

VOLTAGE RANGE

40.0 Volts

CURRENT

1.0 Ampere

FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

Mechanical Data

- * Case: Molded plastic
- * Lead: Axial leads, solderable per MIL-STD-750, method 2026
- * Polarity: Polarity symbols marked on case
- * Marking: SL



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

TYPE NUMBER	MBR0530T1G	UNITS
Maximum Recurrent Peak Reverse Voltage	40	V
Maximum RMS Voltage	21	V
Maximum DC Blocking Voltage	40	V
Maximum Average Forward Rectified Current		
See Fig. 1	1.0	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	9	A
Maximum Instantaneous Forward Voltage at 1.0A	0.58	V
Maximum DC Reverse Current Ta=25°C	0.05	mA
at Rated DC Blocking Voltage Ta=100°C	8	mA
Typical Junction Capacitance (Note1)	30	pF
Typical Thermal Resistance R JA (Note 2)	400	°C/W
Operating Temperature Range Tj	-65 — +125	°C
Storage Temperature Range Tstg	-65 — +150	°C

NOTES:

1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2. Thermal Resistance Junction to Ambient.

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

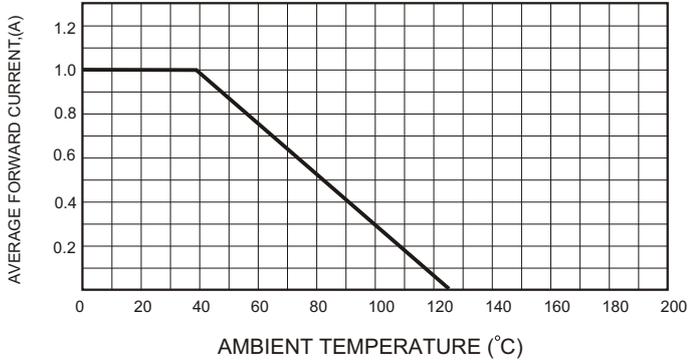


FIG.2-TYPICAL FORWARD CHARACTERISTICS

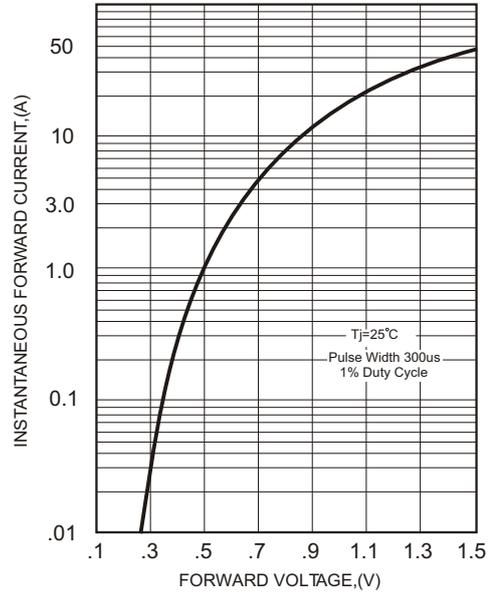


FIG.3 - Power Derating Curve

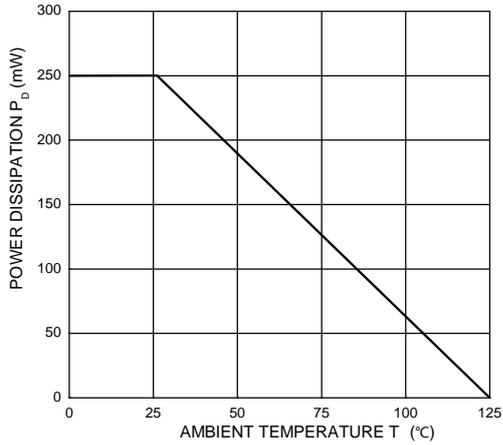


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

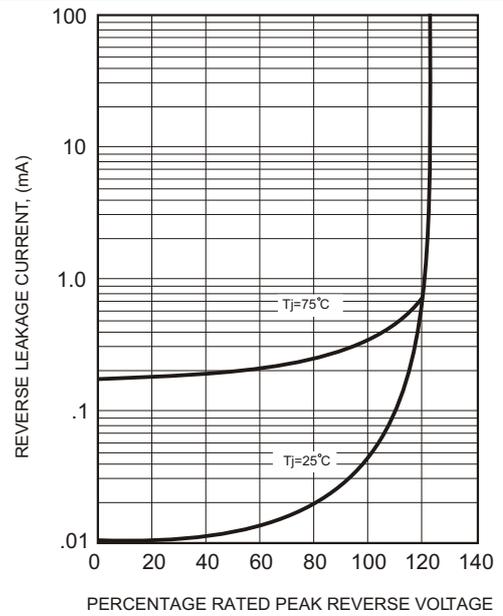
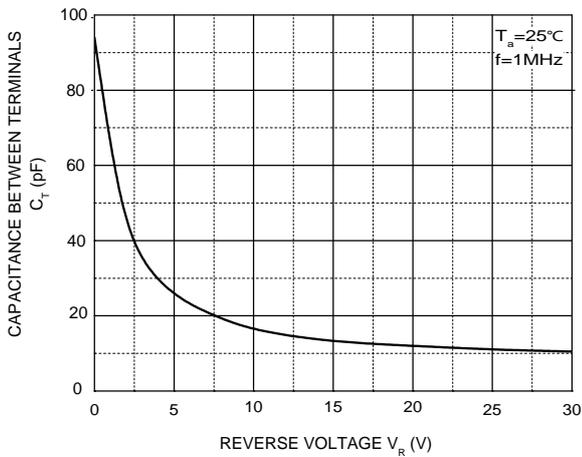


FIG.4-TYPICAL JUNCTION CAPACITANCE



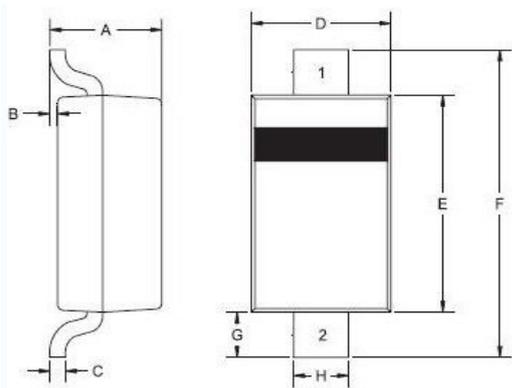
Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150 °C
	-Temperature Max($T_{s(max)}$)	+200 °C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3 °C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3 °C/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217 °C
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5) °C
Time within 5 °C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6 °C/sec. Max
Time 25 °C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260 °C

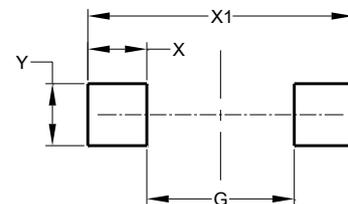


Package Dimensions & Suggested Pad Layout

SOD123



SOD123		
Dim	Min	Max
A	0.95	1.35
B	0.00	0.12
C	-	0.20
D	1.40	1.80
E	2.50	2.80
F	3.60	3.90
G	0.40	-
H	0.50	0.70
All Dimensions in mm		



Dimensions	Value (in mm)
G	2.20
X	1.20
X1	4.60
Y	1.20

Tape & reel specification

Tape		Symbol	Dimension (mm)		
<p>SECTION : A-A</p> <p>SECTION : B-B</p>		P0	4.00±0.20		
		P1	4.00±0.20		
		P2	2.00±0.20		
		D0	1.55±0.10		
		D1	1.00±0.20		
		E	1.75±0.20		
		F	3.60±0.20		
		W	8.00±0.40		
		A0	2.30±0.40		
		B0	4.00±0.40		
		K0	1.50±0.40		
		T	0.23±0.10		
		7" Reel		D2	17.0±3.0
				D3	55Min.
D4	R24.0±3.0				
G	R82.0±3.0				
I	13.0±2.0				
W1	11.0±3.0				
Quantity: 3000PCS					