

## 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



## VOLTAGE RANGE

40.0 Volts

## CURRENT

0.5 Ampere

## 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%.

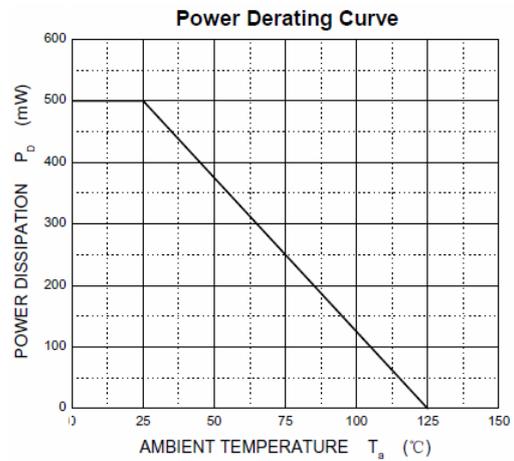
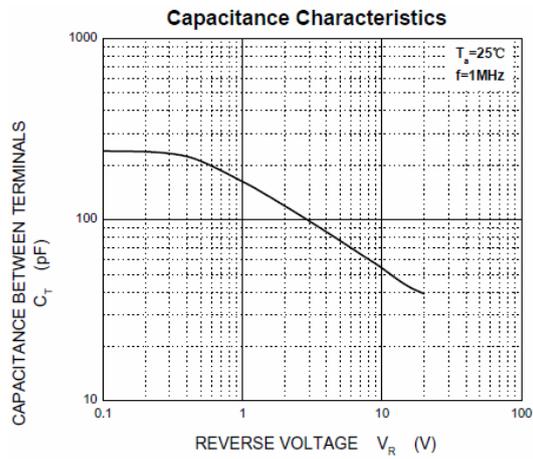
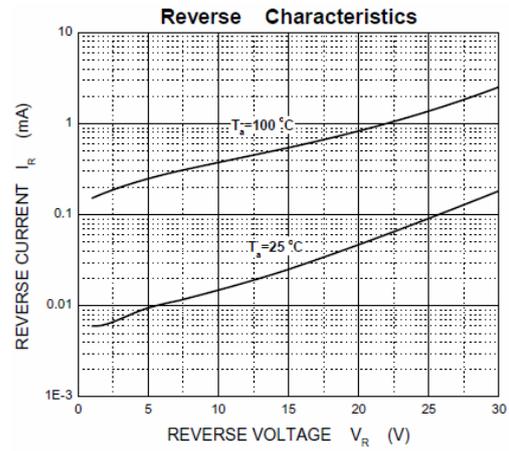
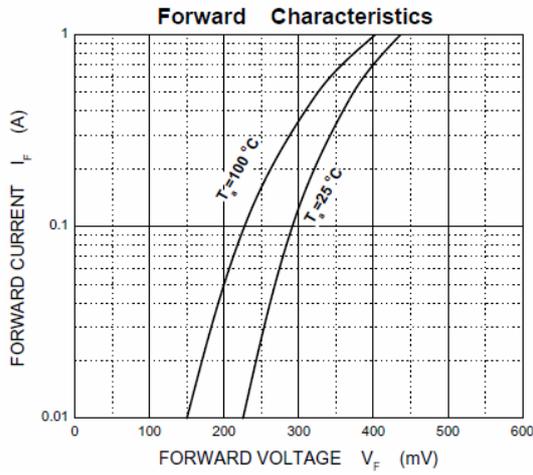
Parameters	Symbol	MBR0540T1G	Unit
Maximum repetitive peak reverse voltage	VRRM	40	V
Maximum RMS voltage	VRMS	28	V
Maximum DC blocking voltage	VDC	40	V
Maximum average forward rectified current	IFM	0.5	A
Peak forward surge current 8.3 ms single half sine-wave	IFSM	5.5	A
Typical thermal resistance	RθJA	200	°C/W
Power Dissipation	PD	500	mW
Storage temperature range	TSTG	-50+150	°C
Voltage rate of change	Dv/dt	1000	V/μs

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

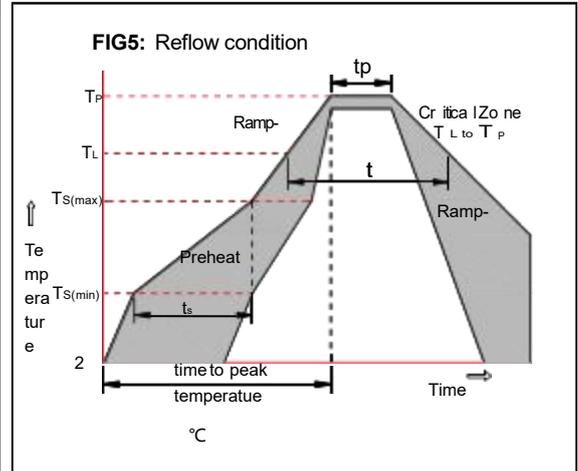
Parameters	Symbol	Test conditions	MBR0540T1G	Unit
Maximum forward voltage	VF	IF = 0.1A	---	V
		IF = 0.5A	0.510	
		IF = 1.0A	0.620	
Maximum reverse breakdown voltage	VR	IR=250uA	---	V
		IR=200uA	---	
		IR=20.0uA	40	
Maximum reverse current	IR	VR=10V	---	uA
		VR=15V	---	
		VR=20V	10	
		VR=30V	---	
		VR=40V	20	
Capacitance between terminals	CT	VR = 0V, f = 1MHz	170	pF

RATING AND CHARACTERISTIC CURVES



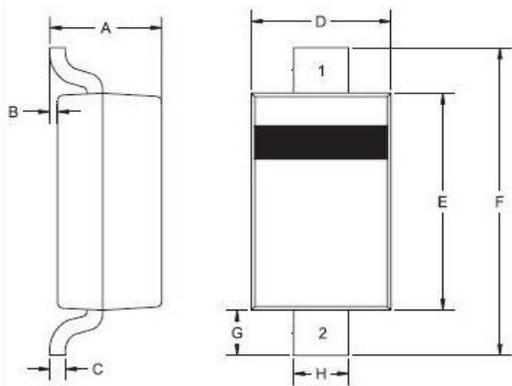
Soldering parameters

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

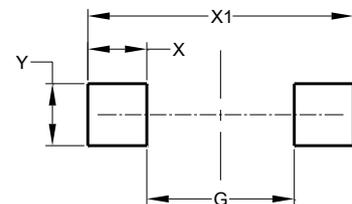


Package Dimensions & Suggested Pad Layout

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)		
		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					