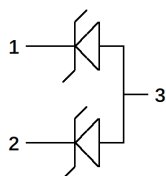


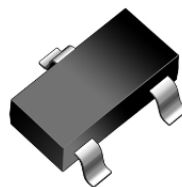
Features

- * Ultra low leakage: nA level
- * Low clamping voltage
- * RoHS Compliant
- * REACH & SVHC Compliant
- * Halogen Compliant
- * SOT-23 Package

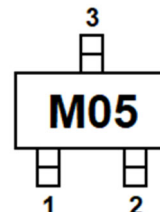
Circuit Diagram



Package and Marking diagram



SOT-23



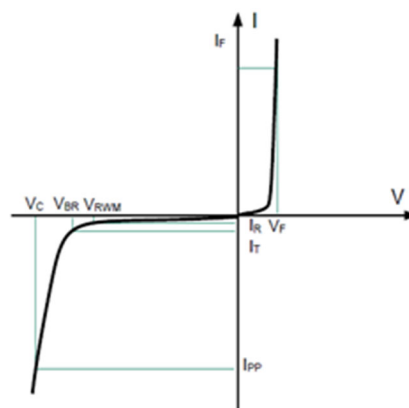
Top view

Ordering Information

Part Number	Packaging	Reel Size
SP0502BAJTG-CN	3000/Tape & Reel	7 inch

Portion Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}



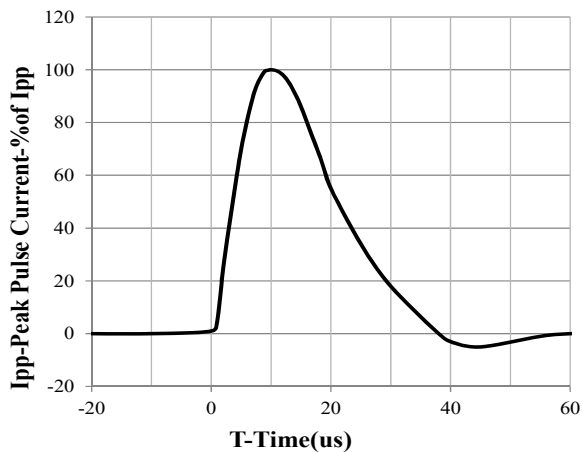
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs pulse)	P_{pk}	400	W
Peak Pulse Current (8/20 μs pulse)	I_{PP}	27	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-40 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^{\circ}\text{C}$

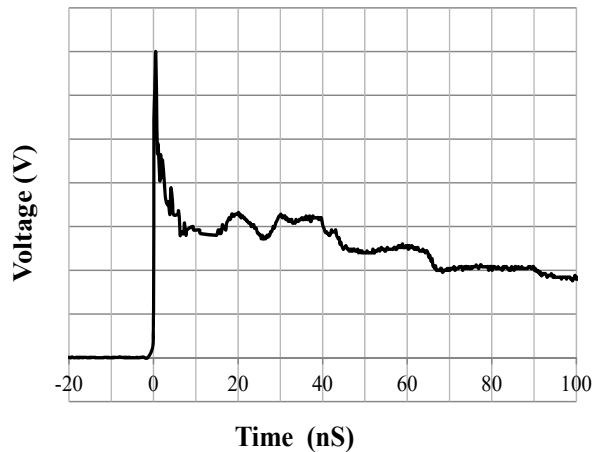
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$ (pin1/2 to pin3)	6	7.6	9	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$ (pin1 to pin2)	7	8.3	10	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$		<10	100	nA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8/20 μs pulse, pin1/2 to pin3)		7.5	9	V
Clamping Voltage	V_C	$I_{PP} = 27\text{A}$ (8/20 μs pulse, pin1/2 to pin3)		12	15	V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8/20 μs pulse, pin1 to pin2)		9	11	V
Clamping Voltage	V_C	$I_{PP} = 27\text{A}$ (8/20 μs pulse, pin1 to pin2)		15	20	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, (pin1/2 to pin3)		180	250	pF
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$, (pin1 to pin2)		90	120	pF

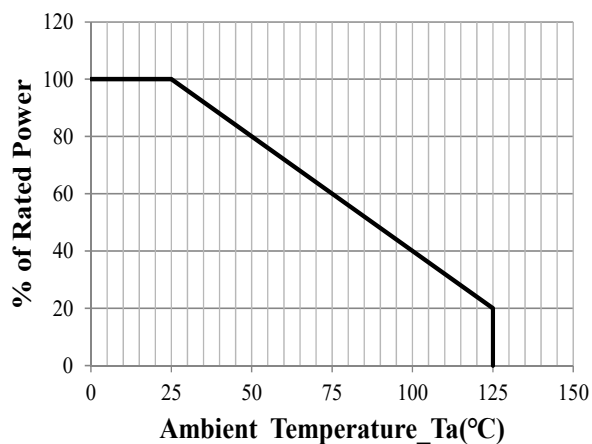
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



8 / 20us Pulse Waveform

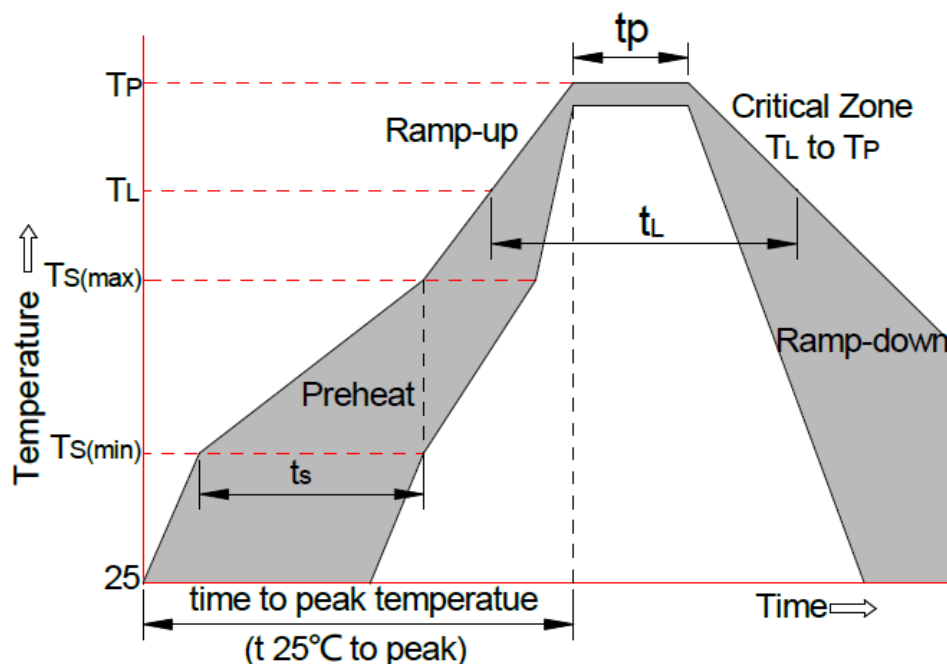


IEC61000-4-2 Pulse Waveform



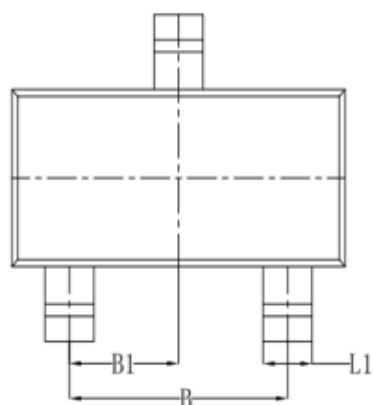
Power Derating Curve

Soldering Parameters

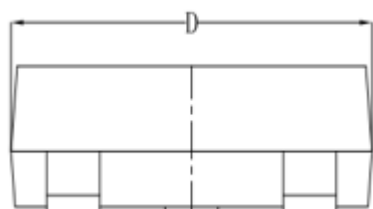


Reflow Conditions		Pb-Free Assembly
Pre-heat	-Temperature Min (Ts (min))	+150°C
	-Temperature Max (Ts (max))	+200°C
	-Time (Min to Max) (ts)	60-180 secs
Average ramp up rate(Liquid us Temp (TL) to peak)		3°C/sec. Max
TS (max) to TL-Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (TL) (Liquid us)	+217°C
	-Temperature (tL)	60-150 secs
Peak Temp (Tp)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (tp)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25°C to Peak Temp (TP)		8 min. Max
Do not exceed		+260°C

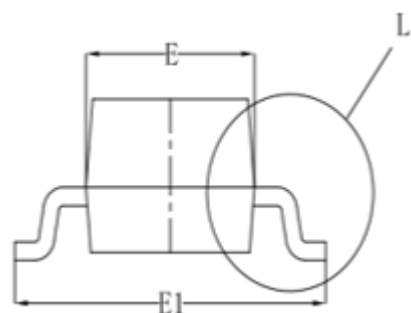
SOT-23 Package Outline Drawing



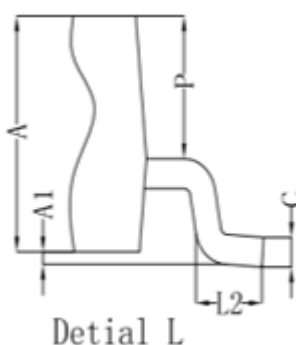
TOP VIEW



SIDE VIEW



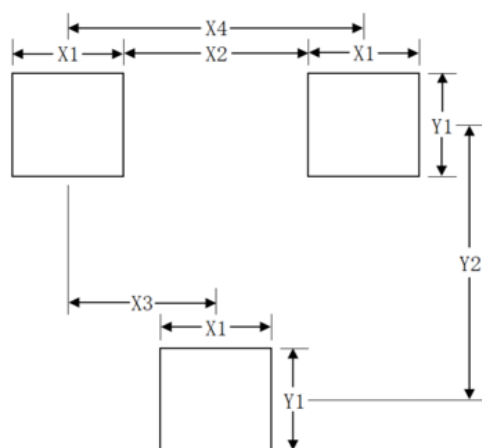
SIDE VIEW



SIDE VIEW

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	Min	Typ	Max	Min	Typ	Max
A	0.900	1.000	1.100	0.0354	0.0394	0.0433
A1	0.000	0.050	0.100	0.0000	0.0020	0.0039
B	1.900 TYP			0.0748 TYP		
B1	0.950 TYP			0.0374 TYP		
C	0.100	0.110	0.120	0.0039	0.0043	0.0047
D	2.800	2.900	3.000	0.1102	0.1142	0.1181
E	1.250	1.300	1.350	0.0492	0.0512	0.0531
E1	2.250	2.400	2.550	0.0886	0.0945	0.1004
L1	0.350	0.400	0.500	0.0138	0.0157	0.0197
L2	0.200	0.350	0.450	0.0079	0.0138	0.0177
P	0.550	0.575	0.600	0.0217	0.0226	0.0236

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETER	INCHES
X1	0.800	0.031
X2	1.100	0.043
X3	0.950	0.037
X4	1.900	0.075
Y1	0.800	0.031
Y2	2.200	0.087

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