

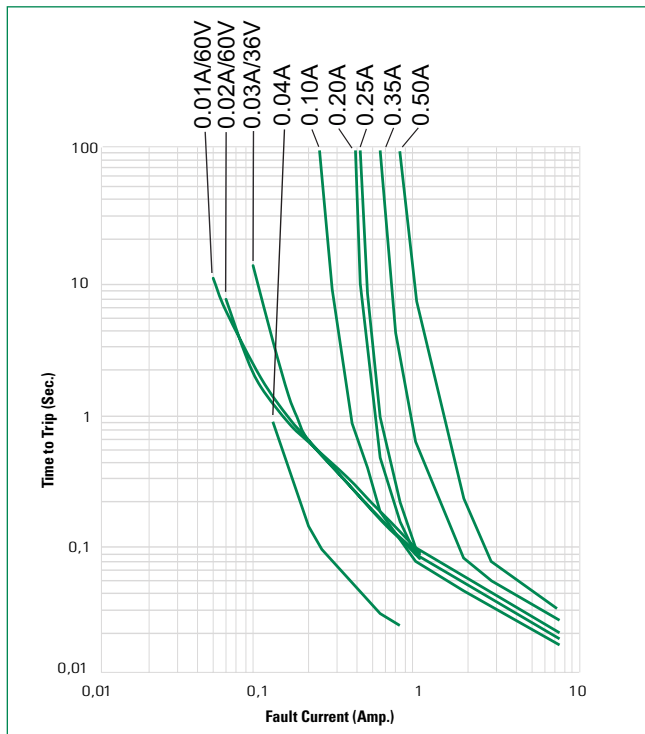
# 0603L Series

## Surface Mount

### Temperature Derating

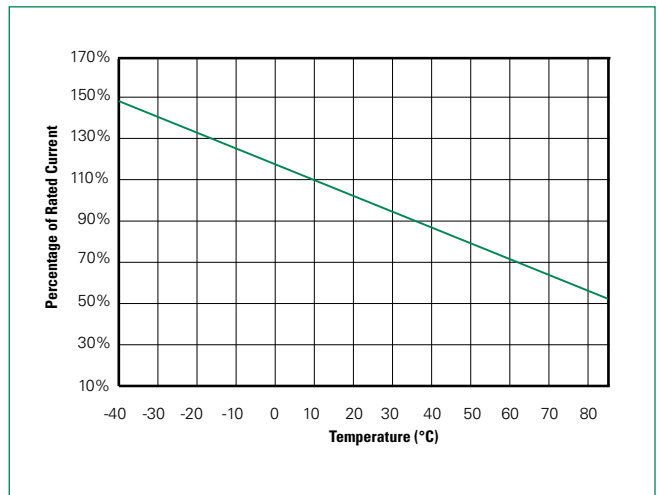
Part Number	Ambient Operation Temperature								
	-40°C	-20°C	0°C	20°C	40°C	50°C	60°C	70°C	85°C
0603L001/60	0.0156	0.0138	0.0121	0.010	0.0085	0.0076	0.0067	0.0058	0.0045
0603L002/60	0.0299	0.0268	0.0236	0.020	0.0173	0.0157	0.0142	0.0126	0.0102
0603L003/36	0.0454	0.0405	0.0356	0.030	0.0258	0.0234	0.0209	0.0185	0.0148
0603L004	0.052	0.048	0.044	0.040	0.032	0.028	0.024	0.020	0.012
0603L010	0.13	0.12	0.11	0.10	0.08	0.07	0.06	0.05	0.03
0603L020	0.27	0.25	0.23	0.20	0.17	0.14	0.12	0.10	0.07
0603L025	0.32	0.29	0.27	0.25	0.21	0.18	0.16	0.14	0.10
0603L035	0.47	0.41	0.38	0.35	0.29	0.26	0.24	0.20	0.14
0603L050	0.67	0.59	0.54	0.50	0.41	0.37	0.34	0.29	0.20

Average Time Current Curves



The average time current curves and Temperature Derating curve performance is affected by a number of variables, and these curves provided as guidance only. Customer must verify the performance in their application.

Temperature Derating Curve



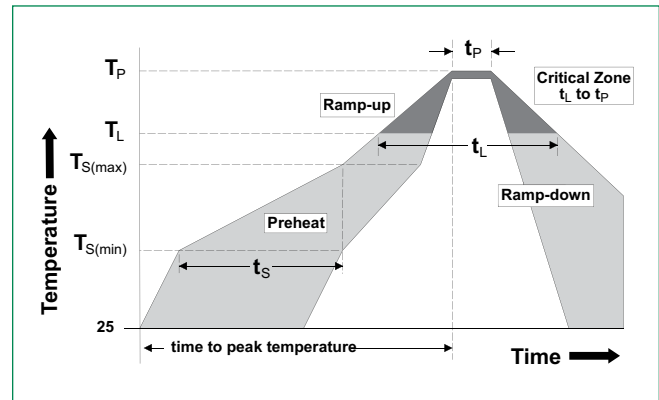
**Note:**  
Typical Temperature derating curve, refer to table for derating data

# 0603L Series

## Surface Mount

### Soldering Parameters

<b>Profile Feature</b>	Pb-Free Assembly	
<b>Average Ramp-Up Rate (<math>T_{S(max)}</math> to <math>T_p</math>)</b>	3°C/second max	
<b>Pre Heat:</b>	<b>Temperature Min (<math>T_{s(min)}</math>)</b>	150°C
	<b>Temperature Max (<math>T_{s(max)}</math>)</b>	200°C
	<b>Time (Min to Max) (<math>t_s</math>)</b>	60 – 180 secs
<b>Time Maintained Above:</b>	<b>Temperature (<math>T_L</math>)</b>	217°C
	<b>Temperature (<math>t_L</math>)</b>	60 – 150 seconds
<b>Peak / Classification Temperature (<math>T_p</math>)</b>	260 <sup>+0/-5</sup> °C	
<b>Time within 5°C of actual peak Temperature (<math>t_p</math>)</b>	20 – 40 seconds	
<b>Ramp-down Rate</b>	6°C/second max	
<b>Time 25°C to peak Temperature (<math>T_p</math>)</b>	8 minutes Max.	



- All temperature refer to topside of the package, measured on the package body surface
- If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N<sub>2</sub> environment for lead
- Recommended maximum paste thickness is 0.25mm (0.010inch)
- Devices can be cleaned using standard industry methods and solvents
- Devices can be reworked using the standard industry practices

### Physical Specifications

<b>Terminal Material</b>	Solder-Plated Copper (Solder Material: Matte Tin (Sn))
<b>Lead Solderability</b>	Meets EIA Specification RS186-9E, ANSI/J-STD-002, Category 3.

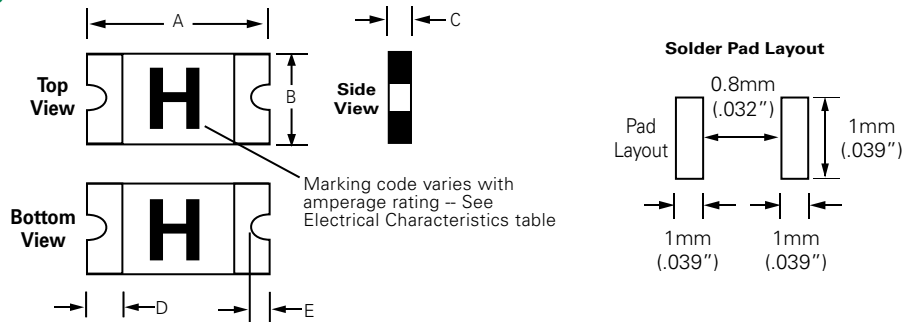
### Environmental Specifications

<b>Operating/Storage Temperature</b>	-40°C to +85°C
<b>Maximum Device Surface Temperature in Tripped State</b>	125°C
<b>Passive Aging</b>	+85°C, 1000 hours -/+10% typical resistance change
<b>Humidity Aging</b>	+85°C, 85% R.H., 100 hours -/+15% typical resistance change
<b>Thermal Shock</b>	MIL-STD-202, Method 107 +85°C/-40°C 20 times -30% typical resistance change
<b>Solvent Resistance</b>	MIL-STD-202, Method 215 No change
<b>Vibration</b>	MIL-STD-883, Method 2007, Condition A No change
<b>Moisture Sensitivity Level</b>	Level 1, J-STD-020

# 0603L Series

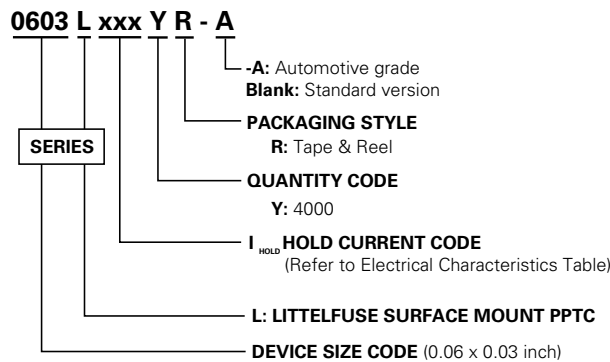
## Surface Mount

### Dimensions



Part Number	A		B				C				D				E					
	Inch		mm		Inch		mm		Inch		mm		Inch		mm		Inch		mm	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
0603L001/60	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.039	0.40	1.00	.006	.020	0.15	0.50	-	.016	-	0.40
0603L002/60	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.039	0.40	1.00	.006	.020	0.15	0.50	-	.016	-	0.40
0603L003/36	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.039	0.40	1.00	.006	.020	0.15	0.50	-	.016	-	0.40
0603L004	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.030	0.40	0.75	.006	.020	0.15	0.50	.004	.016	0.10	0.40
0603L010	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.030	0.40	0.75	.006	.020	0.15	0.50	.004	.016	0.10	0.40
0603L020	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.030	0.40	0.75	.006	.020	0.15	0.50	.004	.016	0.10	0.40
0603L025	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.016	.030	0.40	0.75	.006	.020	0.15	0.50	.004	.016	0.10	0.40
0603L035	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.030	.061	0.75	1.55	.006	.020	0.15	0.50	.004	.016	0.10	0.40
0603L050	.055	.071	1.40	1.80	.024	.039	0.60	1.00	.030	.061	0.75	1.55	.006	.020	0.15	0.50	.004	.016	0.10	0.40

### Part Ordering Number System



### Packaging

Part Number	Ordering Number	Halogen Free	<i>I<sub>hold</sub></i> (A)	<i>I<sub>hold</sub></i> Code	Packaging Option	Quantity	Quantity & Packaging Codes
0603L001/60	0603L001/60YR	Yes	0.01	001	Tape and Reel	4000	YR
0603L002/60	0603L002/60YR	Yes	0.02	002	Tape and Reel	4000	YR
0603L003/36	0603L003/36YR	Yes	0.03	003	Tape and Reel	4000	YR
0603L004	0603L004YR	Yes	0.04	004	Tape and Reel	4000	YR
0603L010	0603L010YR	Yes	0.10	010	Tape and Reel	4000	YR
0603L020	0603L020YR	Yes	0.20	020	Tape and Reel	4000	YR
0603L025	0603L025YR	Yes	0.25	025	Tape and Reel	4000	YR
0603L035	0603L035YR	Yes	0.35	035	Tape and Reel	4000	YR
0603L050	0603L050YR	Yes	0.50	050	Tape and Reel	4000	YR

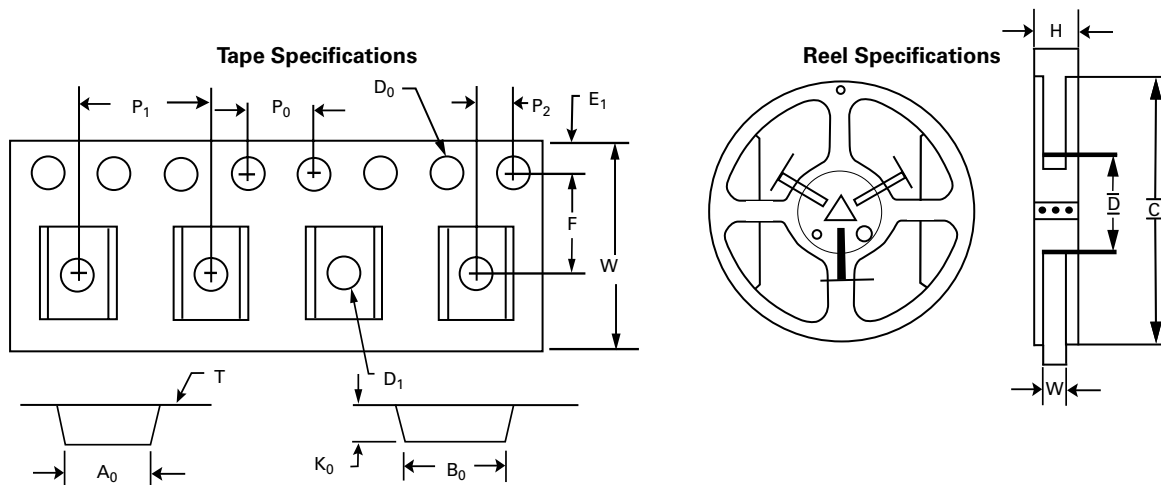
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## Surface Mount

### Tape and Reel Specifications

TAPE SPECIFICATIONS: EIA-481-1 (mm)			REEL DIMENSIONS: EIA-481-1 (mm)	
	0603L004 0603L010 0603L020 0603L025	0603L001/60 0603L002/60 0603L003/36 0603L035 0603L050		
<b>W</b>	8.0+/- 0.30	8.0+/- 0.30	<b>C</b>	Ø178+/-1.0
<b>F</b>	3.5+/- 0.05	3.5+/- 0.05	<b>D</b>	Ø60.2+/- 0.5
<b>E<sub>1</sub></b>	1.75+/- 0.10	1.75+/- 0.10	<b>H</b>	11.0+0.5
<b>D<sub>0</sub></b>	1.55+/- 0.05	1.55+/- 0.05	<b>W</b>	9.0+/- 1.5
<b>T</b>	0.20+/- 0.10	0.20+/- 0.10		
<b>K<sub>0</sub></b>	0.72+/- 0.10	0.96+/- 0.10		
<b>Leader min.</b>	390	390		
<b>Trailer min.</b>	160	160		

### Tape and Reel Diagram



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