

## Small Signal Product

**Low VF SMD Schottky Barrier Diode**
**FEATURES**

- Low power loss, high current capability, low VF
- Surface mount device type
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Packing code with suffix "G" means green compound (halogen-free)


**SOD-123**

**MECHANICAL DATA**

- Case: Bend lead SOD-123 small outline plastic package
- Terminal: Matte tin plated, lead free, solderable per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed : 260°C/10s
- Polarity: Indicated by cathode band
- Weight: 0.01 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)					
PARAMETER	SYMBOL	B0520LW	B0530W	B0540W	UNIT
Power Dissipation	P <sub>D</sub>	410			mW
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	V
Reverse Voltage	V <sub>R</sub>	14	21	28	V
Mean Forward Current @ T <sub>L</sub> =100°C (Lead Temperature)	I <sub>O</sub>	500			mA
Non-Repetitive Peak Forward Surge Current (Note 1)	I <sub>FSM</sub>	5.5			A
Thermal Resistance (Junction to Ambient) (Note 2)	R <sub>θJA</sub>	244			°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +125			°C

Notes: 1. Test Condition: 8.3ms single half sine-wave superimposed on rated load

Notes: 2. Valid provided that electrodes are kept at ambient temperature

PARAMETER	SYMBOL	B0520LW	B0530W	B0540W	UNIT	
Reverse Breakdown Voltage (Minimum Value)	V <sub>(BR)</sub>	I <sub>R</sub> =250μA	20	-	-	V
		I <sub>R</sub> =130μA	-	30	-	
		I <sub>R</sub> =20μA	-	-	40	
Forward Voltage (Maximum Value)	V <sub>F</sub>	I <sub>F</sub> =100mA	0.300	0.375	-	V
		I <sub>F</sub> =500mA	0.385	0.430	0.510	
		I <sub>F</sub> =1000mA	-	-	0.620	
Reverse Leakage Current (Maximum Value)	I <sub>R</sub>	V <sub>R</sub> = 10V	75	-	-	μA
		V <sub>R</sub> = 15V	-	20	-	
		V <sub>R</sub> = 20V	250	-	10	
		V <sub>R</sub> = 30V	-	130	-	
		V <sub>R</sub> = 40V	-	-	20	
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> = 0 V	f=1.0MHz		170	pF

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Fig.1 Typical Forward Characteristics

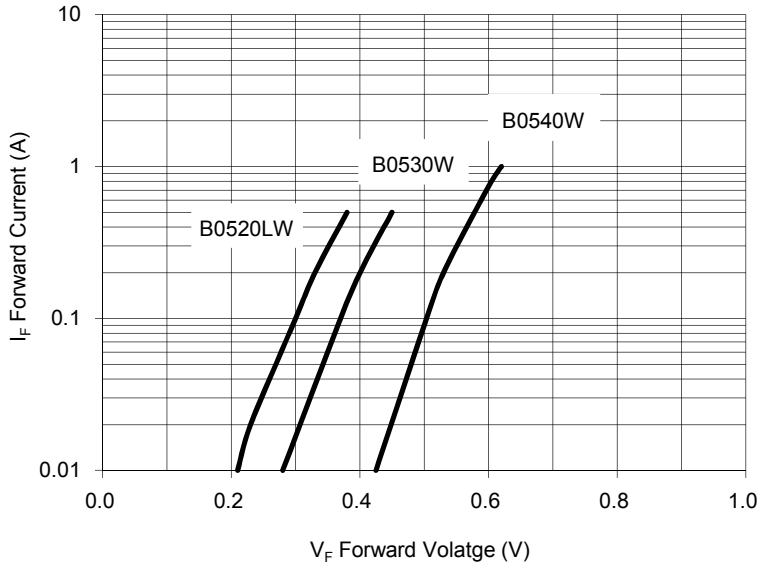


Fig. 2 Forward Current Derating Curve

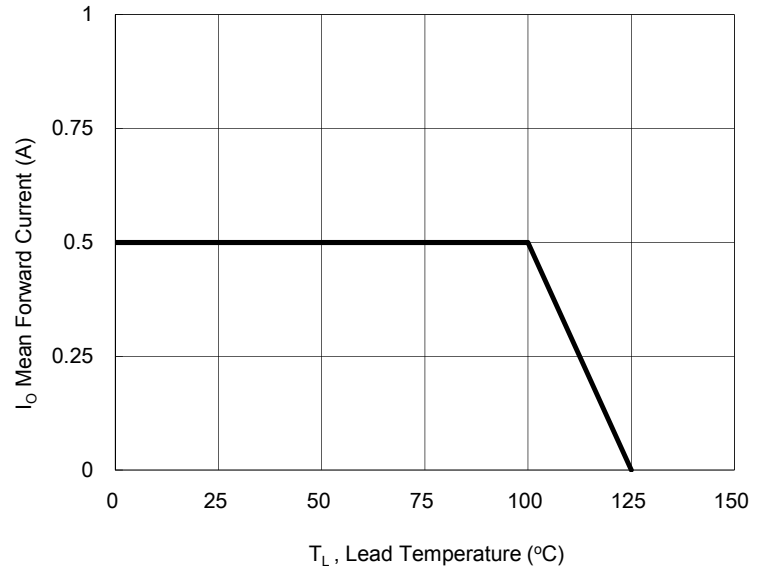


Fig. 3 Admissible Power Dissipation Curve

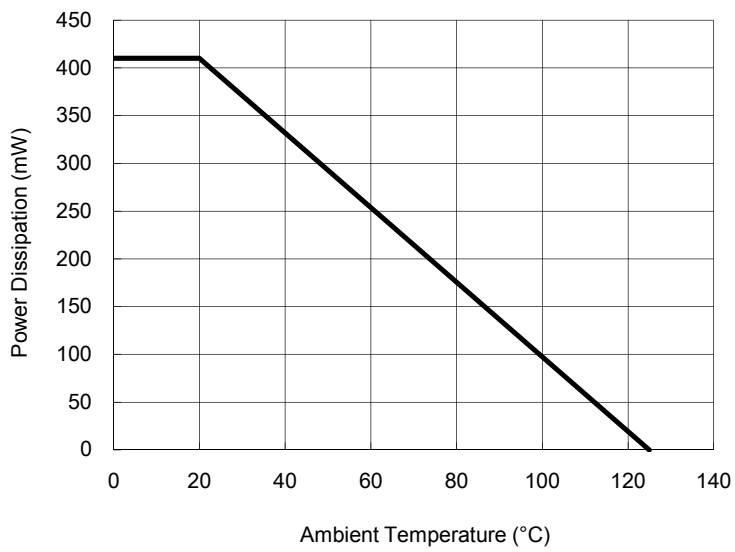
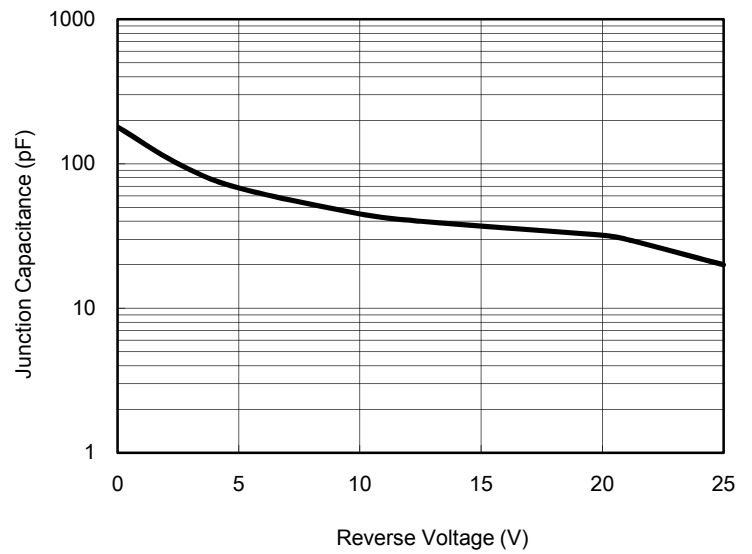


Fig. 4 Typical Junction Capacitance



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ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX (Note 2)	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
B05xxx (Note 1)	-xx	RF	G	SOD-123	3K / 7" Reel

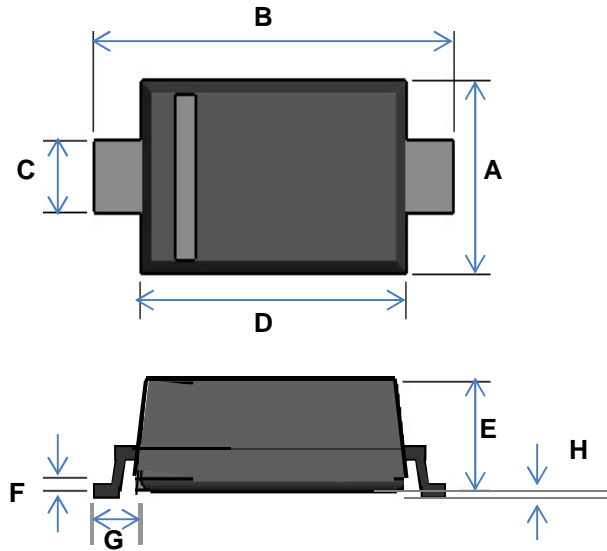
Note 1: "xxx" defines voltage from 20V (B0520LW) to 40V (B0540W)

Note 2: Part No. Suffix „-xx “ would be used for special requirement

EXAMPLE					
PREFERRED PART NO.	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
B0540W RF	B0540W		RF		Multiple manufacture source
B0540W RFG	B0540W		RF	G	Multiple manufacture source Green compound
B0540W-D0 RFG	B0540W	-D0	RF	G	Define manufacture source Green compound

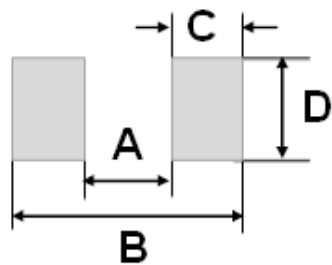
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PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.40	1.80	0.055	0.071
B	3.55	3.85	0.140	0.152
C	0.45	0.70	0.018	0.028
D	2.55	2.85	0.100	0.112
E	0.95	1.35	0.037	0.053
F	0.05	0.15	0.002	0.006
G	0.50 REF		0.02 REF	
H	-	0.10	-	0.004

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
A	2.36	0.093
B	4.19	0.165
C	0.91	0.036
D	1.22	0.048

MARKING

Part No.	Marking
B0520LW	SD
B0530W	SE
B0540W	SF

Small Signal Product

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