



B0520WS THRU B0540WS

Reverse Voltage 20-40 Volts Forward Current - 0.5 Ampere

SCHOTTKY BARRIER RECTIFIERS

Features

- ◆ Low forward voltage drop
- ◆ Guard ring construction for transient protection
- ◆ High conductance
- ◆ Also available in lead free version

SOD-323



Mechanical Data

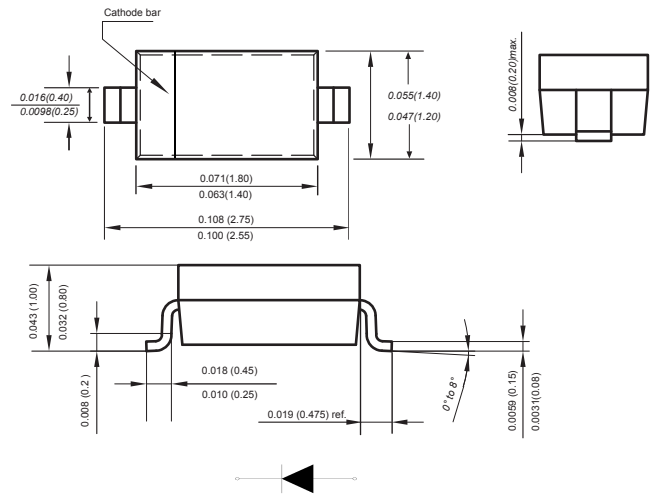
Case: JEDEC SOD-323 molded plastic body

Terminals: Plated leads solderable per MIL-STD-750, Method 2026

Polarity: Polarity symbols marked on case

Weight: 0.00019 ounce, 0.00548 grams

Marking: B0520WS:SD, B0530WS:SE, B0540WS:SF



Dimensions in inches and (millimeters)

Absolute Maximum Ratings at 25 °C

Parameter	Symbols	B0520WS	B0530WS	B0540WS	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	V
Maximum RMS voltage	V_{RMS}	14	21	28	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	
Average rectified output current	I_o	0.5			A
Non-repetitive Peak Forward Surge Current at 8.3ms	I_{FSM}	22			A
Typical Thermal Resistance (1)	$R_{\theta JA}$	500			°C/W
Operating Temperature Range	T_j	-55 ~ +125			°C
Storage Temperature Range	T_{stg}	-55 ~ +150			°C

(1) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

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

Parameter	Symbols	B0520WS	B0530WS	B0540WS	Units
Maximum Forward Voltage at I_f	V_F	at 0.1A	0.33	0.36	V
		at 0.5A	0.39	0.45	
		at 1.0A	—	—	
Peak Reverse Current at V_R	I_R	at 10V	75	—	uA
		at 15V	—	75	
		at 20V	250	100	
		at 30V	—	500	
		at 40V	—	—	



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Typical Characteristics

Fig.1 Forward Current Derating Curve

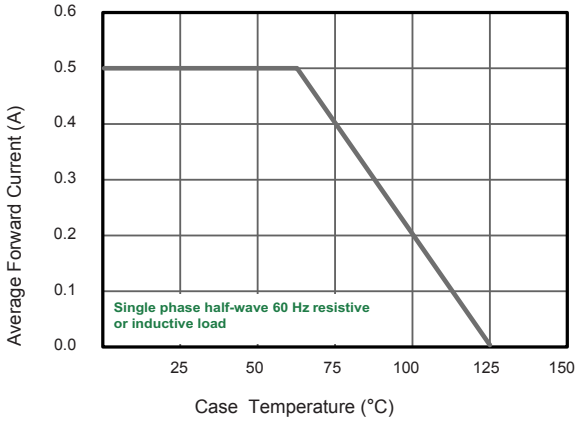


Fig.2 Typical Reverse Characteristics

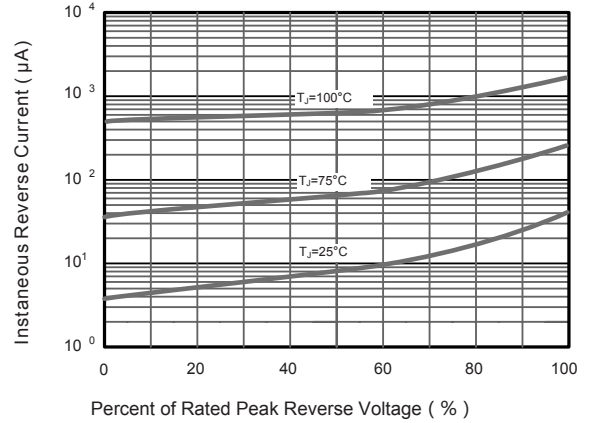


Fig.3 TYPICAL FORWARD VOLTAGE

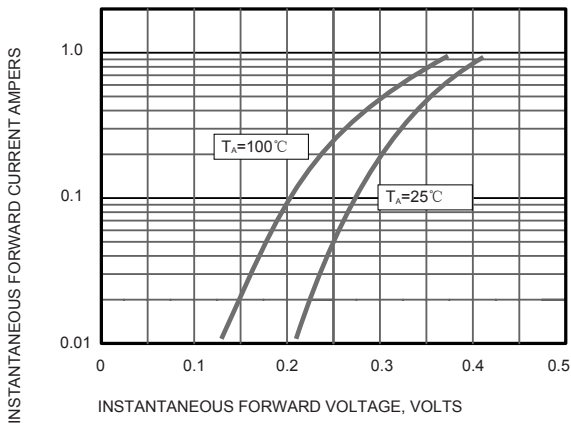


Fig.4 Typical Junction Capacitance

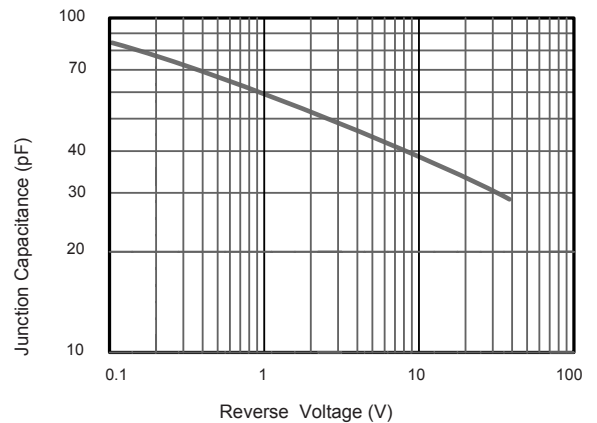


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

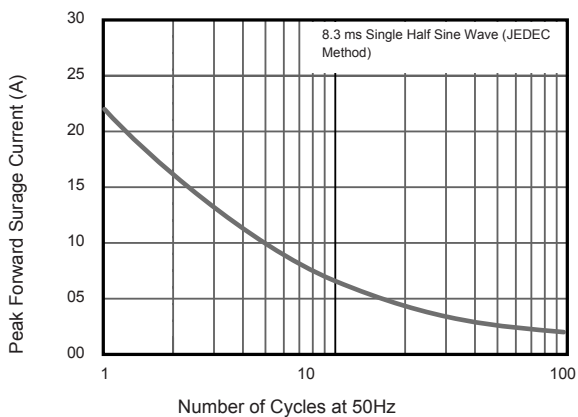
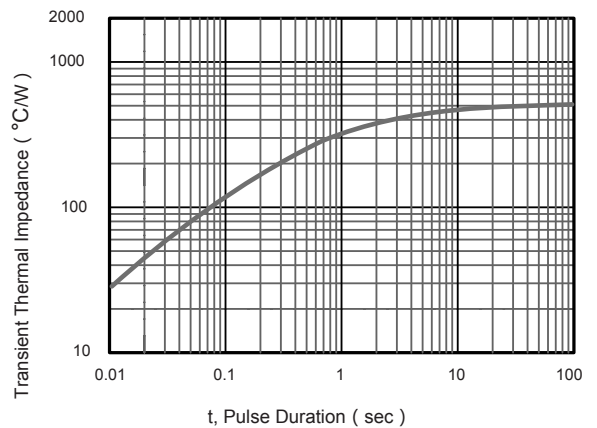


Fig.6 Typical Transient Thermal Impedance



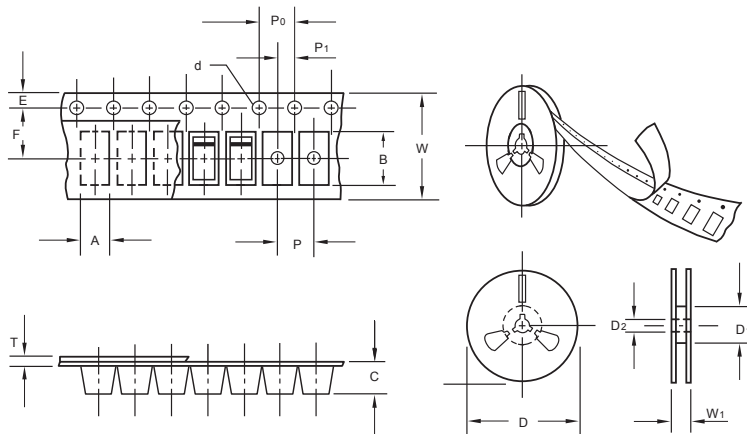
The curve above is for reference only.



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Packing information



unit:mm

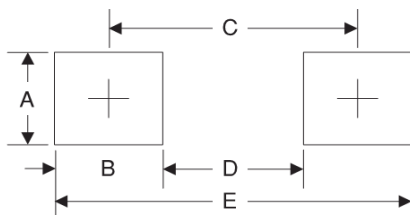
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
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-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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