SOD-123 Surface Mount Schottky Barrier Rectifier

Features

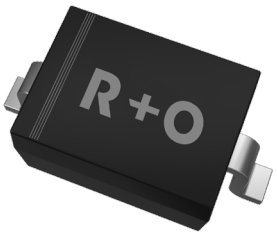
- V_R=30/40V
- $I_{F(AV)}$=0.5A
- High Current Capability
- Low Forward Voltage Drop

Reverse Voltage
30/40 V
Forward Current
0.5 Ampere

Applications

The device is a single rectifier offering low VF and excellent high temperature stability.

SOD-123



Mechanical Data

- Case: SOD-123
  Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram



Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	MBR0530	MBR0540
Maximum repetitive peak reverse voltage	V_{RRM}	V	30	40
Maximum RMS voltage	V_{RMS}	V	21	28
Maximum DC blocking voltage	V_{DC}	V	30	40
Maximum Average Forward Rectified Current	$I_{F(AV)}$	A	0.5	
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	I_{FSM}	A	5.5	
Power Dissipation	P_D	mW	500	
Junction temperature	T_j	°C	-55-+125	
Storage temperature range	T_{STG}	°C	-55-+150	
Typical thermal resistance	$R_{\theta J-A}$	°C /W	200	

Electrical Characteristics (Ta=25°C Unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	MBR0530	MBR0540
Maximum forward voltage	I_F =0.1A	V_{F1}	V	0.39	—
	I_F =0.5A	V_{F2}		0.47	0.51
	I_F =1.0A	V_{F3}		—	0.62
Maximum reverse current	V_R=10V	I_R	μA	—	—
	V_R=15V			20	—
	V_R=20V			—	10
	V_R=30V			130	—
	V_R=40V			—	20
Capacitance between terminals	V_R =0V, f = 1MHz	C_T	pF	170	

Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

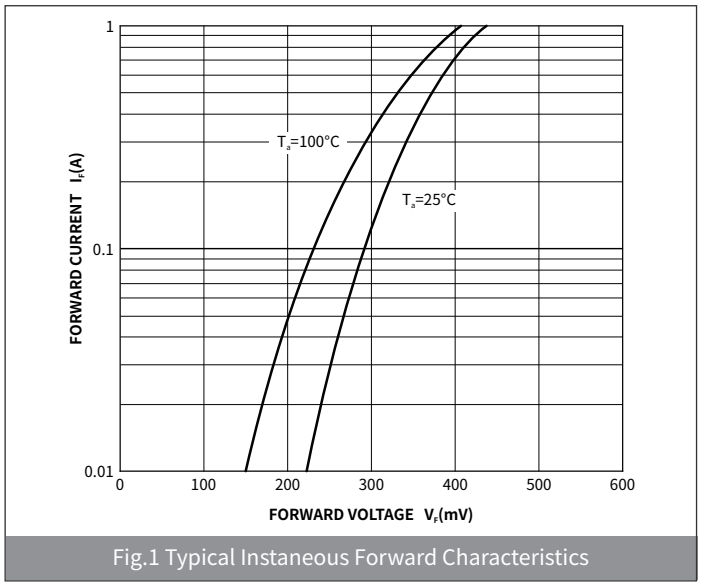


Fig.1 Typical Instaneous Forward Characteristics

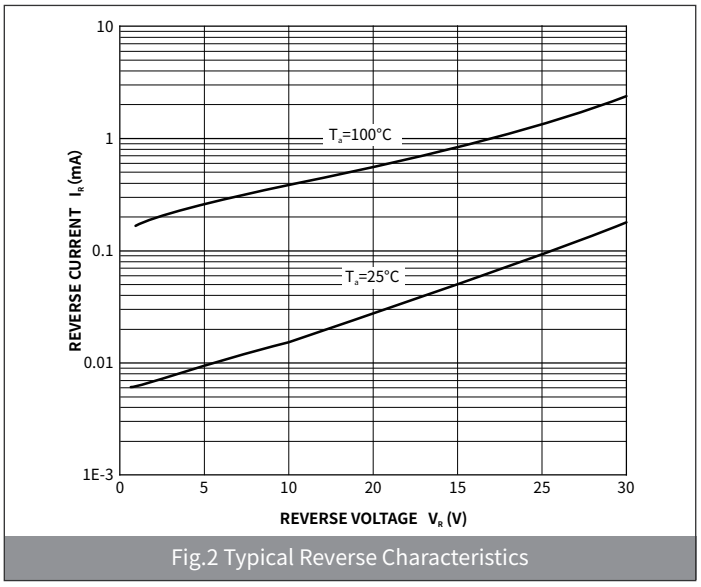


Fig.2 Typical Reverse Characteristics

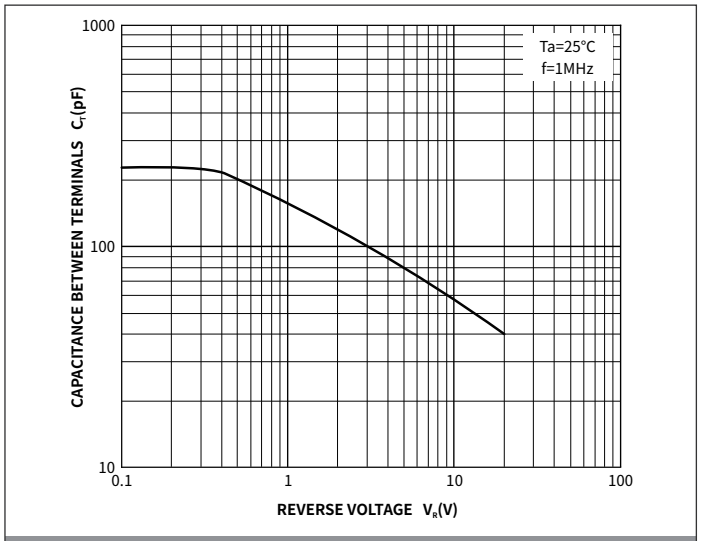


Fig.3 Typical Junction Capacitance

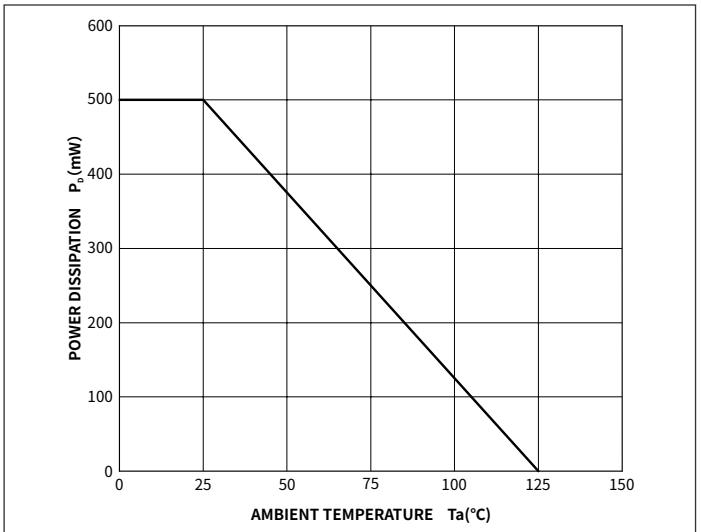
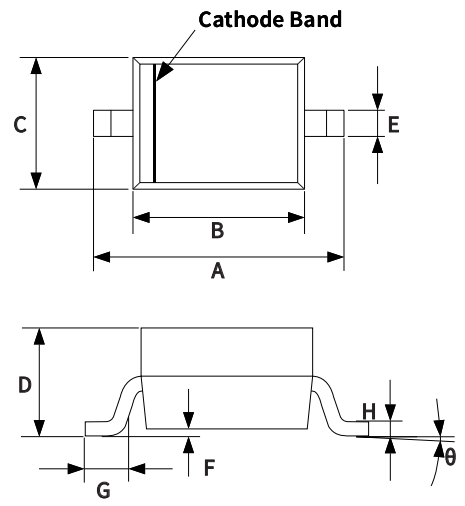


Fig.4 Power Derating Curve

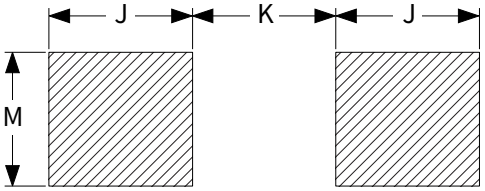
Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	45000	180000	7''

Package Outline Dimensions (SOD-123)



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	4.0	0.140	0.157
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
θ	-	8°	-	8°



Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-