



B5817W THRU B5819W

Reverse Voltage 20-40 Volts Forward Current - 1.0 Ampere

SCHOTTKY BARRIER DIODES

Features

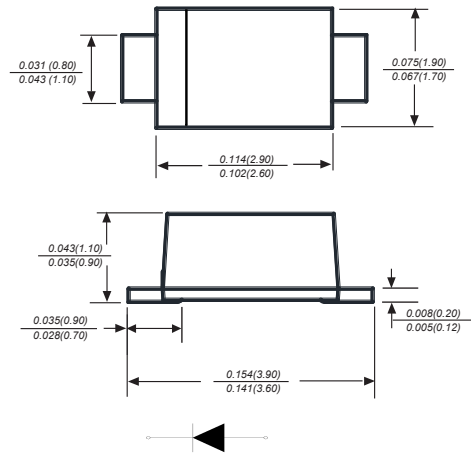
- ◆ For use in low voltage, high frequency inverters
- ◆ Free wheeling, and polarity protection applications
- ◆ Low forward voltage drop
- ◆ High surge capability

Mechanical Data

Case: JEDEC SOD-123FL molded plastic body
 Terminals: Plated leads solderable per MIL-STD-750, Method 2026
 Polarity: Polarity symbols marked on case
 Weight: 0.0007 ounce, 0.02 grams
 Marking: B5817W: SJ, B5818W: SK, B5819W: SL

Absolute Maximum Ratings at 25 °C

SOD-123FL **ROHS COMPLIANT**



PARAMETER	SYMBOLS	B5817W	B5818W	B5819W	UNITS
Peak repetitive peak reverse voltage	V_{RRM}				V
Working peak	V_{RWM}	20	30	40	
DC Blocking voltage	V_{DC}				
RMS Reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_o		1		A
Peak forward surge current @ =8.3ms	I_{FSM}		25		A
Power dissipation	P_d		500		mW
Thermal resistance junction to ambient	$R_{\theta JA}$		200		°C/W
Junction temperature	T_J		-55 to +150		°C
Storage temperature	T_{STG}		-55 to +150		°C

Characteristics at Ta= 25 °C

PARAMETER	SYMBOLS	Min.	Max.	Unit	Test conditions	
Reverse breakdown voltage	$V_{(BR)}$	20		V	$I_R=1mA$ B5817W B5818W B5819W	
		30		V		
		40		V		
Reverse voltage leakage current TA=25 °C TA=100 °C	I_R		1.0	mA	$V_R=20V$ B5817W	
			10		$V_R=30V$ B5818W	
					$V_R=40V$ B5819W	
Forward voltage	V_F		0.45 0.75	V	$I_F=1A$ $I_F=3A$ B5817W B5818W B5819W	
			0.55 0.875			B5818W
			0.6 0.9			B5819W
Diode capacitance	C_D		110	pF	$V_R=4V, f=1.0MHz$	



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Typical Characteristics

Fig.1 Forward Current Derating Curve

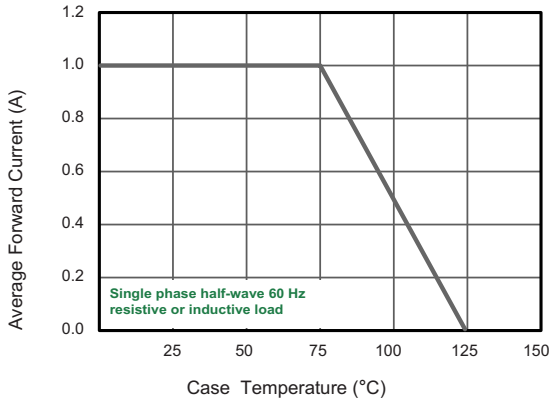


Fig.2 Typical Reverse Characteristics

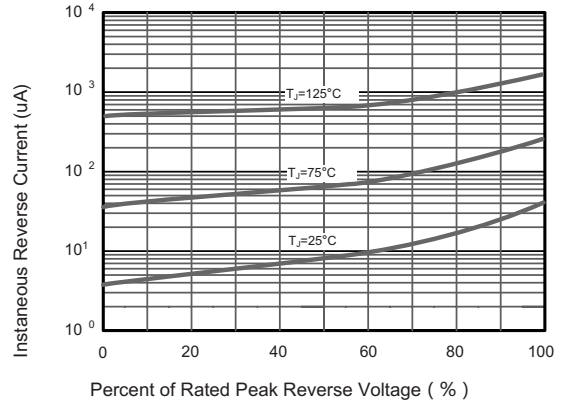


Fig.3 Typical Forward Characteristic

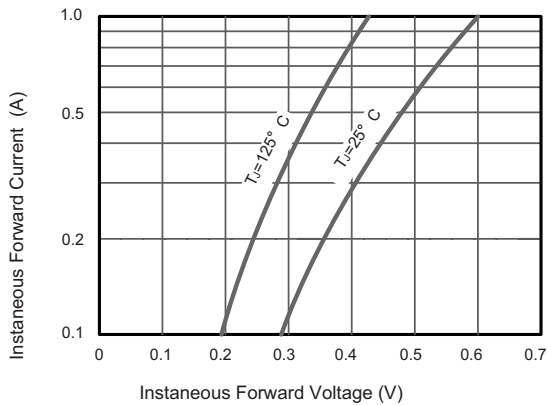


Fig.4 Typical Junction Capacitance

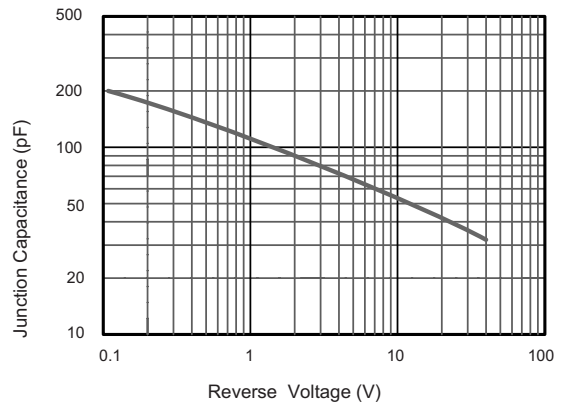
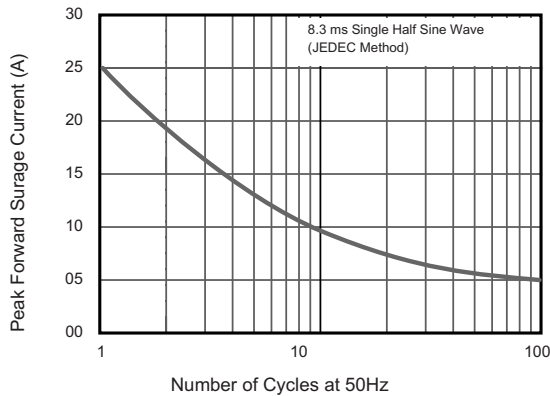


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



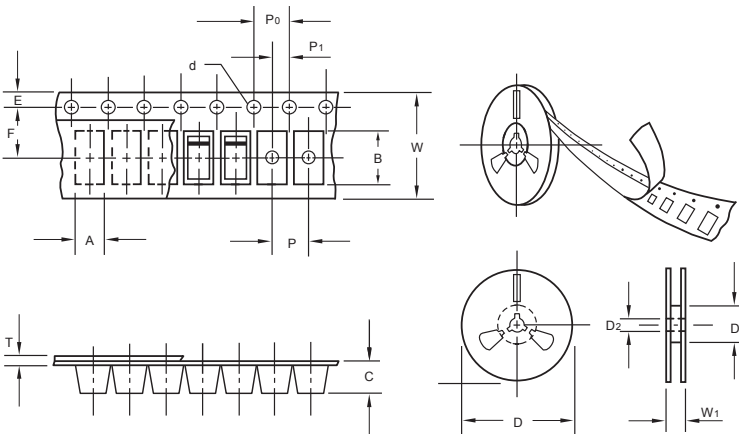
The curve above is for reference only.



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Packing information



unit:mm

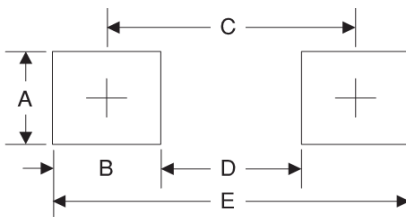
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W ₁	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173

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