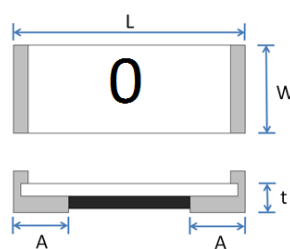


- Features:
- Chip size from 0402 to 2512
 - Max. resistance value less than 3 milliohm for 0402, less than 0.5 milliohm for all other sizes
 - RoHS compliant – lead free

- Applications:
- Switching power supply
 - Voltage regulation module
 - DC-DC converter, adaptor, battery pack, charger
 - PDA and cell phone
 - Power management applications

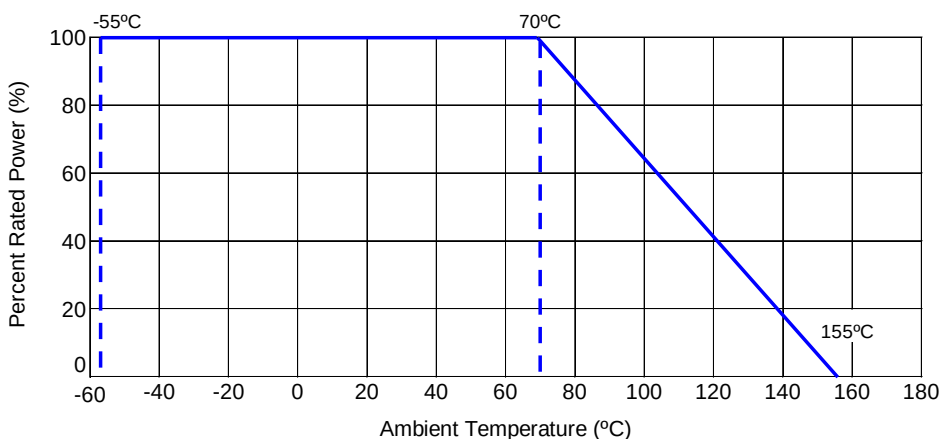


Electrical Specifications			
Type / Code	Current Rating (A)	Operating Temperature Range	Ohmic Range (Ω)
0402	6.5	-55°C to +155°C	< 0.003
0603	22.4	-55°C to +155°C	< 0.0005
0805	31.6		
1206	38.7		
2512	63.2		



Mechanical Specifications					
Type / Code	L	W	t	A	Unit
0402	0.039 ± 0.004	0.020 ± 0.002	0.013 ± 0.002	0.010 ± 0.004	inches
	1.00 ± 0.10	0.50 ± 0.05	0.33 ± 0.05	0.25 ± 0.10	mm
0603	0.061 ± 0.004	0.031 ± 0.004	0.017 ± 0.004	0.014 ± 0.008	inches
	1.55 ± 0.10	0.80 ± 0.10	0.43 ± 0.10	0.35 ± 0.20	mm
0805	0.079 ± 0.006	0.049 ± 0.006	0.022 ± 0.004	0.014 ± 0.008	inches
	2.00 ± 0.15	1.25 ± 0.15	0.55 ± 0.10	0.35 ± 0.20	mm
1206	0.122 ± 0.008	0.061 ± 0.004	0.022 ± 0.004	0.016 ± 0.008	inches
	3.10 ± 0.20	1.55 ± 0.10	0.55 ± 0.10	0.40 ± 0.20	mm
2512	0.248 ± 0.008	0.126 ± 0.008	0.022 ± 0.004	0.020 ± 0.010	inches
	6.30 ± 0.20	3.20 ± 0.20	0.55 ± 0.10	0.50 ± 0.25	mm

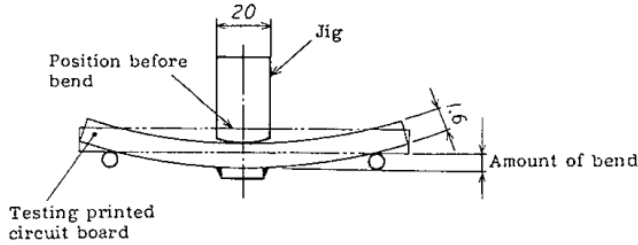
Power Derating Curve:

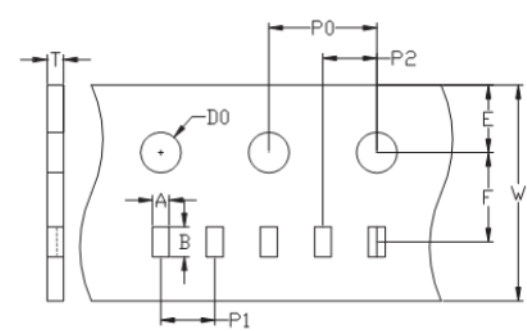


Environmental Performance Characteristics		
Item	Test Condition	Specification
Short Time Overload	2.5X rated current for 5 seconds (JIS-C5202-5.5)	For 0402 size max. 0.003Ω All other sizes max. 0.0005Ω
Damp Heat with Load	Specimens shall be placed in a chamber and subject to a relative humidity of 90~95% and to a temperature of 40°C ± 2°C for the period of 1000 hours (MIL-STD_202, Method 103)	
High Temperature Exposure	Part (mounted on board) is exposed in the heat chamber 125°C ± 3°C for 1000 hours (JIS_C5202-7.2)	
Load Life	Apply rated power at 70°C ± 2°C for 1000 hours with 1.5 hours ON and 0.5 hour OFF (JIS_C5202-7.10)	
Rapid Change of Temperature	Part (mounted on board) is exposed, -55°C ± 3°C (30 min.)/+155 ± 2°C (30 minutes) for 5 cycles. The following conditions as per picture below. (JIS_C5202-7.4) The diagram illustrates the temperature cycling test waveform. The y-axis is labeled 'Ambient temperature' with levels at +125(±2)°C, +25(±2)°C, and -55(±3)°C. The x-axis shows a cycle consisting of a 30 min dwell at -55°C, a 2~3 min transition to +125°C, a 30 min dwell at +125°C, and another 2~3 min transition back to -55°C. This sequence is labeled '1 cycle'.	

Note: Test board surface temperature shall not exceed 100°C when applying rated current.
Storage Conditions: 5°C ~ 35°C. RH: 40%-75%

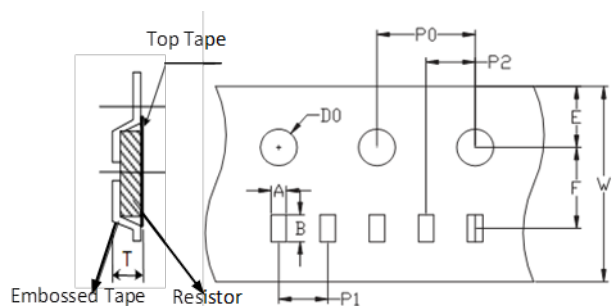
Function Performance Characteristics

Item	Test Condition	Specification
Bending Strength	Mount part to test substrate. Apply pressure in direction of arrow unit band width reaches 0.5mm (+0.2/-0mm)(illustrated in the figure below) and hold for 10 seconds $\pm$ 1 second. (JIS_C5202-6.1) Unit: mm 	For 0402 size max. 0.003Ω All other sizes max. 0.0005Ω
Solvent Resistance	The part shall be completely immersed in the isopropyl alcohol for 3 minutes +0.5, -0 minutes, 25°C $\pm$ 5°C (MIL_STD_202, Method 215)	Verify that marking remains. (Not required for laser etched parts or parts with no marking)
Resistance to Solder Heat	The part shall be immersed into the flux specified in the solder bath 260 °C $\pm$ 5 °C for 10 seconds $\pm$ 1 second (MIL_STD_202, Method 210)	For 0402 size max. 0.003 Ω All other sizes max. 0.0005 Ω
Solderability	The part shall be immersed into the flux specified in the solder bath 235°C $\pm$ 5°C for 2 seconds $\pm$ 0.5 seconds. It shall be immersed to a point 10mm from its root. (Sn96.5/Ag3.0/Cu0.5) (JIS-C 5202 6.11)	Solder shall be covered 95% or more of the electrode area



Packaging Specifications – Paper Tape

Type / Code	A	B	E	F	W	P0	P1	P2	D0	T	Unit
0402	0.028 $\pm$ 0.002 0.70 $\pm$ 0.05	0.047 $\pm$ 0.002 1.20 $\pm$ 0.05	0.069 $\pm$ 0.004 1.75 $\pm$ 0.10	0.138 $\pm$ 0.002 3.50 $\pm$ 0.05	0.315 $\pm$ 0.008 8.00 $\pm$ 0.20	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.079 $\pm$ 0.004 2.00 $\pm$ 0.10	0.079 $\pm$ 0.002 2.00 $\pm$ 0.05	0.061 $\pm$ 0.002 1.55 $\pm$ 0.05	0.018 $\pm$ 0.004 0.45 $\pm$ 0.10	inches mm
0603	0.043 $\pm$ 0.004 1.10 $\pm$ 0.10	0.075 $\pm$ 0.004 1.90 $\pm$ 0.10	0.069 $\pm$ 0.004 1.75 $\pm$ 0.10	0.138 $\pm$ 0.002 3.50 $\pm$ 0.05	0.315 $\pm$ 0.008 8.00 $\pm$ 0.20	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.079 $\pm$ 0.002 2.00 $\pm$ 0.05	0.061 $\pm$ 0.002 1.55 $\pm$ 0.05	0.025 $\pm$ 0.004 0.64 $\pm$ 0.10	inches mm
0805	0.063 $\pm$ 0.004 1.60 $\pm$ 0.10	0.094 $\pm$ 0.004 2.40 $\pm$ 0.10	0.069 $\pm$ 0.004 1.75 $\pm$ 0.10	0.138 $\pm$ 0.002 3.50 $\pm$ 0.05	0.315 $\pm$ 0.008 8.00 $\pm$ 0.20	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.079 $\pm$ 0.002 2.00 $\pm$ 0.05	0.059 $\pm$ 0.002 1.50 $\pm$ 0.05	0.038 $\pm$ 0.004 0.97 $\pm$ 0.10	inches mm
1206	0.079 $\pm$ 0.004 2.00 $\pm$ 0.10	0.142 $\pm$ 0.004 3.60 $\pm$ 0.10	0.069 $\pm$ 0.004 1.75 $\pm$ 0.10	0.138 $\pm$ 0.002 3.50 $\pm$ 0.05	0.315 $\pm$ 0.008 8.00 $\pm$ 0.20	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.157 $\pm$ 0.004 4.00 $\pm$ 0.10	0.079 $\pm$ 0.002 2.00 $\pm$ 0.05	0.061 $\pm$ 0.002 1.55 $\pm$ 0.05	0.038 $\pm$ 0.004 0.97 $\pm$ 0.10	inches mm

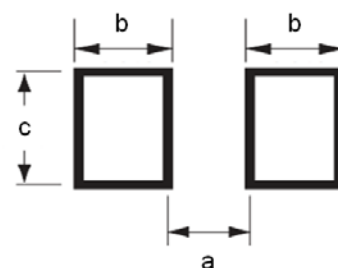


Packaging Specifications – Embossed Plastic Tape

Type / Code	A	B	E	F	W	P0	P1	P2	D0	T	Unit
2512	0.138 ± 0.004 3.50 ± 0.10	0.268 ± 0.004 6.80 ± 0.10	0.069 ± 0.004 1.75 ± 0.10	0.217 ± 0.002 5.50 ± 0.05	0.472 ± 0.008 12.00 ± 0.20	0.157 ± 0.002 4.00 ± 0.05	0.157 ± 0.004 4.00 ± 0.10	0.079 ± 0.002 2.00 ± 0.05	0.059 ± 0.004 1.50 ± 0.10	0.039 ± 0.008 1.00 ± 0.20	inches mm

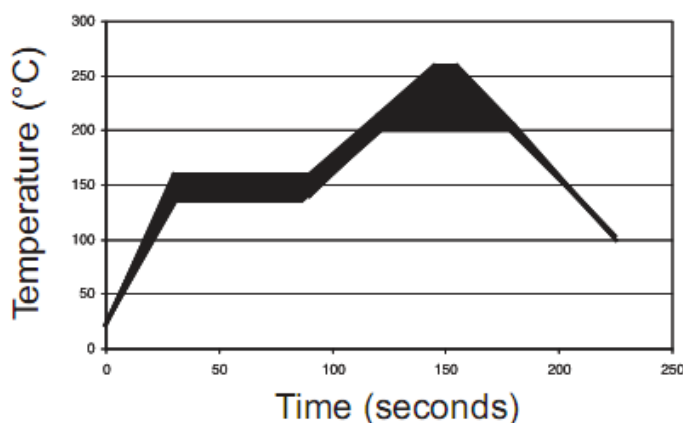
Recommended Pad Layout

Type / Code	a	b	c	Unit
0402	0.024 0.60	0.020 0.50	0.024 0.60	inches mm
0603	0.035 0.90	0.028 0.70	0.039 1.00	inches mm
0805	0.047 1.20	0.047 1.20	0.055 1.40	inches mm
1206	0.087 2.20	0.051 1.30	0.071 1.80	inches mm
2512	0.150 3.80	0.083 2.10	0.134 3.40	inches mm



Soldering Recommendations:

- Peak reflow temperatures and durations
 - ✓ IR Reflow Peak = 260°C max for 10 seconds
 - ✓ Wave Solder = 260°C max for 10 seconds
- Compatible with lead and lead-free solder reflow processes
- Recommended IR reflow profile:



How to Order

1	2	3	4	5	6	7	8	9	10	11	12	13
H	C	J	0	6	0	3	Z	T	0	R	0	0
Product Series		Size	Rating Current	Tolerance				Packaging				Resistance Value
HCJ		0402	6.5A	Code	Tol	0402	Value (Ω)	Code	Description	Size	Quantity	Four characters with the multiplier used as the decimal holder. 0 ohm = 0R00
		0603	22.4A			0603				10,000		
		0805	31.6A			0603, 0805, 1206				5,000		
		1206	38.7A									
		2512	63.2A			2512			4,000			