



B5817WS THRU B5819WS

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 polanty protection applications

SOD-323



Mechanical Data

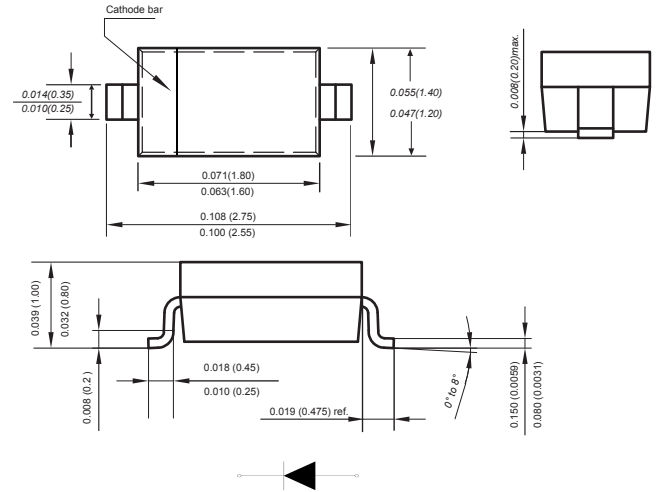
Case : JEDEC SOD-323 molded plastic body

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



Dimensions in inches and (millimeters)

Absolute Maximum Ratings at 25 °C

PARAMETER	SYMBOLS	B5817WS	B5818WS	B5819WS	UNITS
Peak repetitive peak reverse voltage	V_{RRM}				
Working peak	V_{RWM}	20	30	40	V
DC Blocking voltage	V_R				
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}		9		A
Repetitive peak forward current	I_{FRM}		625		mA
Power dissipation	P_d		500		mW
Thermal resistance junction to ambient	$R_{\theta JA}$		200		°C/W
Storage temperature	T_{STG}		-65 to +150		°C
Non-Repetitive peak reverse voltage	V_{RM}	20	30	40	V

Characteristics at $T_a = 25\text{ °C}$

PARAMETER	SYMBOLS	Min.	Max.	Unit	Test conditions	
Reverse breakdown voltage	$V_{(BR)}$	20		V	$I_R = 1\text{mA}$	B5817WS
		30		V		B5818WS
		40		V		B5819WS
Reverse voltage leakage current	I_R		1	mA	$V_R = 20\text{V}$	B5817WS
					$V_R = 30\text{V}$	B5818WS
					$V_R = 40\text{V}$	B5819WS
Forward voltage	V_F		0.45	V	$I_F = 1\text{A}$ $I_F = 3\text{A}$	B5817WS
			0.55	V		B5818WS
			0.875	V		B5819WS
Diode capacitance	C_D		120	pF	$V_R = 4\text{V}, f = 1.0\text{MHz}$	



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Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

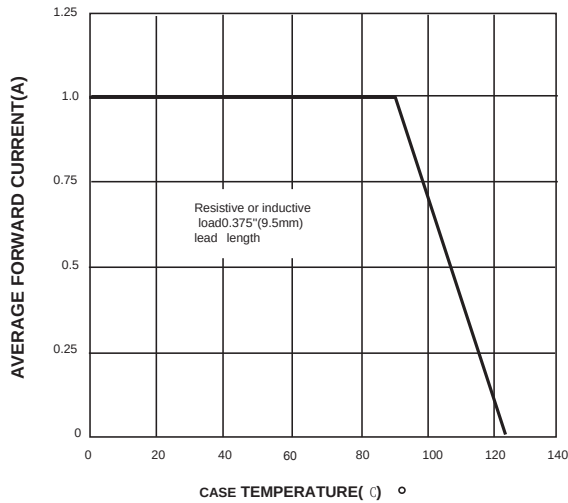


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

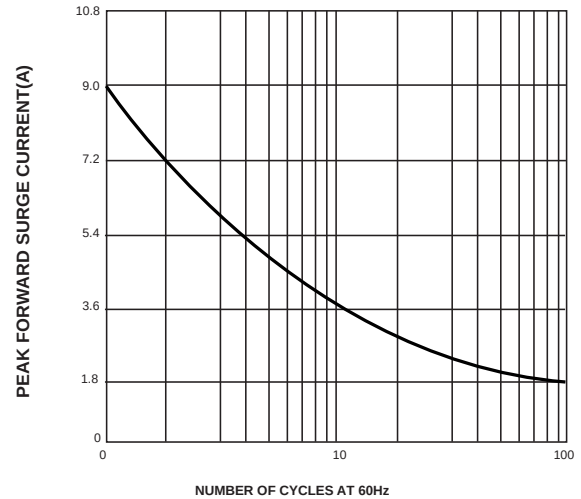


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

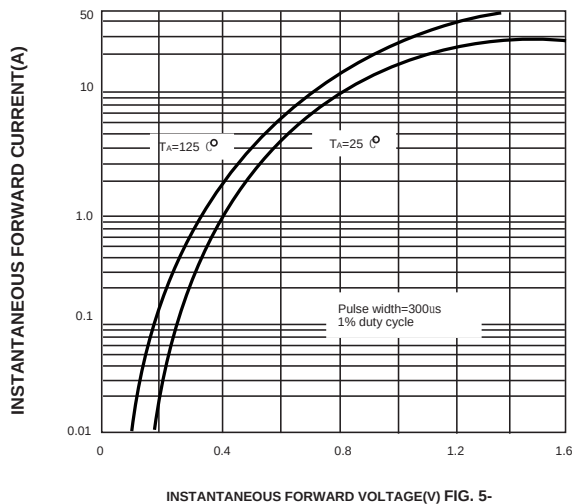


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

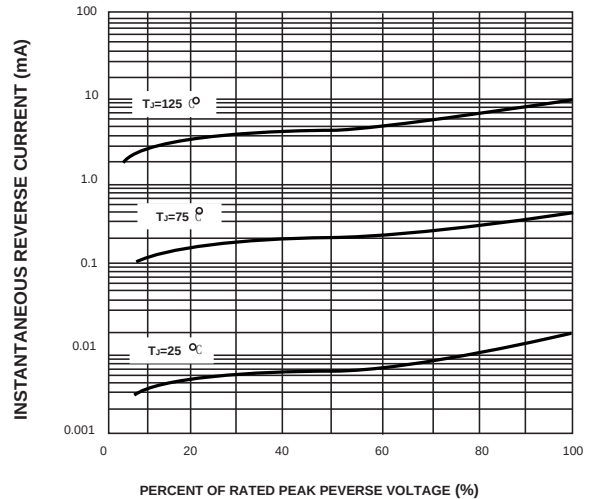


FIG. 5- TYPICAL JUNCTION CAPACITANCE

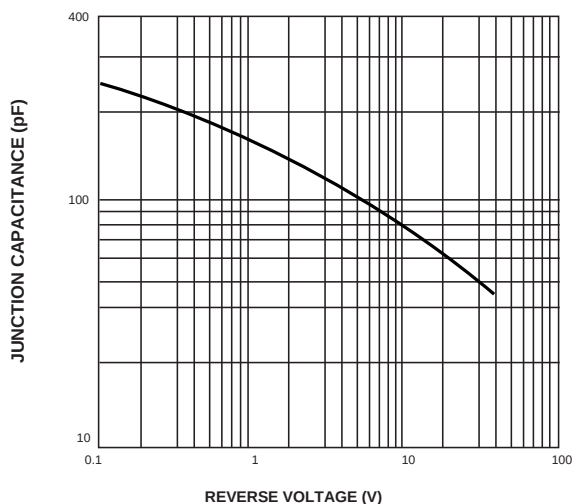
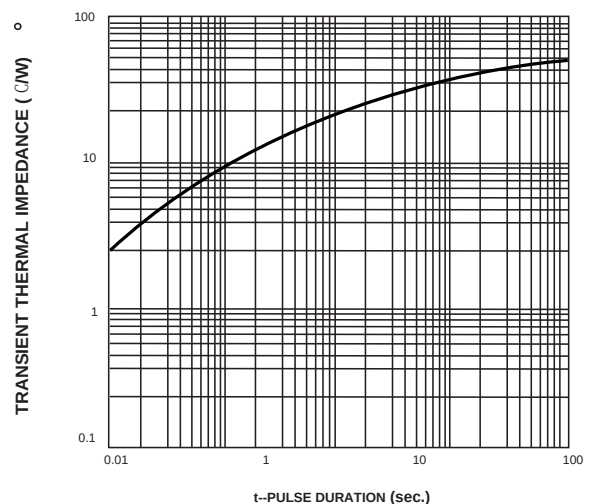


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



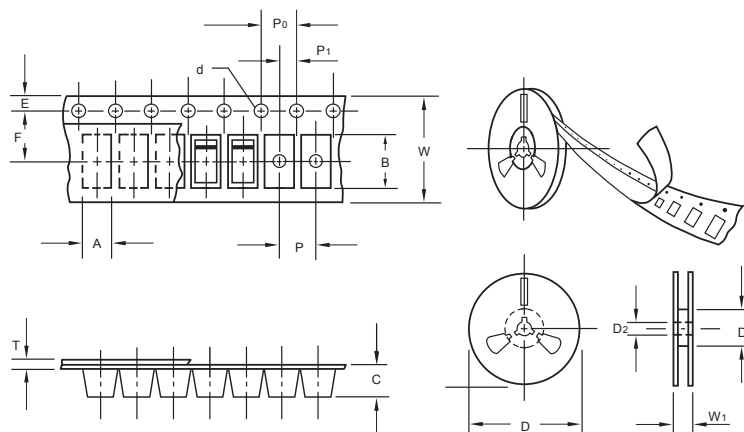
The curve above is for reference only.



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Packing information



unit:mm

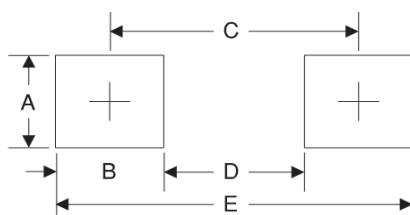
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D1	min	50.0
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W1	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-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	0.7	0.028
B	0.7	0.028
C	2.15	0.085
D	1.8	0.071
E	2.85	0.112

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