

Absolute Maximum Ratings

Parameter	Rating	Units
Peak Pulse Current (8/20μs)	150	A
Peak Pulse Power (8/20μs)	2800	W
IEC 61000-4-2, Contact Discharge, (Level 4)	30	kV
IEC 61000-4-2, Air Discharge, (Level 4)	30	kV
IEC 61000-4-5, 2nd Edition (8/20)	100	A
Telcordia GR 1089 (Intra-Building) (2/10μs)	150	A
ITU K.20 (5/310μs)	40	A

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

Electrical Characteristics (T_{OP} = 25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Reverse Stand-Off Voltage	V _{RWM}	-	-	-	6	V
Reverse Breakdown Voltage	V _{BR}	I _T = 1mA	6.8	-	-	V
Reverse Leakage Current	I _R	V _{RWM} = 6V, T = 25°C	-	-	25	μA
Clamping Voltage, Line-Ground	V _C	I _{PP} = 50A, t _p = 8/20 μs	-	-	15	V
Clamping Voltage, Line-Ground	V _C	I _{PP} = 100A, t _p = 8/20 μs	-	-	20	V
Junction Capacitance	C _J (Line-Ground)	Between I/O Pins and Ground V _R = 0V, f = 1MHz	-	16	25	pF
	C _J (Line-Line)	Between I/O Pins V _R = 0V, f = 1MHz	-	8	12	pF

Figure 1: Non-repetitive Peak Pulse Current vs. Pulse Time

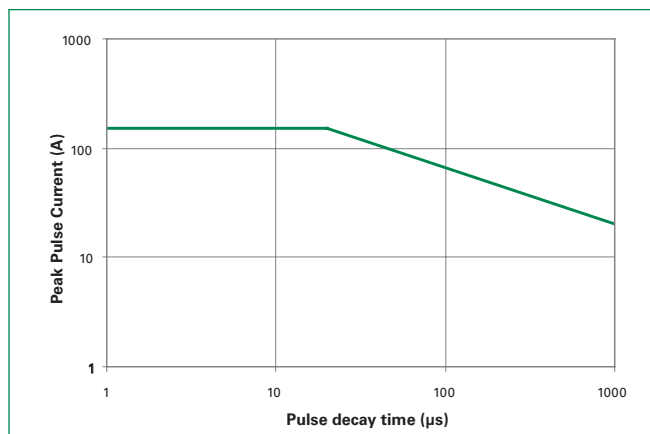


Figure 2: Current Derating Curve

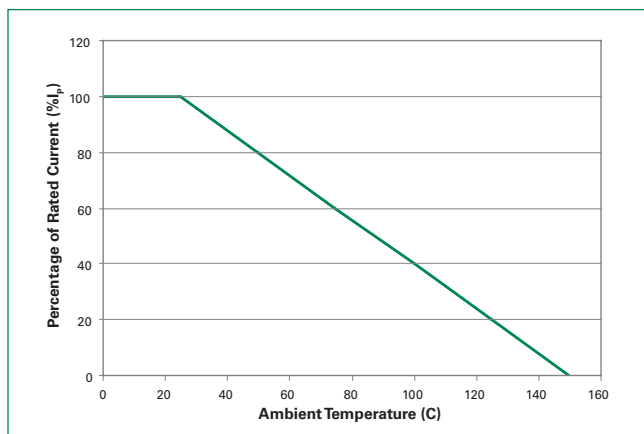


Figure 3: Pulse Waveform

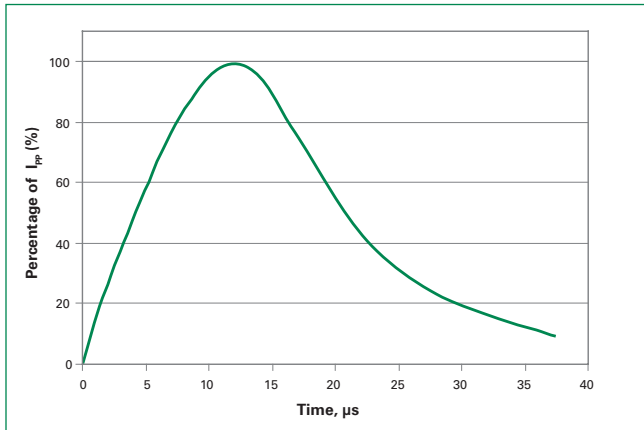


Figure 4: Clamping Voltage vs. Peak Pulse Current

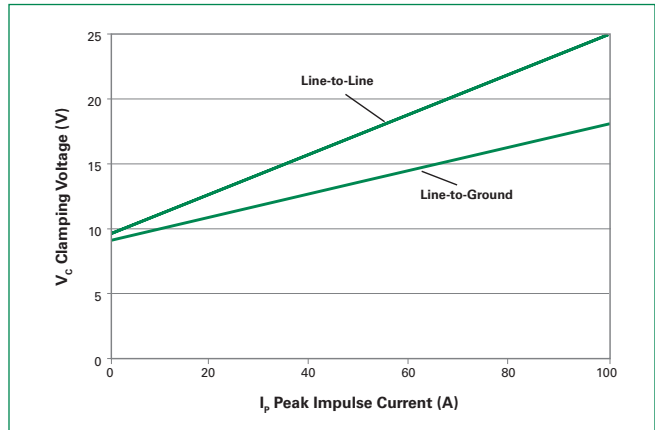


Figure 5: Capacitance vs. Reverse Voltage

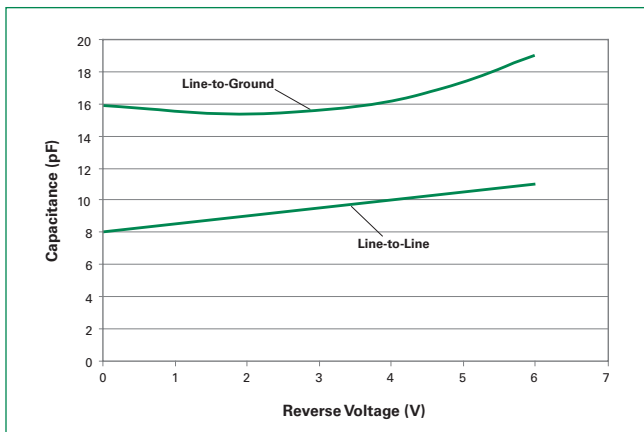
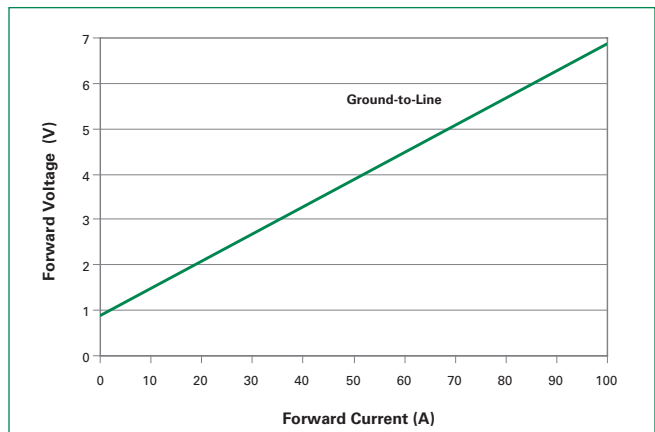
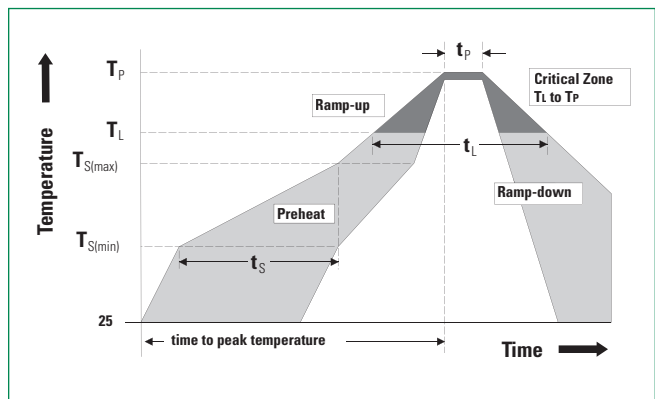


Figure 6: Forward Voltage vs. Forward Current

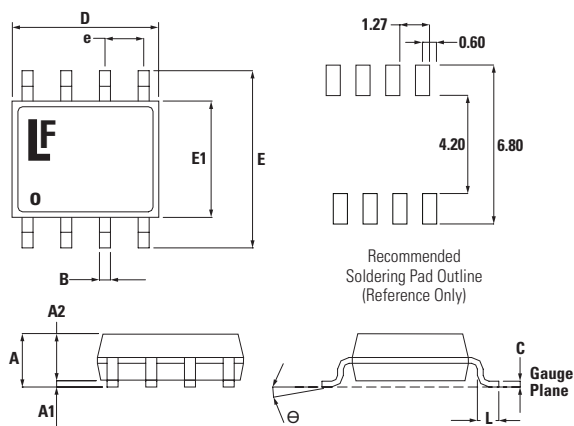


Soldering Parameters

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_p)	60 – 180 secs
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 $^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C

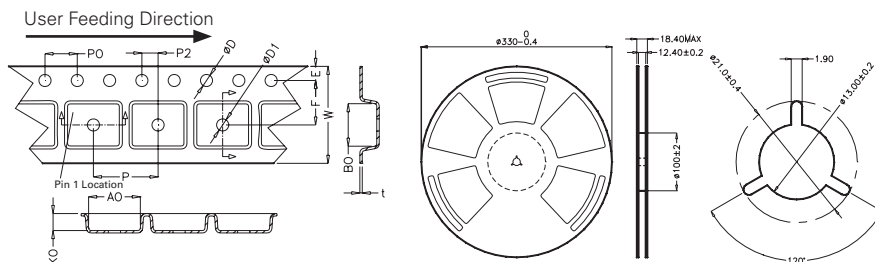


Package Dimensions — Mechanical Drawings and Recommended Solder Pad Outline



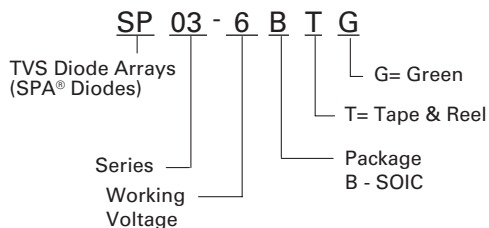
Package	SOIC			
Pins	8			
JEDEC	MS-012			
	Millimetres		Inches	
	Min	Max	Min	Max
A	1.35	1.75	0.053	0.069
A1	0.10	0.25	0.004	0.010
A2	1.25	1.65	0.049	0.065
B	0.31	0.51	0.012	0.020
c	0.17	0.25	0.007	0.010
D	4.80	5.00	0.189	0.197
E	5.80	6.20	0.228	0.244
E1	3.80	4.00	0.150	0.157
e	1.27 BSC		0.050 BSC	
L	0.40	1.27	0.016	0.050

Embossed Carrier Tape & Reel Specification — SOIC Package

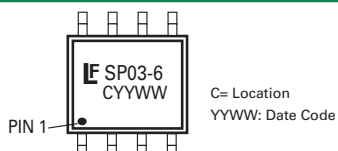


	Millimetres		Inches	
	Min	Max	Min	Max
E	1.65	1.85	0.065	0.073
F	5.4	5.6	0.213	0.22
P2	1.95	2.05	0.077	0.081
D	1.5	1.6	0.059	0.063
D1	1.50 Min		0.059 Min	
P0	3.9	4.1	0.154	0.161
10P0	40.0 ± 0.20		1.574 ± 0.008	
W	11.9	12.1	0.468	0.476
P	7.9	8.1	0.311	0.319
A0	6.3	6.5	0.248	0.256
B0	5.1	5.3	0.2	0.209
K0	2	2.2	0.079	0.087
t	0.30 ± 0.05		0.012 ± 0.002	

Part Numbering System



Part Marking System



Ordering Information

Part Number	Package	Marking	Min. Order Qty.
SP03-6BTG	SOIC Tape & Reel	SP03-6	2500

Product Characteristics

Lead Plating	Matte Tin
Lead Material	Copper Alloy
Lead Coplanarity	0.003 inches (0.08 mm)
Substrate Material	Silicon
Body Material	Molded
Flammability	UL Recognized compound meeting flammability rating V-0

Notes :

- All dimensions are in millimeters
- Dimensions include solder plating.
- Dimensions are exclusive of mold flash & metal burr.
- Blo is facing up for mold and facing down for trim/form, i.e. reverse trim/form.
- Package surface matte finish VDI 11-13.

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