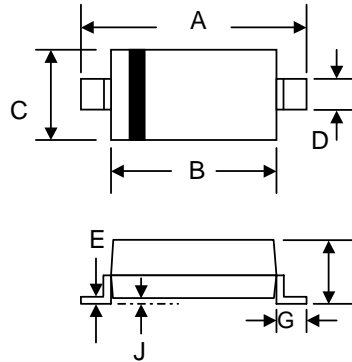


Date Sheet 2800, Rev -

Features

- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-0



SOD-123				
Dim	Min	Max	Min	Max
A	3.6	3.9	0.14	0.154
B	2.5	2.8	0.098	0.110
C	1.4	1.8	0.055	0.070
D	0.5	0.7	0.020	0.028
E	—	0.2	—	0.008
G	0.4	—	0.016	—
H	0.95	1.35	0.037	0.053
J	—	0.12	—	0.005
	In mm		In inch	

Mechanical Data

- Case: SOD-123, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.01 grams (approx.)

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

Characteristic	Symbol	MBR0520	MBR0530	MBR0540	Unit
Peak Repetitive Reverse Voltage	V_{RRM}				V
Working Peak Reverse Voltage	V_{RWM}	20	30	40	
DC Blocking Voltage	V_R				
RMS Reverse Voltage	$V_{R(RMS)}$	14	21	28	V
Average Rectified Output Current @ $T_L = 75^\circ\text{C}$	I_O	0.5			A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	5.5			A
Power Dissipation (Note 1)	P_d	410			mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	244			$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +125			$^\circ\text{C}$

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

Characteristic	Symbol	MBR0520	MBR0530	MBR0540	Unit
Forward Voltage Drop @ $I_F = 0.1\text{A} / 0.5\text{A}$	V_{FM}	0.3 / 0.385	0.375 / 0.43	— / 0.51	V
Peak Reverse Leakage Current @ $V_R = 50\% / 100\%$ DC Blocking Voltage	I_{RM}	75 / 250	20 / 130	10 / 20	μA
Typical Junction Capacitance ($V_R = 0\text{V DC}, f = 1\text{MHz}$)	C_j	170			pF

Note: 1. Valid provided that terminals are kept at ambient temperature.

Data Sheet 2800, Rev. -

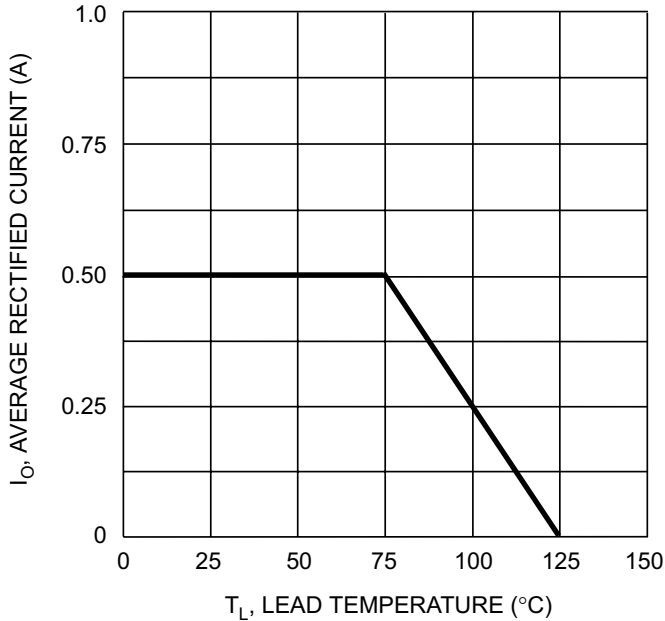


Fig. 1 Forward Current Derating Curve

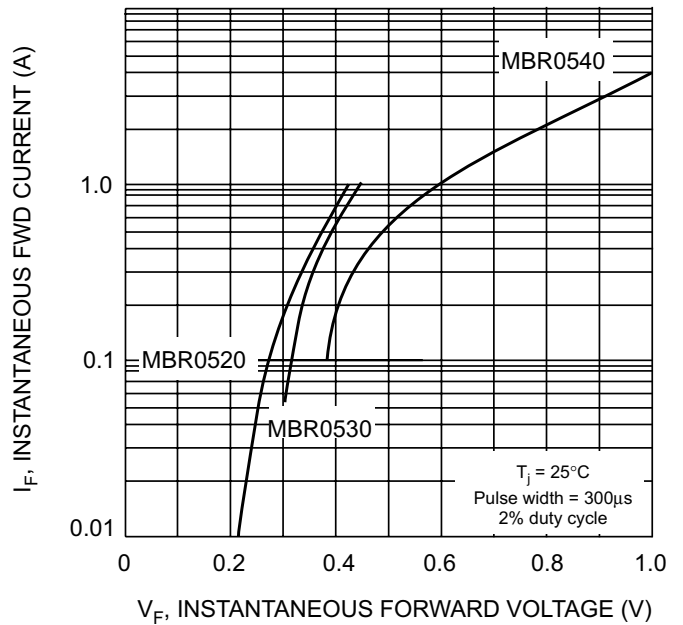


Fig. 2 Typical Forward Characteristics

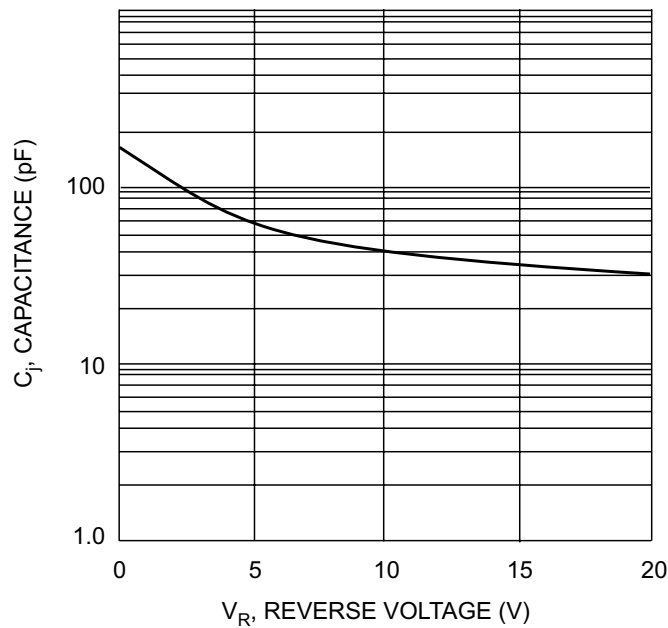


Fig. 3 Typ. Junction Capacitance vs Reverse Voltage