

B5817W THRU B5819W

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

SOD-123 Surface Mount Schottky Barrier Rectifier

Features

- V_R 20V/30V/40V
- $I_{F(AV)}$ 1A
- Low profile package
- Ideal for automated placement
- Low forward and reverse recovery times

Reverse Voltage
20/30/40 V
Forward Current
1.0 Ampere

Applications

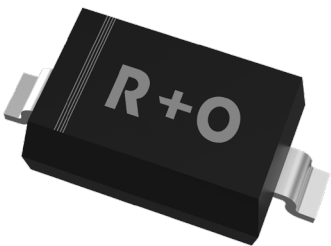
These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping.

Mechanical Data

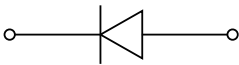
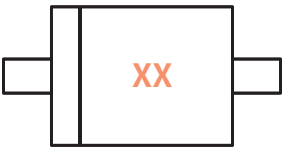
- Case: SOD-123
Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

Function Diagram

SOD-123



Marking:
B5817W:SJ
B5818W:SK
B5819W:SL



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

PARAMETER	SYMBOL	UNIT	B5817W	B5818W	B5819W
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	20	30	40
Maximum RMS Voltage	V_{RMS}	V	14	21	28
Maximum DC Blocking Voltage	V_{DC}	V	20	30	40
Maximum Average Forward Rectified Current	$I_{F(AV)}$	A	1.0		
Non-repetitive Peak Forward Surge Current @t=8.3ms Half-sine wave	I_{FSM}	A	9.0		
Power Dissipation	P_d	mW	500		
Storage temperature	T_{stg}	°C	-55~+150		
Junction temperature	T_j	°C	-55 ~+150		
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	250		

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

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	B5817W	B5818W	B5819W
Maximum instantaneous forward voltage	I _F =1.0A	V _{F1}	V	0.45	0.55	0.6
	I _F =3.0A	V _{F2}		0.75	0.875	0.9
Maximum DC reverse currentat rated DC blocking voltage	V _R =V _{DC} , T _A =25°C	I _{R1}	mA	1.0		
	V _R =V _{DC} , T _A =100°C	I _{R2}		10		
Typical junction capacitance	V _R =4.0V,f=1MHz	C _J	pF	120		

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

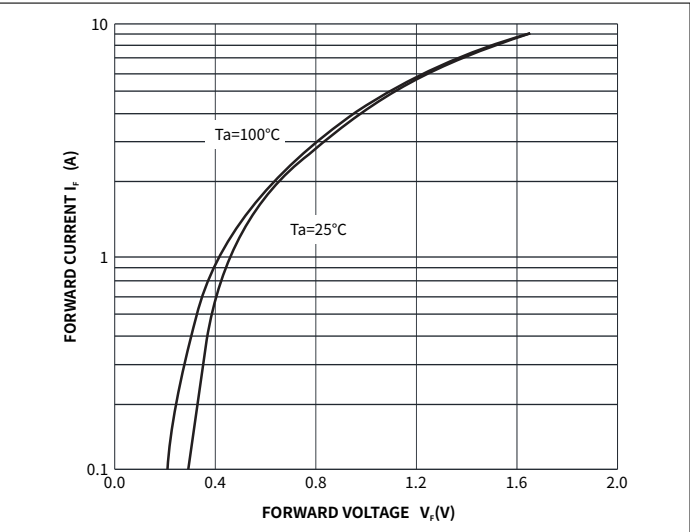


Fig.1 Typical Instaneous Forward Characteristics

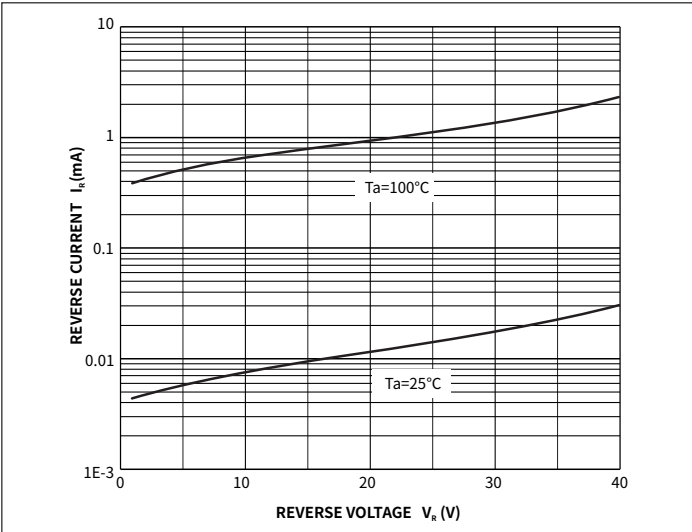


Fig.2 Typical Reverse Characteristics

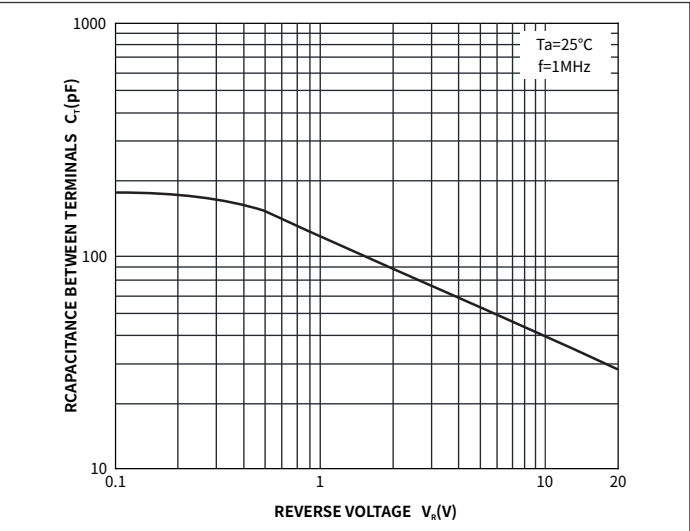


Fig.3 Typical Junction Capacitance

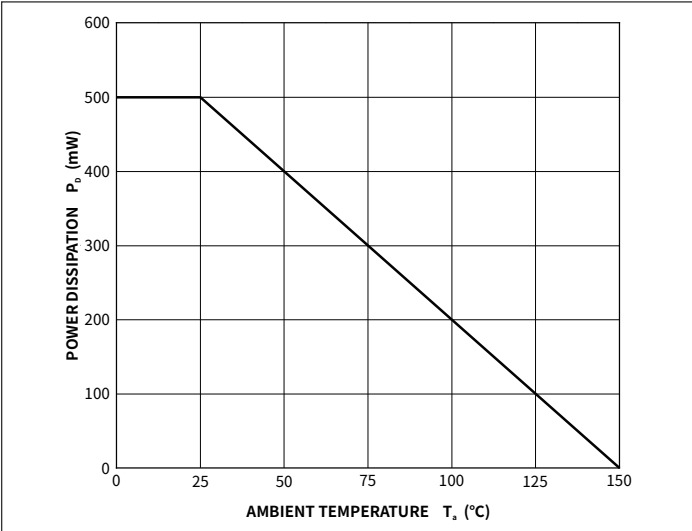


Fig.4 Power Derating Curve

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● 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	3.85	0.140	0.152
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°

● Suggested Pad Layout

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