

B0520LW, B0530W, B0540W

0.5AMP Surface Mount Schottky Barrier Rectifiers

SOD-123

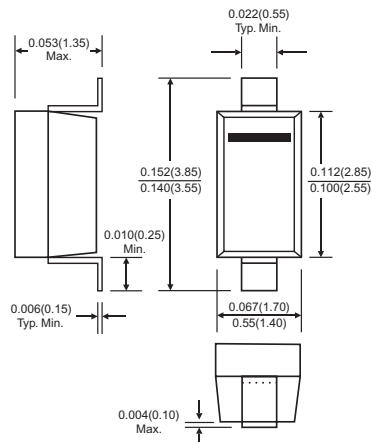


Features

- ✧ Low power loss, high efficiency.
- ✧ Guard ring construction for transient protection
- ✧ High conductance

Mechanical Data

- ✧ Case: SOD-123, plastic
- ✧ Terminals: Solderable per MIL-STD-202, Method 208
- ✧ Marking: Date Code and Type Code
Type Code: B0520LW Marking: TSD
B0530W Marking: TSE
B0540W Marking: TSF
- ✧ Weight: 0.01 grams (approx.)



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	B0520LW	B0530W	B0540W	Units
Peak Repetitive Reverse Voltage	VRRM	20	30	40	V
Working Peak Reverse Voltage	VRWM				
DC Blocking Voltage	VR				
RMS Reverse Voltage	VR(RMS)	14	21	28	V
Average Rectified Current @ TL=100 °C	Io	0.5			A
Non-repetitive Peak Forward Surge Current 8.3ms Single half Sine-Wave Superimposed on Rated Load (JEDEC Method)	IFSM	5.5			A
Power Dissipation (Note 1)	Pd	410			mW
Thermal Resistance Junction to Ambient Air (Note 1)	RθJA	244			°C /W
Operating and Storage Temperature Range	TJ, TSTG	-65 to + 125			°C
Voltage Rate of Chang	dv / dt	1000			V/uS

Electrical Characteristics

Type Number	Symbol	B0520LW	B0530W	B0540W	Units
Minimum Reverse Breakdown Voltage IR=250uA IR=130uA IR=20uA	V(BR)	20 - -	- 30 -	- - 40	V
Maximum Reverse Leakage Current (Note 2) VR=10V TJ=25 °C VR=15V TJ=25 °C VR=20V TJ=25 °C VR=30V TJ=25 °C VR=40V TJ=25 °C VR=10V TJ=100 °C VR=20V TJ=100 °C VR=40V TJ=100 °C	IR	1.0 - 250 - - 5.0 8.0 -	- 20 130 - - - - -	- - 10 - 20 - 5.0 13	uA mA
Maximum Forward Voltage Drop (Note 2) TJ=25 °C IF=0.1A TJ=25 °C IF=0.5A TJ=25 °C IF=1.0A TJ=100 °C IF=0.1A TJ=100 °C IF=0.5A TJ=100 °C IF=1.0A	VF	0.300 0.385 - 0.220 0.330 -	0.375 0.430 - - - -	- 0.510 0.620 - 0.460 0.610	V
Junction Capacitance VR=0, f=1.0MHz	Cj	170			pF

- Notes:
1. Valid Provided that Leads are Kept at Ambient Temperature.
 2. Pulse Test: Pulse width = 300uS, Duty cycle ≤2%.
 3. dv / dt Measured at Rated VR.

RATINGS AND CHARACTERISTIC CURVES (B0520LW, B0530W, B0540W)

FIG.1- FORWARD CURRENT DERATING CURVE

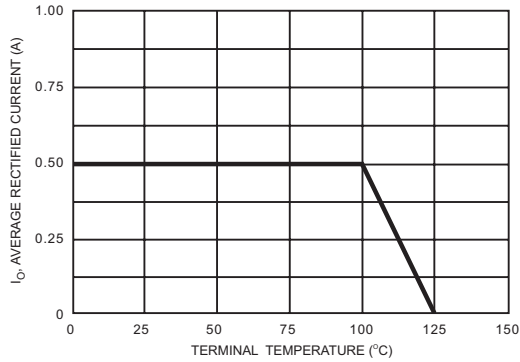


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

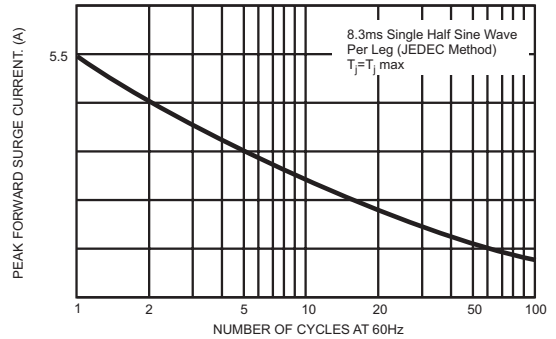


FIG.3- TYPICAL FORWARD CHARACTERISTICS

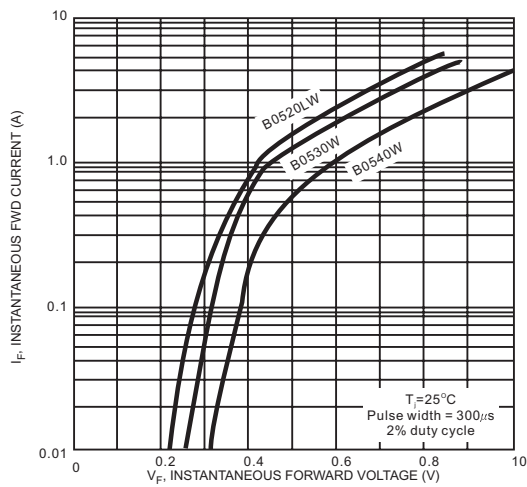


FIG.4- TYPICAL REVERSE CHARACTERISTICS

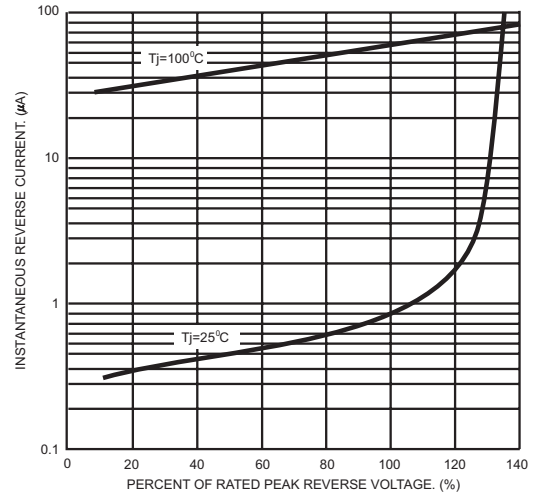


FIG.5- TYP. JUNCTION CAPACITANCE VS REVERSE VOLTAGE

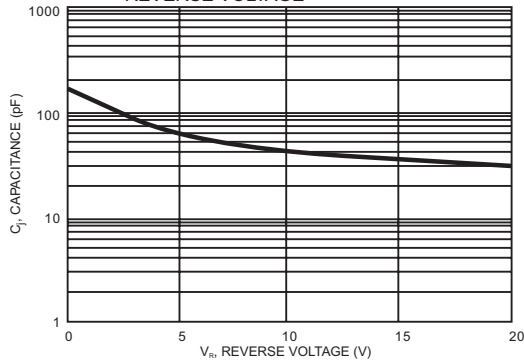


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

