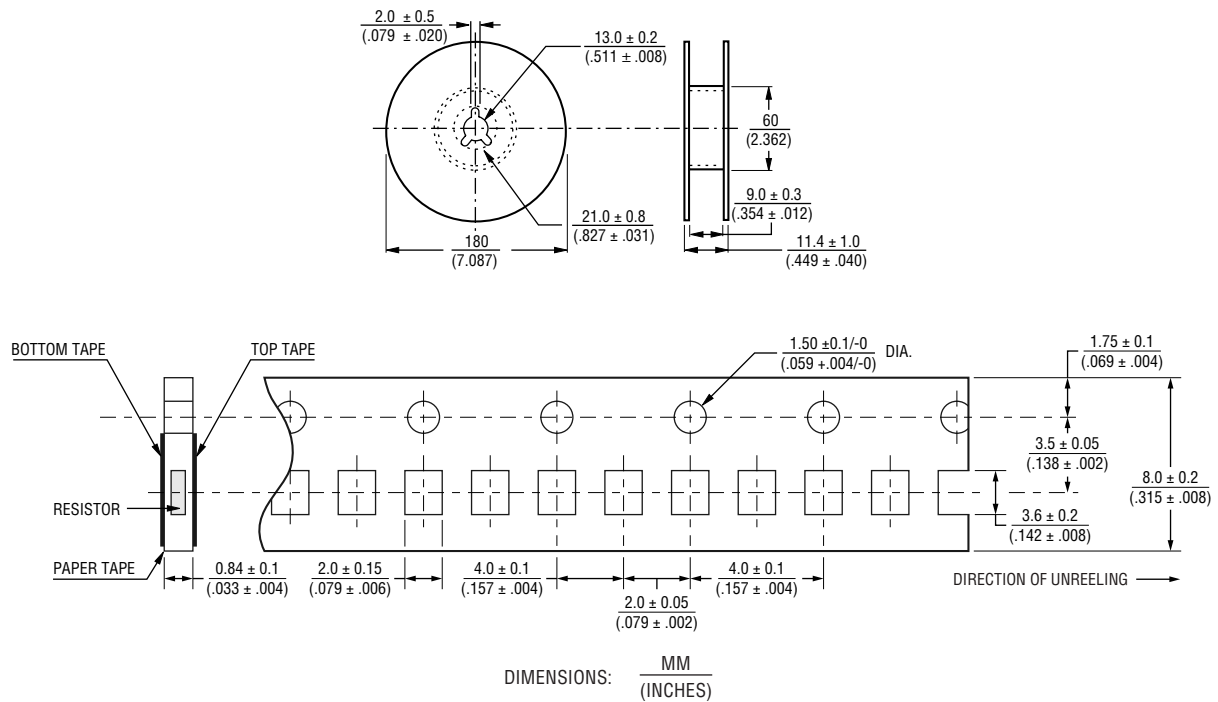
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## CAY16A-LF Series – Thick Film Chip Arrays

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### Packaging Dimensions



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