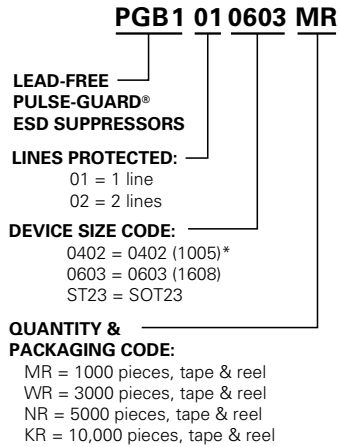
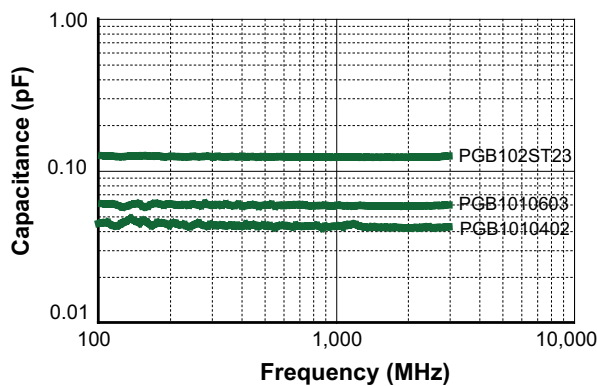


Part Numbering System

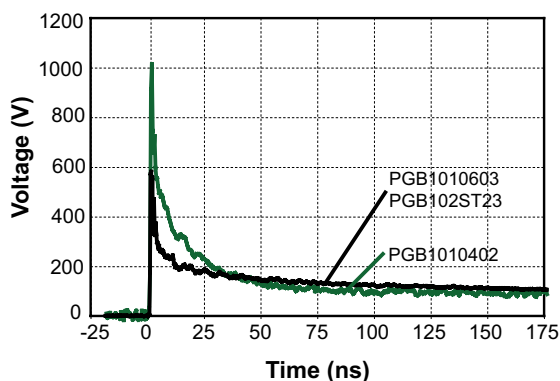


*Note: PGB1 0402 product not available as Halogen Free item.
See PGB2 0402 product instead, part number PGB2010402KRHF
(<http://www.littelfuse.com/series/PGB2010402.html>).

Typical Device Capacitance

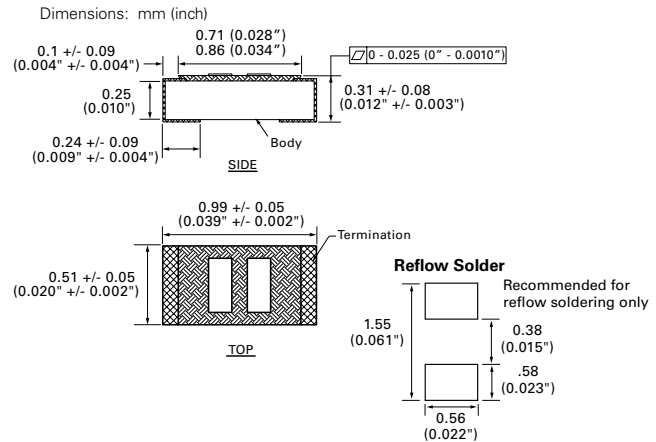


Typical ESD Response

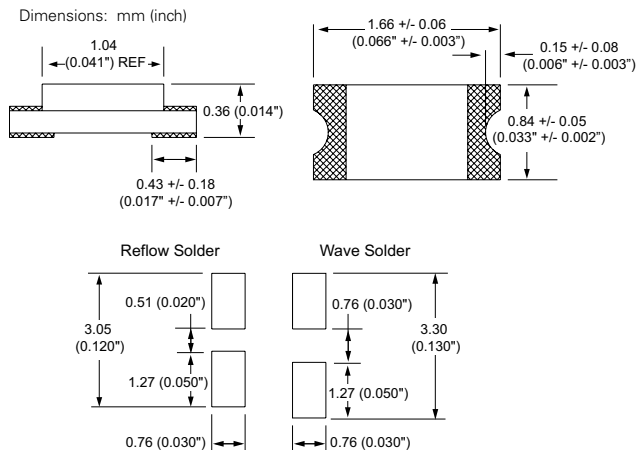


Dimensions

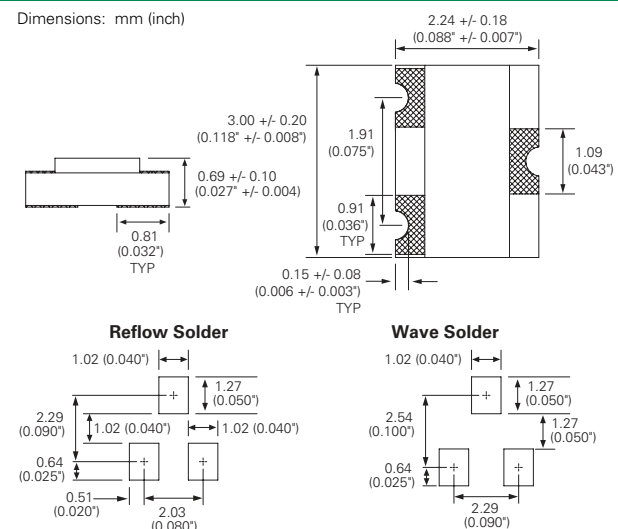
0402 Device



0603 Device



SOT23 Device



Physical Specifications

Materials	Body: Glass Epoxy Terminations: Copper/Nickel/Tin
Solderability	MIL-STD-202, Method 208
Soldering Parameters	Wave solder - 260°C, 10 seconds maximum Reflow solder - 260°C, 30 seconds maximum

Design Consideration

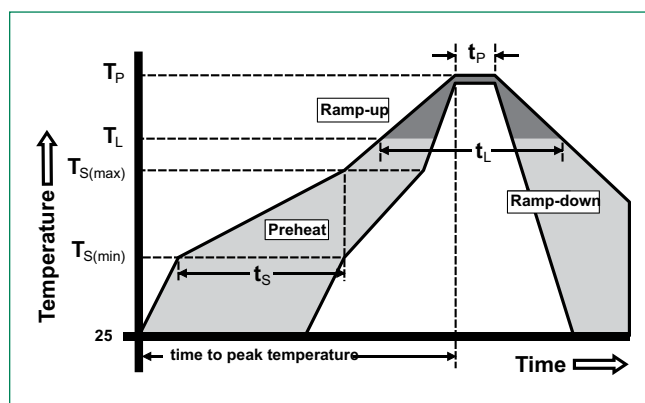
Because of the fast rise-time of the ESD transient, proper placement of PULSE-GUARD® suppressors are a key design consideration to achieving optimal ESD suppression. The devices should be placed on the circuit board as close to the source of the ESD transient as possible. Install PULSE-GUARD® suppressors (connected from signal/data line to ground) directly behind the connector so that they are the first board-level circuit component encountered by the ESD transient.

Environmental Specifications

Operating Temperature	-65°C to +125°C
Moisture Resistance	0402 series: 40°C, 95% RH, 1000 hours 0603, ST23: 85°C, 85% RH, 1000 hours
Thermal Shock	MIL-STD-202, Method 107, -65°C to 125°C, 30 min. cycle, 10 cycles
Vibration	MIL-STD-202, Method 201, (10 to 55 to 10 Hz, 1 min. cycle, 2 hrs each in X-Y-Z)
Chemical Resistance	MIL-STD-202, Method 215
Solder Leach Resistance and Terminal Adhesion	IPC/EIA J-STD-002

Soldering Parameters

Reflow Condition		Pb – Free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 seconds
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max

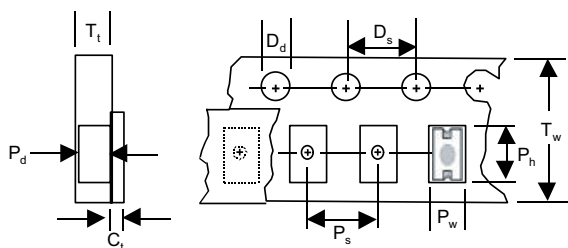


Based on IPC/JEDEC J-STD-020

Packaging

Part Number	Quantity & Packaging Code	Quantity	Packaging Option	Packaging Specification
PGB1010402	KR	10000	Tape & Reel (7" reel)	EIA RS-481-1 (IEC 286, part 3)
PGB1010603	MR	1000	Tape & Reel (7" reel)	EIA RS-481-1 (IEC 286, part 3)
PGB102ST23	WR	3000	Tape & Reel (7" reel)	EIA RS-481-1 (IEC 286, part 3)
PGB1010603	NR	5000	Tape & Reel (7" reel)	EIA RS-481-1 (IEC 286, part 3)

Tape and Reel Specifications



Description	0402 Series (mm)	0603 Series (mm)	SOT23 Series (mm)
C _t - Cover tape thickness	0.05	0.05	0.06
D _d - Drive hole diameter	1.50	1.50	1.50
D _s - Drive hole spacing	4.00	4.00	4.00
P _d - Pocket depth	0.41	0.58	1.02
P _h - Pocket height	1.12	1.85	3.23
P _s - Pocket spacing	2.00	4.00	4.00
P _w - Pocket width	0.62	1.02	2.46
T _t - Carrier tape thickness	0.61	0.65	1.77
T _w - Carrier tape width	8.00	8.00	8.00

Typical Test Setup

