

## Features

- RoHS compliant\*
- Convex terminal style
- 2/4 isolated elements available
- Resistance tolerance: 5 %

- Sulfur-resistant design
- Resistance range: 3 Ω to 1 MΩ and zero jumper
- AEC-Q200 compliant

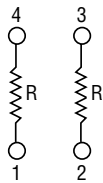
## CAY10A-AS Series – Sulfur-resistant Thick Film Chip Arrays

### Electrical Characteristics

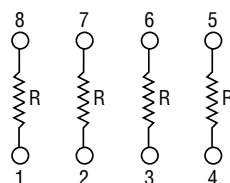
Characteristic	Model No.	
	CAY10A-xxxJ2AS	CAY10A-xxxJ4AS
Number of Elements (Isolated)	2	4
Power Rating @ 70 °C per Resistor	63 mW	
Resistor Tolerance	5 %	
Resistor Range & TCR (E24 for 5 %) plus zero ohm jumper	5 %, 10 ~ 1 MΩ ... 200 ppm/°C 5 %, 3 ~ 9, 1 Ω ... 500 ppm/°C	
Maximum Overload Voltage	50 V	
Maximum Working Voltage	25 V	
Operating Temperature Range	-55 to +125 °C	
Rating Temperature	+70 °C	
Packaging	10,000 pieces per reel	
Zero Ohm Jumper Current Rating / Max. Resistance (per element)	1 A / 2.5 A / 50 mΩ max.	

### Isolated Circuit

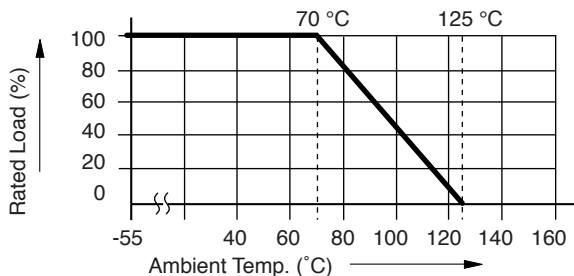
#### CAY10A-xxxJ2AS



#### CAY10A-xxxJ4AS



### Derating Curve

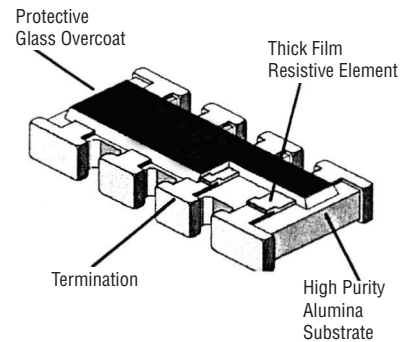


### Additional Information

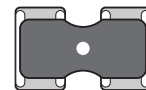
Click these links for more information:



### Construction



### Typical Part Marking



#### CAY10A-x2AS

No part marking



#### CAY10A-x4AS ±5 % (E24)

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

EX: 472 = 4700 Ω = 4.7K Ω

### 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.

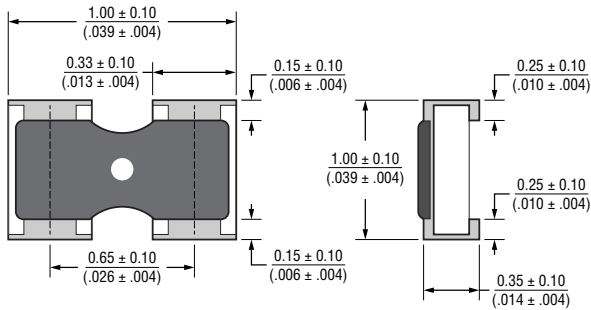
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# CAY10A-AS Series – Sulfur-resistant Thick Film Chip Arrays

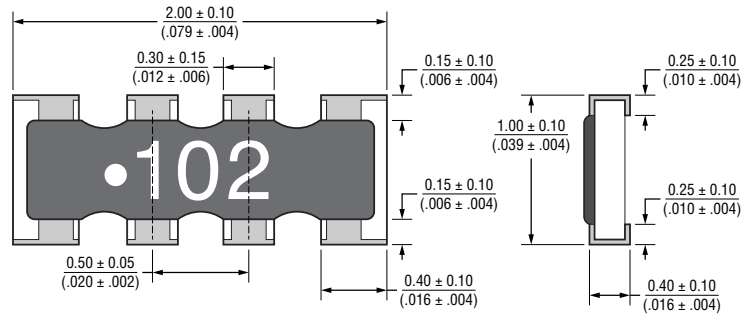


## Product Dimensions

**CAY10A-xxxJ2AS**

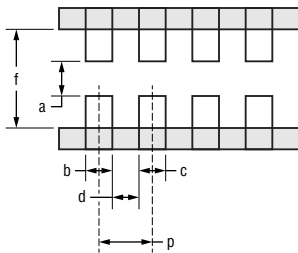


**CAY10A-xxxJ4AS**



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

## Recommended Pad Layout



Model	a	b	c	d	p	f
CAY10A-xxxJ2AS	$\frac{0.5}{(.020)}$	$\frac{0.35 \sim 0.40}{(.014 \sim .016)}$	$\frac{0.35 \sim 0.40}{(.014 \sim .016)}$	--	$\frac{0.65}{(.026)}$	$\frac{1.4 \sim 1.5}{(.055 \sim .059)}$
CAY10A-xxxJ4AS	$\frac{0.4}{(.016)}$	$\frac{0.525}{(.021)}$	$\frac{0.25}{(.010)}$	$\frac{0.25}{(.010)}$	--	$\frac{1.4}{(.055)}$

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

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# CAY10A-AS Series – Sulfur-resistant Thick Film Chip Arrays



## How to Order

CA Y 10 A - 103 J 4 AS

**Series** \_\_\_\_\_  
 CA = Chip Array

**Type** \_\_\_\_\_  
 Y = Convex

**Model** \_\_\_\_\_  
 10 = 04 Package Width

**Feature** \_\_\_\_\_  
 A = AEC-Q200 Compliant

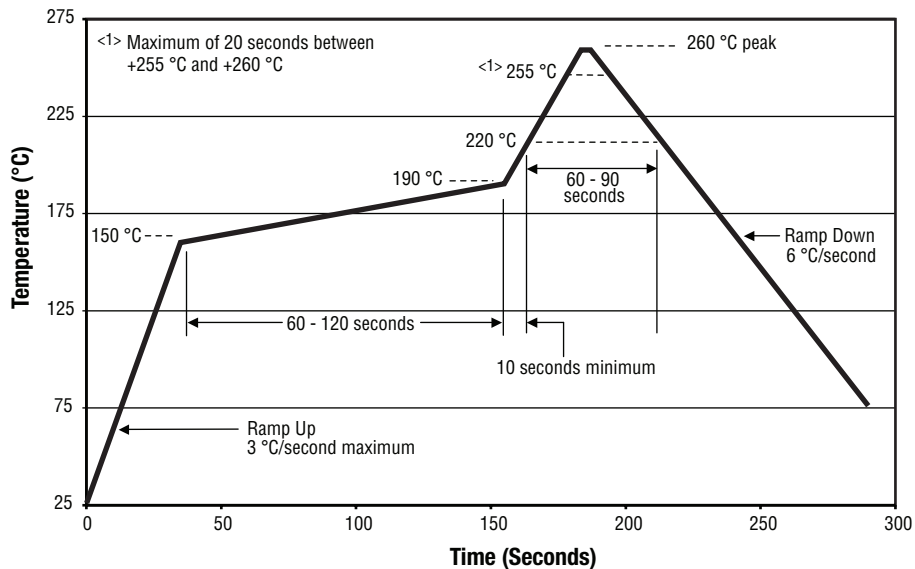
**Resistance Code** \_\_\_\_\_  
 For 5 % Tolerance: (E24)  
 First two digits are significant, third digit represents the number of zeroes to follow (example: 103 = 1M  $\Omega$ ).

**Resistance Tolerance** \_\_\_\_\_  
 J =  $\pm 5\%$

**Number of Resistors** \_\_\_\_\_  
 2 = 2 Resistors  
 4 = 4 Resistors

**Special Characteristics** \_\_\_\_\_  
 AS = Sulfur-resistant, Tin-plated Terminations (RoHS Compliant)

## Soldering Profile



## 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.	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
Sulfuration Test	Sulfur (Sulfur Vapor) 1000 hours, 105 $\pm$ 2 °C, unpowered	1 %: $\pm (1.0 \% + 0.05 \Omega)$ 5 %: $\pm (2.0 \% + 0.05 \Omega)$ 0 $\Omega$ : 100 m $\Omega$ or less

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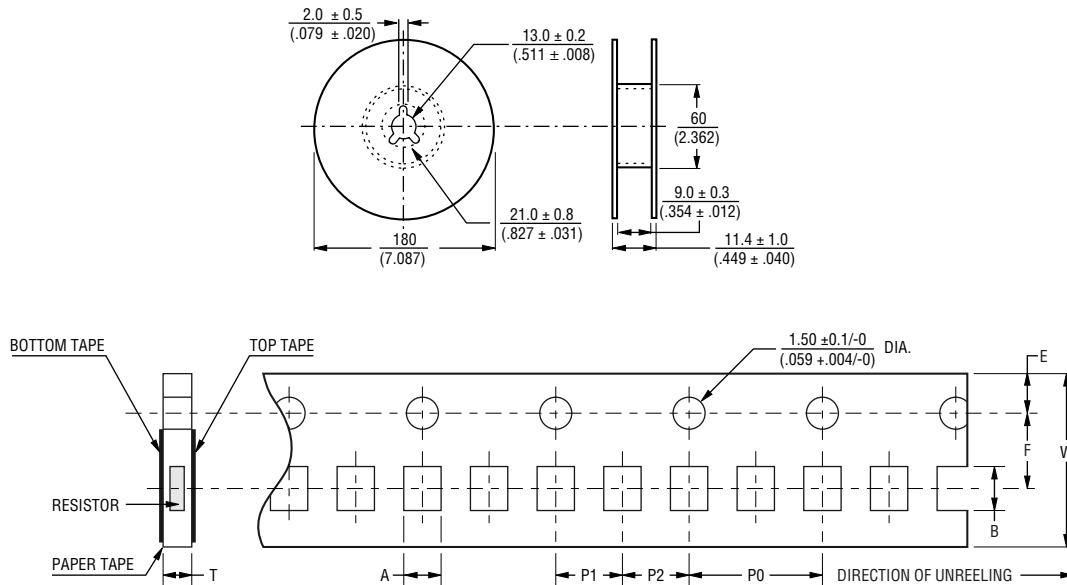
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## Packaging Dimensions



Model	A	B	W	F	E	P1	P2	P0	T
CAY10A-xxxJ2AS	$\frac{1.2 \pm 0.15}{(.047 \pm .006)}$	$\frac{1.2 \pm 0.1}{(.047 \pm .004)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.50 \pm 0.05}{(.138 \pm .002)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{2.0 \pm 0.1}{(.079 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{0.45 \pm 0.1}{(.018 \pm .004)}$
CAY10A-xxxJ4AS	$\frac{1.2 \pm 0.15}{(.047 \pm .006)}$	$\frac{2.2 \pm 0.2}{(.087 \pm .008)}$	$\frac{8.0 \pm 0.2}{(.315 \pm .008)}$	$\frac{3.50 \pm 0.05}{(.138 \pm .002)}$	$\frac{1.75 \pm 0.1}{(.069 \pm .004)}$	$\frac{2.0 \pm 0.1}{(.079 \pm .004)}$	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$	$\frac{4.0 \pm 0.1}{(.157 \pm .004)}$	$\frac{0.64 \pm 0.1}{(.025 \pm .004)}$

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



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