

SDB(S)12 - SDB(S)115

1.0 AMP. Schottky Barrier Bridge Rectifiers



Features

- ✧ Metal to silicon rectifier, majority carrier conduction
- ✧ Low forward voltage drop
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carriers Underwriters Laboratory Classification 94V-0
- ✧ Epitaxial construction
- ✧ High temperature soldering: 260°C/ 10 seconds at terminals

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free.
- ✧ Polarity: Indicated by cathode band

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

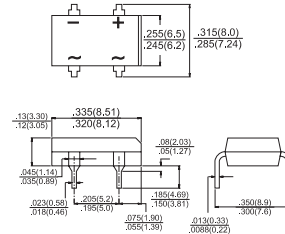
Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

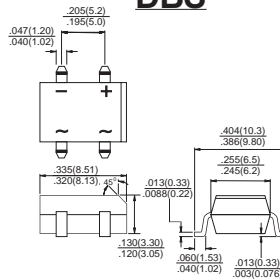
Type Number	Symbol	SDB	SDB	SDB	SDB	SDB	SDB	SDB	SDB	Units	
		12	13	14	15	16	19	110	115		
		SDBS	SDBS	SDBS	SDBS	SDBS	SDBS	SDBS	SDBS		
		12	13	14	15	16	19	110	115		
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	90	100	150	V	
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	63	70	105	V	
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	90	100	150	V	
Maximum Average Forward Rectified Current at T_L (See Fig. 1)	$I_{(AV)}$	1.0								A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	30								A	
Maximum Instantaneous Forward Voltage (Note 1) @ 1.0A	V_F	0.5			0.75		0.80		0.95	V	
Maximum DC Reverse Current @ $T_A = 25^\circ C$ at Rated DC Blocking Voltage @ $T_A = 100^\circ C$	I_R	0.4					0.1				mA
		10			5.0		0.5				mA
Typical Junction Capacitance (Note 3)	C_j	50								pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JL}$	28								$^\circ C / W$	
	$R_{\theta JA}$	88									
Operating Temperature Range	T_J	-65 to +125				-65 to +150					$^\circ C$
Storage Temperature Range	T_{STG}	-65 to +150									$^\circ C$

- Notes:
1. Pulse Test with PW=300 usec, 1% Duty Cycle
 2. Measured on P.C.Board with 0.5" x 0.5" (12 mm x 12mm) Copper Pad Areas.
 3. Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

DB



DBS



Dimensions in inches and (millimeters)

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RATINGS AND CHARACTERISTIC CURVES (SDB(S)12 THRU SDB(S)115)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

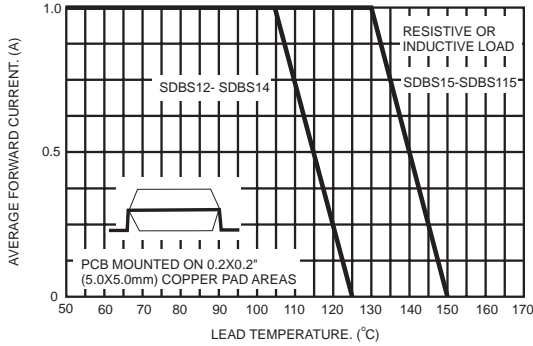


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

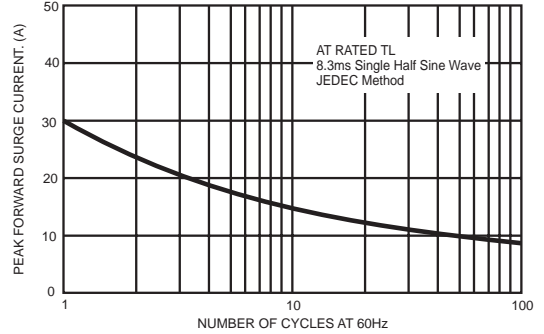


FIG.3- TYPICAL FORWARD CHARACTERISTICS

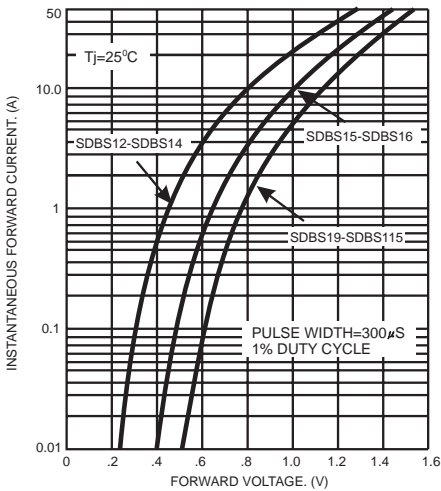


FIG.4- TYPICAL REVERSE CHARACTERISTICS

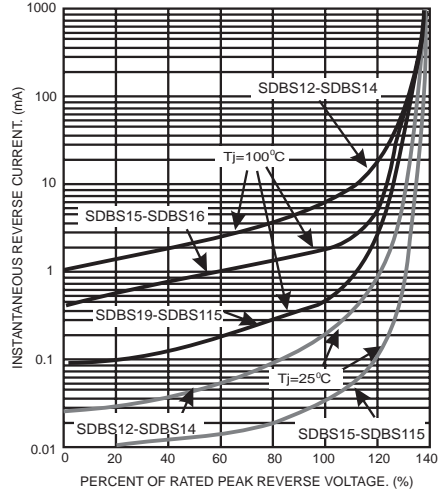


FIG.5- TYPICAL JUNCTION CAPACITANCE

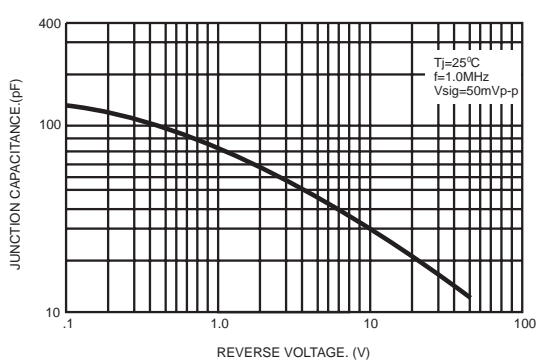


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

