

Small Signal Product

1A, 20V - 40V Schottky Diodes

FEATURES

- Low Forward Voltage Drop
- Surface Mounted Device
- MSL: level 3
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21


SOD-123

MECHANICAL DATA

- Case: Bend lead SOD-123 package
- High temperature soldering guaranteed: 260°C/10s
- Weight: 10mg (approximately)

APPLICATION

Low voltage, high frequency inverters

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE			UNIT
		B5817W	B5818W	B5819W	
Non-Peak Repetitive Reverse Voltage	V _{RM}	20	30	40	V
Peak Repetitive Reverse Voltage	V _{RRM}	20	30	40	V
Working Peak Reverse Voltage	V _{RWM}	20	30	40	V
DC Blocking Voltage	V _R	20	30	40	V
RMS Reverse Voltage	V _{R(RMS)}	14	21	28	V
Average Rectified Output Current	I _O	1			A
Peak Forward Surge Current @t=8.3ms	I _{FSM}	9			A
Repetitive Peak Forward Current	I _{FRM}	1.5			A
Power Dissipation	P _D	500			mW
Thermal Resistance form Junction to Ambient	R _{THJA}	250			°C/W
Junction Temperature	T _J	125			°C
Storage Temperature Range	T _{STG}	- 55 to +125			°C

PARAMETER	TEST CONDITION	SYMBOL	MIN	MAX	UNIT	
Reverse Breakdown Voltage	at I _R = 1 mA	V _(BR)	B5817W	20	-	V
			B5818W	30	-	
			B5819W	40	-	
Reverse Voltage Leakage Current	at V _R = 20 V	I _R	B5817W	-	1	mA
	at V _R = 30 V		B5818W	-		
	at V _R = 40 V		B5819W	-		
Forward Voltage	at I _F = 1 A	V _F	B5817W	-	0.450	V
			B5817W	-	0.750	
	at I _F = 3 A		B5818W	-	0.550	V
			B5818W	-	0.875	
	at I _F = 1 A		B5819W	-	0.600	V
			B5819W	-	0.900	
Diode Capacitance	V _R =4V, f=1.0MHz	C _D	-	120	pF	

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ORDERING INFORMATION				
PART NO.	PACKING CODE	PACKING CODE SUFFIX (*)	PACKAGE	PACKING
B581xW (Note)	RI	G	SOD-123	3K / 7" Reel

Note : "x" is Device Code from "7" - "9".

*: Optional available

EXAMPLE				
EXAMPLE PART NO.	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
B5817W RIG	B5817W	RI	G	Green compound

RATINGS AND CHARACTERISTICS CURVES

($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig. 1 Typical Forward Characteristics

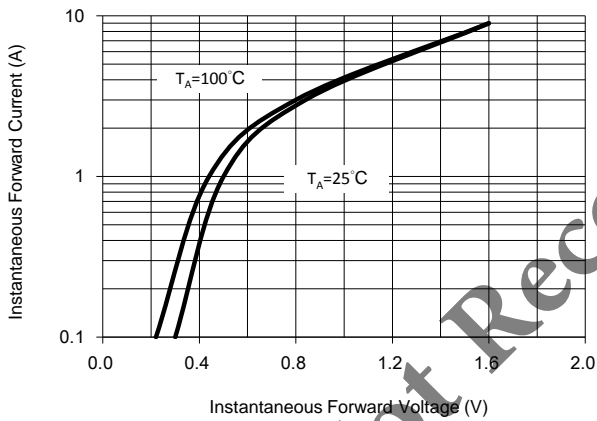


Fig. 2 Typical Reverse Characteristics

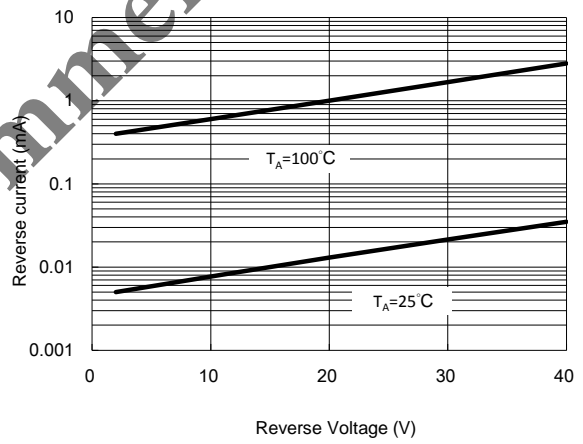


Fig. 3 Typical Capacitance vs. VR

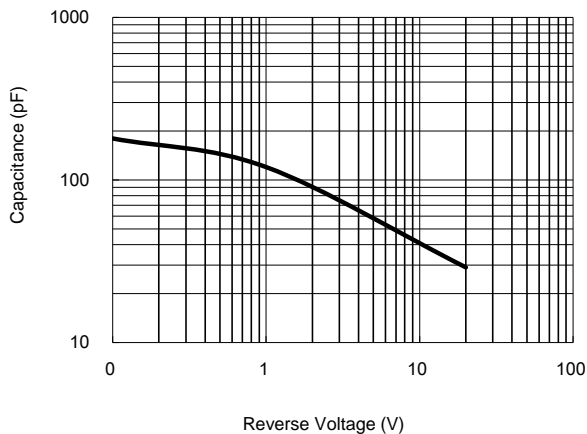
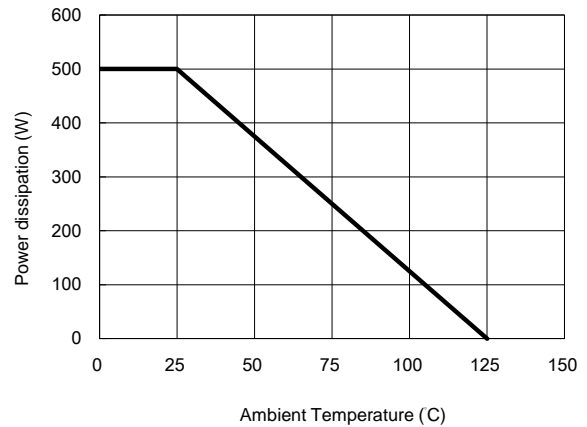


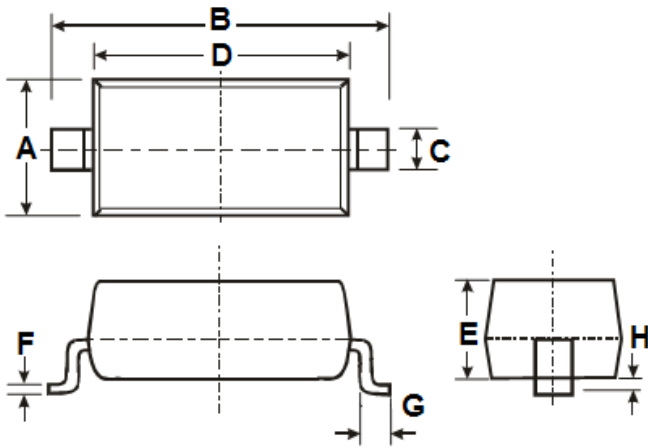
Fig. 4 Power Derating Curve



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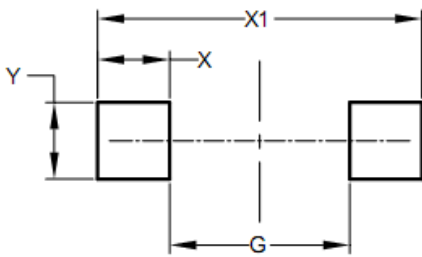
PACKAGE OUTLINE DIMENSIONS

SOD-123



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

SUGGESTED PAD LAYOUT



DIM.	Unit (mm)		Unit (inch)	
	Min	Min	Min	Min
G	2.25		0.089	
X	0.90		0.035	
X1	4.05		0.159	
Y	0.95		0.037	

MARKING

Part No.	Marking
B5817W	SJ
B5818W	SK
B5819W	SL

Not Recommended

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