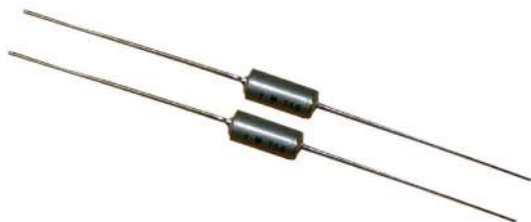


# Type TAS Solid Tantalum Capacitors

## Hermetically Sealed Axial Lead Solid Tantalum Capacitors



The Type TAS solid tantalum axial lead capacitor is constructed with a rugged hermetically sealed metal case with an outer polyester insulator wrap and is ideal for use in the harsh environments of military and industrial applications. The TAS assures a small case size for high capacitance, and is frequency and temperature stable.

### Highlights

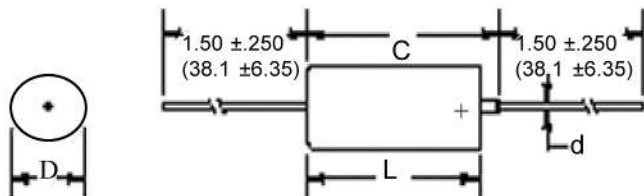
- ◆ Hermetically Sealed
- ◆ High Capacitance
- ◆ Low DC Leakage
- ◆ Low Dissipation Factor
- ◆ Temperature and Frequency Stable
- ◆ Moisture & Solvent Resistant
- ◆ Miniature Size
- ◆ Long Shelf Life

### Specifications

Capacitance Range	0.0047 $\mu$ F to 330 $\mu$ F													
Capacitance Tolerance	$\pm$ 10%, $\pm$ 20%													
Rated Voltage	6 WVdc to 100 WVdc													
Operating Temperature Range	-55 $^{\circ}$ C to +125 $^{\circ}$ C (with proper derating)													
Reverse Voltage	15% of rated voltage @ 25 $^{\circ}$ C 5% of rated voltage @ 85 $^{\circ}$ C 1% of rated voltage @ 125 $^{\circ}$ C													
DC Leakage	At +25 $^{\circ}$ C - (See Ratings) At +85 $^{\circ}$ C - 10 x Ratings limit At +125 $^{\circ}$ C - 12.5 x Ratings limit													
Capacitance Change Maximum	-10% @ -55 $^{\circ}$ C +10% @ +85 $^{\circ}$ C +12% @ +125 $^{\circ}$ C													
Maximum Power Dissipation @ 25 $^{\circ}$ C	<table border="1"> <thead> <tr> <th>Case Code</th> <th>Watts</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0.090</td> </tr> <tr> <td>C</td> <td>0.100</td> </tr> <tr> <td>F</td> <td>0.125</td> </tr> <tr> <td>G</td> <td>0.180</td> </tr> <tr> <td>7 &amp; 8</td> <td>500 per 12" Reel</td> </tr> </tbody> </table>		Case Code	Watts	A	0.090	C	0.100	F	0.125	G	0.180	7 & 8	500 per 12" Reel
Case Code	Watts													
A	0.090													
C	0.100													
F	0.125													
G	0.180													
7 & 8	500 per 12" Reel													
<a href="#">RoHS Compliant</a>														

# Type TAS Solid Tantalum Capacitors

## Outline Drawing



Case Code	Dimensions - Inches (Millimeters)						
	Uninsulated		Insulated		in. (mm)		Quantity Per Reel
	D ±.005 (±.13)	L ±.031 (±.79)	D ±.010 (±.25)	L ±.031 (±.79)	C Maximum	d ±.001 (±.03)	
A	.125(3.18)	.250(6.35)	.135(3.43)	.286(7.26)	.422 (10.72)	.020(.51)	3,500
C	.175(4.45)	.438(11.13)	.185(4.70)	.474(12.04)	.610(15.49)	.020(.51)	2,500
F	.279(7.09)	.650(16.51)	.289(7.34)	.686(17.42)	.822(20.88)	.025(.64)	500
G	.341(8.66)	.750(19.05)	.351(8.92)	.786(19.96)	.922(23.42)	.025(.64)	400

## Part Numbering System

TAS	474	M	035	P	1	A	-F
Series	Capacitance	Tolerance	Voltage	Polar	Mylar Sleeve	Case Code	RoHS Compliant
TAS	472 = 0.0047 μF 474 = 0.47 μF 105 = 1.0 μF 225 = 2.2 μF 106 = 10.0 μF	J = ±5% K = ±10% M = ±20%	006 = 6 Vdc 035 = 35 Vdc 100 = 100 Vdc	P = Polar	1	A C F G	

## Ratings

Cap (μF)	Case Code	Max DCL @ +25 °C (μA)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
6 WVdc @ 85 °C 4 WVdc @ 125 °C				
2.2	A	0.3	4	TAS225K006P1A-F
2.7	A	0.3	4	TAS275K006P1A-F
3.3	A	0.3	4	TAS335K006P1A-F
3.9	A	0.3	4	TAS395K006P1A-F
4.7	A	0.3	4	TAS475K006P1A-F
5.6	A	0.3	4	TAS565K006P1A-F
6.8	A	0.3	6	TAS685K006P1A-F
8.2	C	0.3	6	TAS825K006P1C-F
10	C	0.3	6	TAS106K006P1C-F
12	C	0.5	6	TAS126K006P1C-F
15	C	0.9	6	TAS156K006P1C-F
18	C	0.9	6	TAS186K006P1C-F
22	C	0.9	6	TAS226K006P1C-F
27	C	0.9	6	TAS276K006P1C-F
33	C	0.9	6	TAS336K006P1C-F
39	C	0.9	6	TAS396K006P1C-F
47	C	1.5	6	TAS476K006P1C-F
56	C	1.5	6	TAS566K006P1C-F
68	F	3.0	6	TAS686K006P1F-F
100	F	3.0	6	TAS107K006P1F-F
120	F	3.0	6	TAS127K006P1F-F
150	F	4.5	6	TAS157K006P1F-F
180	F	5.5	6	TAS187K006P1F-F
220	G	6.0	8	TAS227K006P1G-F
270	G	6.0	8	TAS277K006P1G-F
330	G	7.5	8	TAS337K006P1G-F

Cap (μF)	Case Code	Max DCL @ +25 °C (μA)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
10 WVdc @ 85 °C 7 WVdc @ 125 °C				
1.0	A	0.3	3	TAS105K010P1A-F
1.2	A	0.3	4	TAS125K010P1A-F
1.5	A	0.3	4	TAS155K010P1A-F
1.8	A	0.3	4	TAS185K010P1A-F
2.2	A	0.3	4	TAS225K010P1A-F
2.7	A	0.3	4	TAS275K010P1A-F
3.3	A	0.3	4	TAS335K010P1A-F
3.9	A	0.3	4	TAS395K010P1A-F
4.7	A	0.4	4	TAS475K010P1A-F
5.6	C	0.4	4	TAS565K010P1C-F
6.8	C	1.0	6	TAS685K010P1C-F
8.2	C	1.0	6	TAS825K010P1C-F
10	C	1.0	6	TAS106K010P1C-F
12	C	1.0	6	TAS126K010P1C-F
15	C	1.0	6	TAS156K010P1C-F
18	C	1.0	6	TAS186K010P1C-F
22	C	2.0	6	TAS226K010P1C-F
27	C	2.0	6	TAS276K010P1C-F
33	C	2.0	6	TAS336K010P1C-F
39	C	2.0	6	TAS396K010P1C-F
47	F	3.0	6	TAS476K010P1F-F
56	F	3.0	6	TAS566K010P1F-F
68	F	3.0	6	TAS686K010P1F-F
100	F	5.0	6	TAS107K010P1F-F
120	F	5.0	6	TAS127K010P1F-F
150	G	9.0	6	TAS157K010P1G-F
180	G	9.0	6	TAS187K010P1G-F
220	G	10.0	8	TAS227K010P1G-F

## Type TAS Solid Tantalum Capacitors

Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number	Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
<b>15 WVdc @ 85 °C 10 WVdc @ 125 °C</b>					<b>20 WVdc @ 85 °C 13 WVdc @ 125 °C</b>				
0.39	A	0.3	3	TAS394K015P1A-F	0.39	A	0.3	3	TAS394K020P1A-F
0.47	A	0.3	3	TAS474K015P1A-F	0.47	A	0.3	3	TAS474K020P1A-F
0.56	A	0.3	3	TAS564K015P1A-F	0.56	A	0.3	3	TAS564K020P1A-F
0.68	A	0.3	3	TAS684K015P1A-F	0.68	A	0.3	3	TAS684K020P1A-F
0.82	A	0.3	3	TAS824K015P1A-F	0.82	A	0.3	3	TAS824K020P1A-F
1.0	A	0.3	3	TAS105K015P1A-F	1.0	A	0.3	3	TAS105K020P1A-F
1.2	A	0.3	4	TAS125K015P1A-F	1.2	A	0.3	4	TAS125K020P1A-F
1.5	A	0.3	4	TAS155K015P1A-F	1.5	A	0.3	4	TAS155K020P1A-F
1.8	A	0.3	4	TAS185K015P1A-F	1.8	A	0.3	4	TAS185K020P1A-F
2.2	A	0.3	4	TAS225K015P1A-F	2.2	A	0.4	4	TAS225K020P1A-F
2.7	A	0.3	4	TAS275K015P1A-F	2.7	C	0.5	4	TAS275K020P1C-F
3.3	A	0.4	4	TAS335K015P1A-F	3.3	C	1.0	4	TAS335K020P1C-F
3.9	C	0.4	4	TAS395K015P1C-F	3.9	C	1.0	4	TAS395K020P1C-F
4.7	C	0.7	4	TAS475K015P1C-F	4.7	C	1.0	4	TAS475K020P1C-F
5.6	C	0.7	4	TAS565K015P1C-F	5.6	C	1.0	4	TAS565K020P1C-F
6.8	C	0.7	6	TAS685K015P1C-F	6.8	C	1.0	6	TAS685K020P1C-F
8.2	C	0.7	6	TAS825K015P1C-F	8.2	C	1.0	6	TAS825K020P1C-F
10	C	1	6	TAS106K015P1C-F	10	C	1.0	6	TAS106K020P1C-F
12	C	1	6	TAS126K015P1C-F	12	C	1.0	6	TAS126K020P1C-F
15	C	2	6	TAS156K015P1C-F	15	C	2.0	6	TAS156K020P1C-F
18	C	2	6	TAS186K015P1C-F	18	F	2.0	6	TAS186K020P1F-F
22	C	2	6	TAS226K015P1C-F	22	F	2.5	6	TAS226K020P1F-F
27	F	3	6	TAS276K015P1F-F	27	F	2.5	6	TAS276K020P1F-F
33	F	3	6	TAS336K015P1F-F	33	F	3.0	6	TAS336K020P1F-F
39	F	3	6	TAS396K015P1F-F	39	F	3.0	6	TAS396K020P1F-F
47	F	4	6	TAS476K015P1F-F	47	F	4.5	6	TAS476K020P1F-F
56	F	4	6	TAS566K015P1F-F	56	G	5.5	6	TAS566K020P1G-F
68	F	5	6	TAS686K015P1F-F	68	G	6.0	6	TAS686K020P1G-F
82	G	6	6	TAS826K015P1G-F	82	G	6.0	6	TAS826K020P1G-F
100	G	6	6	TAS107K015P1G-F	100	G	10.0	6	TAS107K020P1G-F
120	G	6	6	TAS127K015P1G-F	<b>35 WVdc @ 85 °C 23 WVdc @ 125 °C</b>				
150	G	8	6	TAS157K015P1G-F	0.0047	A	0.1	3	TAS472K035P1A-F
<b>20 WVdc @ 85 °C 13 WVdc @ 125 °C</b>					0.0056	A	0.1	3	TAS562K035P1A-F
0.047	A	0.1	3	TAS473K020P1A-F	0.0068	A	0.1	3	TAS682K035P1A-F
0.056	A	0.1	3	TAS563K020P1A-F	0.0082	A	0.1	3	TAS822K035P1A-F
0.068	A	0.1	3	TAS683K020P1A-F	0.01	A	0.1	3	TAS103K035P1A-F
0.082	A	0.1	3	TAS823K020P1A-F	0.012	A	0.1	3	TAS123K035P1A-F
0.10	A	0.3	3	TAS104K020P1A-F	0.015	A	0.1	3	TAS153K035P1A-F
0.12	A	0.3	3	TAS124K020P1A-F	0.018	A	0.1	3	TAS183K035P1A-F
0.15	A	0.3	3	TAS154K020P1A-F	0.022	A	0.1	3	TAS223K035P1A-F
0.18	A	0.3	3	TAS184K020P1A-F	0.027	A	0.1	3	TAS273K035P1A-F
0.22	A	0.3	3	TAS224K020P1A-F					
0.27	A	0.3	3	TAS274K020P1A-F					

# Type TAS Solid Tantalum Capacitors

Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number	Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
<b>35 WVdc @ 85 °C 23 WVdc @ 125 °C</b>					<b>50 WVdc @ 85 °C 33 WVdc @ 125 °C</b>				
0.033	A	0.1	3	TAS333K035P1A-F	0.012	A	0.1	2	TAS123K050P1A-F
0.039	A	0.1	3	TAS393K035P1A-F	0.015	A	0.1	2	TAS153K050P1A-F
0.047	A	0.1	3	TAS473K035P1A-F	0.018	A	0.1	2	TAS183K050P1A-F
0.056	A	0.1	3	TAS563K035P1A-F	0.022	A	0.1	2	TAS223K050P1A-F
0.068	A	0.1	3	TAS683K035P1A-F	0.027	A	0.1	2	TAS273K050P1A-F
0.082	A	0.1	3	TAS823K035P1A-F	0.033	A	0.1	2	TAS333K050P1A-F
0.10	A	0.5	3	TAS104K035P1A-F	0.039	A	0.1	2	TAS393K050P1A-F
0.12	A	0.5	3	TAS124K035P1A-F	0.047	A	0.1	2	TAS473K050P1A-F
0.15	A	0.5	3	TAS154K035P1A-F	0.056	A	0.1	2	TAS563K050P1A-F
0.18	A	0.5	3	TAS184K035P1A-F	0.068	A	0.1	2	TAS683K050P1A-F
0.22	A	0.5	3	TAS224K035P1A-F	0.082	A	0.1	2	TAS823K050P1A-F
0.27	A	0.5	3	TAS274K035P1A-F	0.10	A	0.3	2	TAS104K050P1A-F
0.39	A	0.5	3	TAS394K035P1A-F	0.12	A	0.3	2	TAS124K050P1A-F
0.47	A	0.5	3	TAS474K035P1A-F	0.15	A	0.3	2	TAS154K050P1A-F
0.56	A	0.5	3	TAS564K035P1A-F	0.18	A	0.3	2	TAS184K050P1A-F
0.68	A	0.5	3	TAS684K035P1A-F	0.22	A	0.3	2	TAS224K050P1A-F
0.82	A	0.5	3	TAS824K035P1A-F	0.27	A	0.3	2	TAS274K050P1A-F
1.0	A	0.5	3	TAS105K035P1A-F	0.39	A	0.3	2	TAS394K050P1A-F
1.2	C	0.5	4	TAS125K035P1C-F	0.47	A	0.3	2	TAS474K050P1A-F
1.5	C	0.5	4	TAS155K035P1C-F	0.56	A	0.3	2	TAS564K050P1A-F
1.8	C	0.5	4	TAS185K035P1C-F	0.68	A	0.3	2	TAS684K050P1A-F
2.2	C	1.0	4	TAS225K035P1C-F	0.82	A	0.3	2	TAS824K050P1A-F
2.7	C	1.0	4	TAS275K035P1C-F	1.0	A	0.4	2	TAS105K050P1A-F
3.3	C	1.0	4	TAS335K035P1C-F	1.2	C	0.4	4	TAS125K050P1C-F
3.9	C	1.0	4	TAS395K035P1C-F	1.5	C	0.5	4	TAS155K050P1C-F
4.7	C	1.0	4	TAS475K035P1C-F	1.8	C	0.5	4	TAS185K050P1C-F
5.6	C	1.0	4	TAS565K035P1C-F	2.2	C	0.8	4	TAS225K050P1C-F
6.8	C	1.5	4	TAS685K035P1C-F	2.7	C	0.8	4	TAS275K050P1C-F
8.2	F	3.0	4	TAS825K035P1F-F	3.3	C	1.2	4	TAS335K050P1C-F
10	F	3.0	4	TAS106K035P1F-F	3.9	C	1.5	4	TAS395K050P1C-F
12	F	3.0	4	TAS126K035P1F-F	4.7	C	1.7	4	TAS475K050P1C-F
15	F	3.0	4	TAS156K035P1F-F	5.6	F	2.2	4	TAS565K050P1F-F
18	F	3.0	4	TAS186K035P1F-F	6.8	F	2.2	4	TAS685K050P1F-F
22	F	4.0	4	TAS226K035P1F-F	8.2	F	2.5	4	TAS825K050P1F-F
27	G	4.5	4	TAS276K035P1G-F	10	F	2.5	4	TAS106K050P1F-F
33	G	5.5	4	TAS336K035P1G-F	12	F	3.0	4	TAS126K050P1F-F
39	G	6.0	4	TAS396K035P1G-F	15	F	4.0	4	TAS156K050P1F-F
47	G	8.0	4	TAS476K035P1G-F	18	F	4.5	4	TAS186K050P1F-F
<b>50 WVdc @ 85 °C 33 WVdc @ 125 °C</b>					<b>75 WVdc @ 85 °C 50 WVdc @ 125 °C</b>				
0.0047	A	0.1	2	TAS472K050P1A-F	0.0047	A	0.3	2	TAS472K075P1A-F
0.0056	A	0.1	2	TAS562K050P1A-F	0.0056	A	0.3	2	TAS562K075P1A-F
0.0068	A	0.1	2	TAS682K050P1A-F	0.0068	A	0.3	2	TAS682K075P1A-F
0.0082	A	0.1	2	TAS822K050P1A-F	0.0082	A	0.3	2	TAS822K075P1A-F
0.01	A	0.1	2	TAS103K050P1A-F	0.01	A	0.3	2	TAS103K075P1A-F

## Type TAS Solid Tantalum Capacitors

Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
<b>75 WVdc @ 85 °C 50 WVdc @ 125 °C</b>				
0.012	A	0.3	2	TAS123K075P1A-F
0.015	A	0.3	2	TAS153K075P1A-F
0.018	A	0.3	2	TAS183K075P1A-F
0.022	A	0.3	2	TAS223K075P1A-F
0.027	A	0.3	2	TAS273K075P1A-F
0.033	A	0.3	2	TAS333K075P1A-F
0.039	A	0.3	2	TAS393K075P1A-F
0.047	A	0.3	2	TAS473K075P1A-F
0.056	A	0.3	2	TAS563K075P1A-F
0.068	A	0.3	2	TAS683K075P1A-F
0.082	A	0.3	2	TAS823K075P1A-F
0.10	A	0.3	2	TAS104K075P1A-F
0.12	A	0.3	2	TAS124K075P1A-F
0.15	A	0.3	2	TAS154K075P1A-F
0.18	A	0.3	2	TAS184K075P1A-F
0.22	A	0.3	2	TAS224K075P1A-F
0.27	A	0.3	2	TAS274K075P1A-F
0.33	A	0.3	2	TAS334K075P1A-F
0.39	A	0.3	2	TAS394K075P1A-F
0.47	A	0.3	2	TAS474K075P1A-F
0.56	A	0.3	2	TAS564K075P1A-F
0.68	A	0.3	2	TAS684K075P1A-F
0.82	C	0.3	2	TAS824K075P1C-F
1.0	C	0.3	2	TAS105K075P1C-F
1.2	C	0.3	4	TAS125K075P1C-F
1.5	C	0.6	4	TAS155K075P1C-F
1.8	C	0.7	4	TAS185K075P1C-F
2.2	C	0.8	4	TAS225K075P1C-F
2.7	C	1.0	4	TAS275K075P1C-F
3.3	C	1.2	4	TAS335K075P1C-F
3.9	C	1.5	4	TAS395K075P1C-F
4.7	F	3.0	4	TAS475K075P1F-F
5.6	F	3.0	4	TAS565K075P1F-F
6.8	F	5.0	4	TAS685K075P1F-F
8.2	F	5.0	4	TAS825K075P1F-F
10.0	F	5.0	4	TAS106K075P1F-F
12.0	G	5.0	4	TAS126K075P1G-F
15.0	G	7.0	4	TAS156K075P1G-F

Cap ( $\mu$ F)	Case Code	Max DCL @ +25 °C ( $\mu$ A)	DF Max @ +25 °C 120 Hz (%)	Catalog Part Number
<b>100 WVdc @ 85 °C 67 WVdc @ 125 °C</b>				
0.0047	A	0.3	2	TAS472K100P1A-F
0.0056	A	0.3	2	TAS562K100P1A-F
0.0068	A	0.3	2	TAS682K100P1A-F
0.0082	A	0.3	2	TAS822K100P1A-F
0.010	A	0.3	2	TAS103K100P1A-F
0.012	A	0.3	2	TAS123K100P1A-F
0.015	A	0.3	2	TAS153K100P1A-F
0.018	A	0.3	2	TAS183K100P1A-F
0.022	A	0.3	2	TAS223K100P1A-F
0.027	A	0.3	2	TAS273K100P1A-F
0.033	A	0.3	2	TAS333K100P1A-F
0.039	A	0.3	2	TAS393K100P1A-F
0.047	A	0.3	2	TAS473K100P1A-F
0.056	A	0.3	2	TAS563K100P1A-F
0.068	A	0.3	2	TAS683K100P1A-F
0.082	A	0.3	2	TAS823K100P1A-F
0.10	A	0.3	2	TAS104K100P1A-F
0.12	A	0.3	2	TAS124K100P1A-F
0.15	A	0.3	2	TAS154K100P1A-F
0.18	A	0.3	2	TAS184K100P1A-F
0.22	A	0.3	2	TAS224K100P1A-F
0.27	A	0.3	2	TAS274K100P1A-F
0.33	A	0.3	2	TAS334K100P1A-F
0.39	A	0.3	2	TAS394K100P1A-F
0.47	A	0.3	2	TAS474K100P1A-F
0.56	A	0.3	2	TAS564K100P1A-F
0.68	C	0.3	2	TAS684K100P1C-F
0.82	C	0.4	2	TAS824K100P1C-F
1.0	C	0.5	2	TAS105K100P1C-F
1.2	C	0.5	3	TAS125K100P1C-F
1.5	C	0.7	3	TAS155K100P1C-F
1.8	C	0.7	3	TAS185K100P1C-F
2.2	C	0.9	3	TAS225K100P1C-F
2.7	C	1.1	3	TAS275K100P1C-F
3.3	F	1.5	3	TAS335K100P1F-F
3.9	F	1.5	3	TAS395K100P1F-F
4.7	F	2.5	3	TAS475K100P1F-F
5.6	F	2.5	3	TAS565K100P1F-F
6.8	F	2.5	3	TAS685K100P1F-F
8.2	G	5.0	3	TAS825K100P1G-F
10.0	G	5.0	3	TAS106K100P1G-F

## Type TAS Solid Tantalum Capacitors

---

**Notice and Disclaimer:** All product drawings, descriptions, specifications, statements, information and data (collectively, the "Information") in this datasheet or other publication are subject to change. The customer is responsible for checking, confirming and verifying the extent to which the Information contained in this datasheet or other publication is applicable to an order at the time the order is placed. All Information given herein is believed to be accurate and reliable, but it is presented without any guarantee, warranty, representation or responsibility of any kind, expressed or implied. Statements of suitability for certain applications are based on the knowledge that the Cornell Dubilier company providing such statements ("Cornell Dubilier") has of operating conditions that such Cornell Dubilier company regards as typical for such applications, but are not intended to constitute any guarantee, warranty or representation regarding any such matter – and Cornell Dubilier specifically and expressly disclaims any guarantee, warranty or representation concerning the suitability for a specific customer application, use, storage, transportation, or operating environment. The Information is intended for use only by customers who have the requisite experience and capability to determine the correct products for their application. Any technical advice inferred from this Information or otherwise provided by Cornell Dubilier with reference to the use of any Cornell Dubilier products is given gratis (unless otherwise specified by Cornell Dubilier), and Cornell Dubilier assumes no obligation or liability for the advice given or results obtained. Although Cornell Dubilier strives to apply the most stringent quality and safety standards regarding the design and manufacturing of its products, in light of the current state of the art, isolated component failures may still occur. Accordingly, customer applications which require a high degree of reliability or safety should employ suitable designs or other safeguards (such as installation of protective circuitry or redundancies or other appropriate protective measures) in order to ensure that the failure of an electrical component does not result in a risk of personal injury or property damage. Although all product-related warnings, cautions and notes must be observed, the customer should not assume that all safety measures are indicated in such warnings, cautions and notes, or that other safety measures may not be required.