

BOURNS®

Features

- Convex and concave terminals
- 4 isolated elements available
- Resistance tolerance 5% and 1%
- E24 series from 10 ohms to 1 megohm

CAT/CAY 16 Series - Chip Resistor Arrays

Specifications

Requirement	Characteristics	Test Method
Short Time Overload	±1%	Rated Voltage X 2.5, 5 seconds
Soldering Heat	±1%	260°C ±5°C, 10 seconds ±1 second
Temperature Cycling (5)	±1%	125°C (30 minutes) - normal (15 minutes) -30°C (30 minutes) - normal (15 minutes)
Moisture Load Life	±2%	1000 hours
Load Life	±2%	1000 hours

Characteristics

Characteristics	CAT16/CAY16
Number of Elements	4
Power Rating	62mW
Resistance Tolerance	5%, 1%
Resistance Range E24	10 ohms - 1 megohm
T.C.R.	±200ppm/°C
Max. Working Voltage	50V
Operating Temp. Range	-55°C - 125°C
Rating Temperature	+70°C

How To Order

Chip Arrays **CA Y 16 - 103 J 4**

Type

- T = Concave
- Y = Convex

Models

- 16 = 1205 Package Size

Resistance Code

- 103 = 10K ohms
- 1003 = 100K ohms (1% tolerance)

Resistance Tolerance

- J = ±5%
- F = ±1%

Resistors

- 4 = 4 pcs.

Dimensions

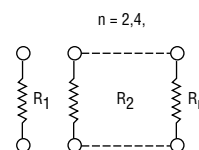
Model	A	A'	B	C	D	E	F
CAT16	0.5±0.15 (.02±.006)	—	3.2±0.2 (.126±.008)	0.8±0.05 (.032±.002)	1.6±0.2 (.063±.008)	0.5±0.1 (.02±.004)	0.3±0.15 (.012±.006)
CAY16	0.5±0.15 (.02±.006)	0.65±0.15 (.026±.006)	3.2±0.2 (.126±.008)	0.8±0.05 (.032±.002)	1.6±0.2 (.063±.008)	0.5±0.1 (.02±.004)	0.3±0.15 (.012±.006)

*5% preferred, 1% available

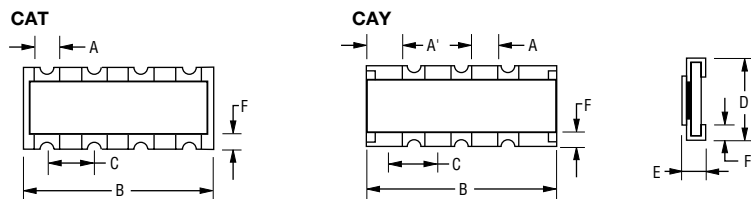
Tape And Reel Packaging

- 5,000 pieces per reel
- 178mm diameter plastic reel
- Paper tape

Schematic



Configuration



DIMENSIONS ARE: METRIC
(INCHES)

Standard Values Used in Bourns Chip Resistors & Arrays

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According to IEC Publication 63

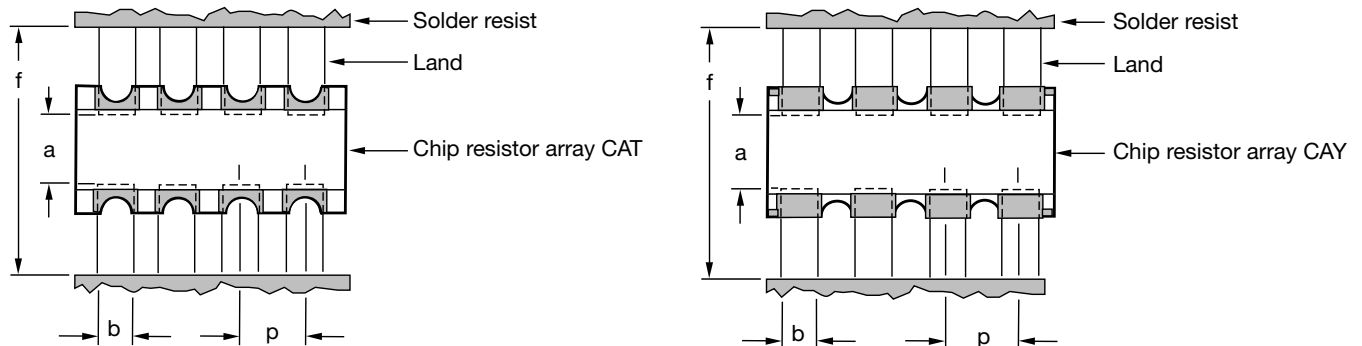
E96					E24	E12
100	169	287	487	825	10	10
102	174	294	499	845	11	
					12	12
105	178	301	511	866	13	
					15	15
107	182	309	523	887	16	
					18	18
110	187	316	536	909	20	
					22	22
113	191	324	549	931	24	
					27	27
115	196	332	562	953	30	
					33	33
118	200	340	576	976	36	
					39	39
121	205	348	590		43	
					47	47
124	210	357	604		51	
					56	56
127	215	365	619		62	
					68	68
130	221	374	634		75	
					82	82
133	226	383	649		91	
137	232	392	665		Part Number Series Range	
140	237	402	681		CR0402 (1%)	E96 + E24
					CR0402 (5%)	E24
143	243	412	698		CR0603 (1%)	E96 + E24
					CR0603 (5%)	E24
147	249	422	715		CR0805 (1%)	E96 + E24
150	255	432	732		CR0805 (5%)	E24
154	261	442	750		CR1206 (1%)	E96 + E24
					CR1206 (5%)	E24
158	267	453	768		CAY10	E12
162	274	464	787		CAT16/CAY16	E12
					CAY17	E12
165	280	475	806		CAT25	E24

Chip Resistor Arrays - Application Note

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1. Land Pattern Design

Recommended land pattern design for the chip arrays shown in the following illustration.



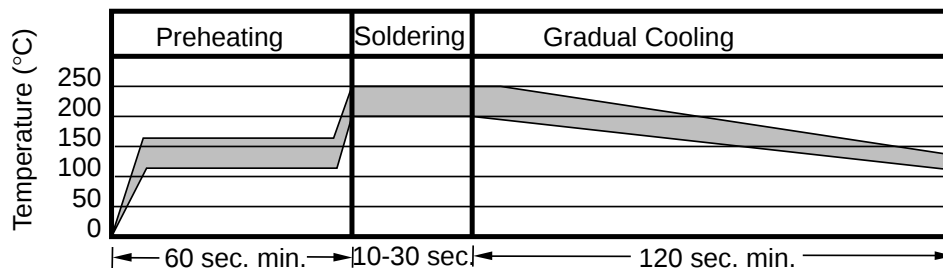
Model	a	b	p	f
CAT16..4	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.0 \text{ to } 2.2}{(.079 \text{ to } .087)}$
CAY16..4	$\frac{0.7 \text{ to } 0.9}{(.028 \text{ to } .035)}$	$\frac{0.4 \text{ to } 0.45}{(.016 \text{ to } .0178)}$	$\frac{0.80}{(.032)}$	$\frac{2.4 \text{ to } 2.8}{(.094 \text{ to } .11)}$

2. 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.

3. 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.



4. Cleaning

A recommended cleaning method is shown in the following table.

DIMENSIONS ARE: $\frac{\text{METRIC}}{(\text{INCHES})}$

Solvents	Cleaning Condition	
	Dipping	Ultrasonic Wave Washing
Isopropyl alcohol	5 minutes maximum	1 minute maximum Power: 20W/L Frequency: 10 to 100kHz