

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
I_{PP}	Peak Current ($t_p=8/20\mu s$)	15	A
P_{PK}	Peak Pulse Power ($t_p=8/20\mu s$)	500	W
T_{OP}	Operating Temperature	-40 to 150	°C
T_{STOR}	Storage Temperature	-55 to 150	°C

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 component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

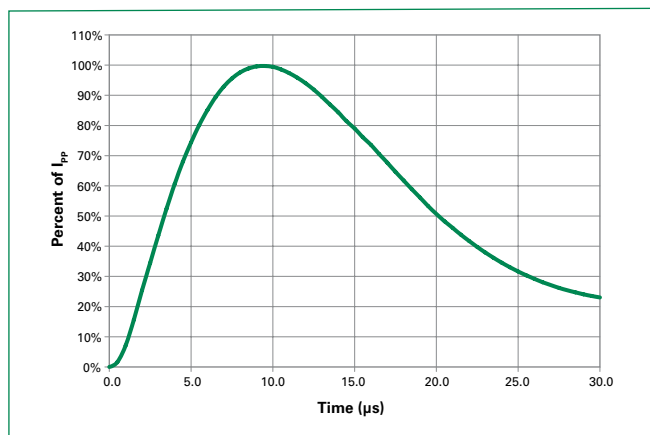
Electrical Characteristics ($T_{OP}=25^{\circ}C$)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Reverse Standoff Voltage	V_{RWM}	$I_R=1\mu A$	-	-	12	V
Breakdown Voltage	V_{BR}	$I_R=1mA$	13.3	-	-	V
Reverse Leakage Current	I_{LEAK}	$V_R=12V$	-	-	0.1	μA
Clamp Voltage ¹	V_C	$I_{PP}=1A, t_p=8/20\mu s, Fwd$	-	19	-	V
		$I_{PP}=2A, t_p=8/20\mu s, Fwd$	-	20	-	V
		$I_{PP}=10A, t_p=8/20\mu s, Fwd$	-	28	-	V
		$I_{PP}=15A, t_p=8/20\mu s, Fwd$	-	33	35	V
Dynamic Resistance ²	R_{DYN}	TLP $t_p=100ns$	-	0.5	-	Ω
ESD Withstand Voltage ¹	V_{ESD}	IEC 61000-4-2 (Contact Discharge)	± 30	-	-	kV
		IEC 61000-4-2 (Air Discharge)	± 30	-	-	kV
Diode Capacitance ¹	C_D	Reverse Bias=0V, $f=1MHz$	-	1.3	2	pF

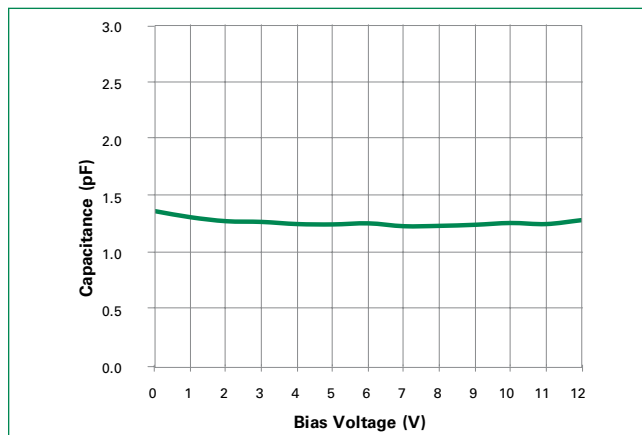
Note:

- Parameter is guaranteed by design and/or component characterization.
- Transmission Line Pulse (TLP) with 100ns width and 200ps rise time.

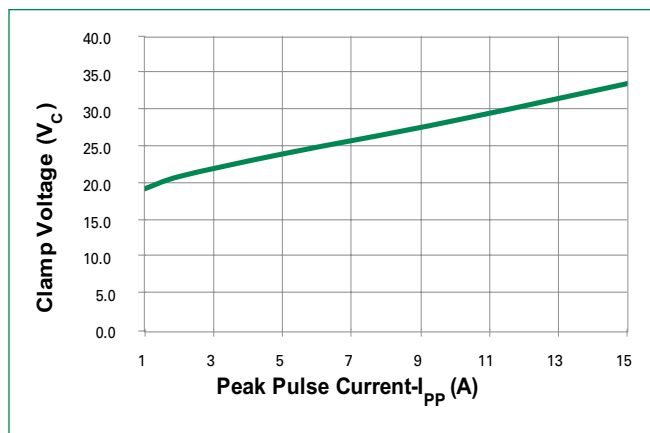
8/20 μs Pulse Waveform



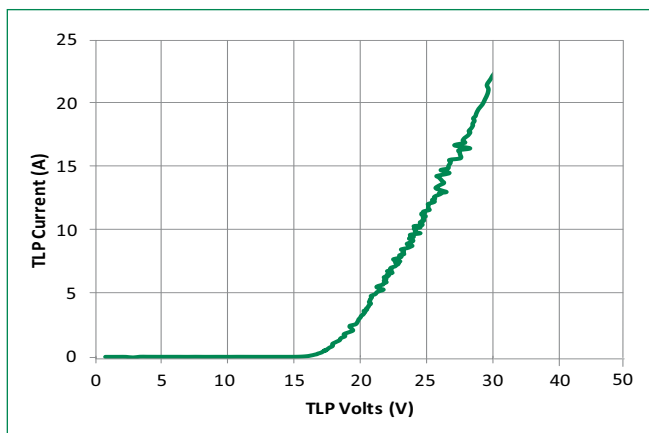
Capacitance vs. Reverse Bias



Clamping Voltage vs. Peak Pulse Current



Transmission Line Pulsing (TLP) Plot

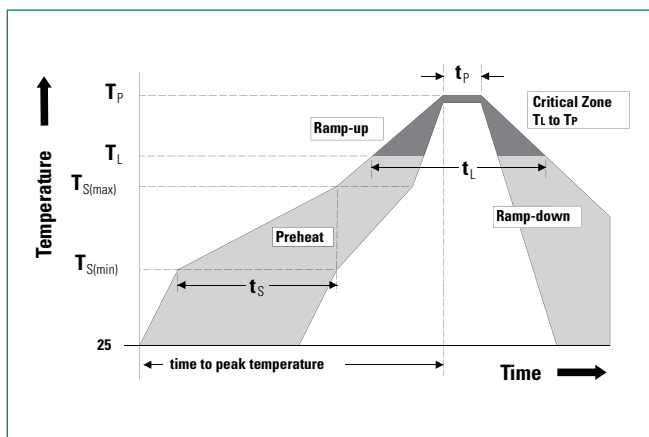


Soldering Parameters

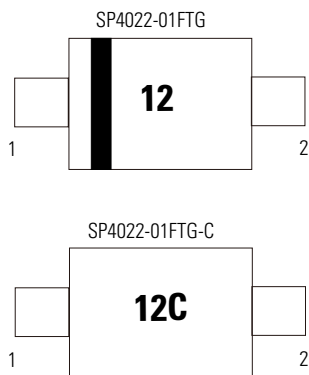
Reflow Condition		Pb – Free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus) Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (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

Product Characteristics

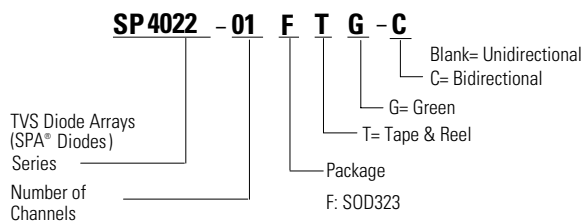
Lead Plating	Matte Tin
Lead Material	Alloy 42
Lead Coplanarity	0.0004 inches (0.102mm)
Substrate Material	Silicon
Body Material	Molded Compound
Flammability	UL Recognized compound meeting flammability rating V-0



Part Marking System



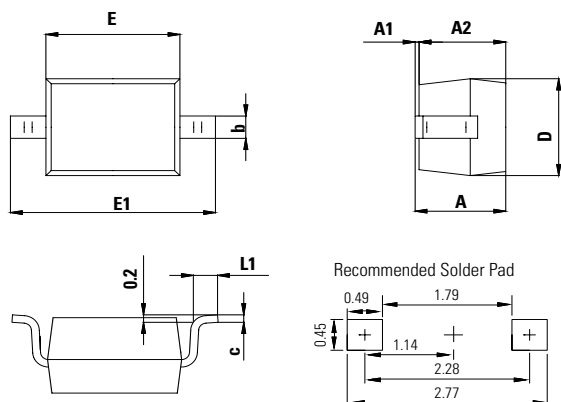
Part Numbering System



Ordering Information

Part Number	Package	Min. Order Qty.
SP4022-01FTG	SOD323	3000
SP4022-01FTG-C	SOD323	3000

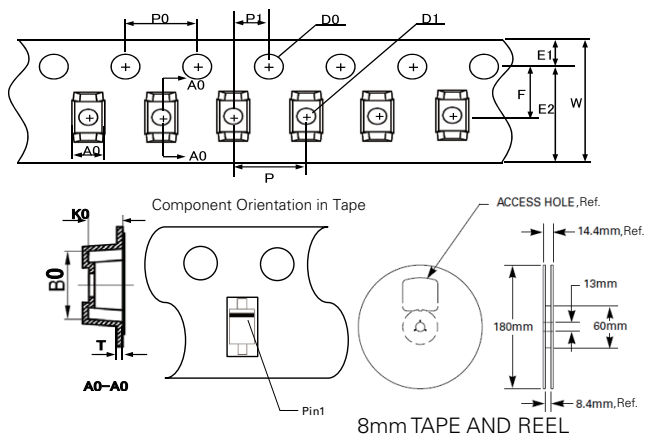
Package Dimensions -SOD323



Note:
Cathode mark is used for unidirectional version

Symbol	SOD323			
	Millimeters		Inches	
	Min	Max	Min	Max
A	0.80	1.00	0.031	0.039
A1	0.00	0.10	0.000	0.004
A2	0.80	0.90	0.031	0.035
b	0.25	0.35	0.010	0.014
c	0.08	0.15	0.003	0.006
D	1.20	1.40	0.047	0.055
E	1.60	1.80	0.063	0.071
E1	2.50	2.70	0.098	0.106
L1	0.25	0.40	0.010	0.016

Embossed Carrier Tape & Reel Specification – SOD323



Symbol	Millimeters
A0	1.46+/-0.10
B0	2.90+/-0.10
W	8.0+0.3/-0.10
D0	1.50+0.10
D1	0.45min/1.15max
E1	1.75+/-0.10
E2	-
F	3.50+/-0.10
P0	4.00+/-0.10
P	4.00+/-0.10
P1	2.00+/-0.05
K0	1.25+/-0.10
T	0.254+/-0.02

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