

Small Signal Product

### Low VF SMD Schottky Barrier Diode

**FEATURES**

- Surface device type mounting
- Moisture sensitivity level 1
- Packing code with suffix "G" means green compound (halogen-free)



SOD-123F



**MECHANICAL DATA**

- Case: Flat 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: 8.85 ± 0.5 mg

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)					
PARAMETER	SYMBOL	B0520LWF	B0530WF	B0540WF	UNIT
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	20	30	40	V
Reverse Voltage	V <sub>R</sub>	20	30	40	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 Lead)	R <sub>θJL</sub>	150		118	°C/W
Thermal Resistance (Junction to Ambient) (Note 2)	R <sub>θJA</sub>	340	206		
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +125		-65 to +150	°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	B0520LWF	B0530WF	B0540WF	UNIT
Forward Voltage	I <sub>F</sub> = 0.1 A	V <sub>F</sub>	0.300	0.375	-	V
	I <sub>F</sub> = 0.5 A		0.385	0.500	0.510	
	I <sub>F</sub> = 1.0 A		-	-	0.620	
	I <sub>F</sub> = 0.1 A , Ta = 100°C		0.220	-	-	
	I <sub>F</sub> = 0.5 A , Ta = 100°C		0.330	-	0.460	
	I <sub>F</sub> = 1.0 A , Ta = 100°C		-	-	0.610	
Reverse Leakage Current	V <sub>R</sub> = 10V	I <sub>R</sub>	75	-	-	μA
	V <sub>R</sub> = 20V		250	-	10	
	V <sub>R</sub> = 10V , Ta = 100°C		5	-	-	mA
	V <sub>R</sub> = 20V , Ta = 100°C		8	-	5	
	V <sub>R</sub> = 15V		-	20	-	μA
	V <sub>R</sub> = 30V		-	130	-	
	V <sub>R</sub> = 40V		-	-	20	
	V <sub>R</sub> = 40V , Ta = 100°C		-	-	13	mA

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### RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

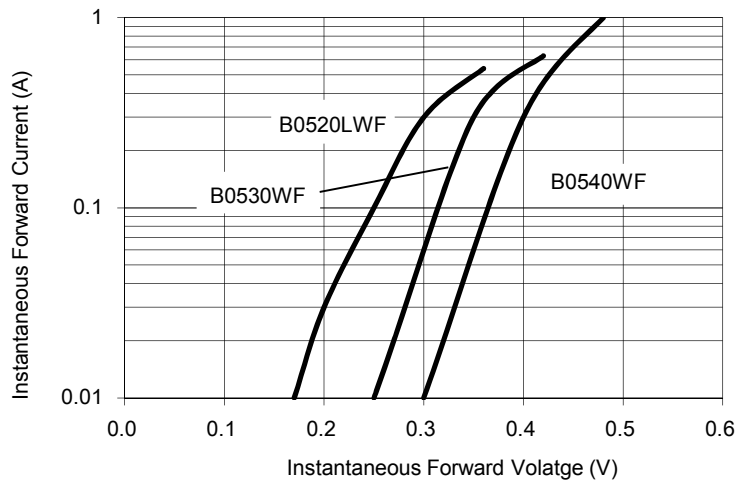


Fig. 2 Forward Current Derating Curve

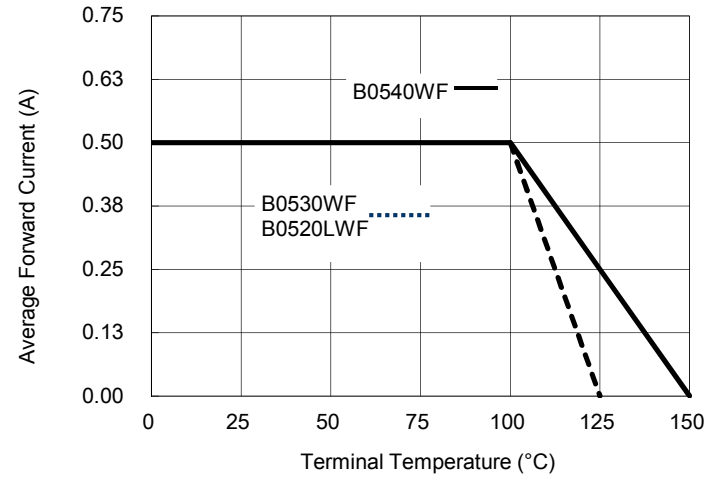
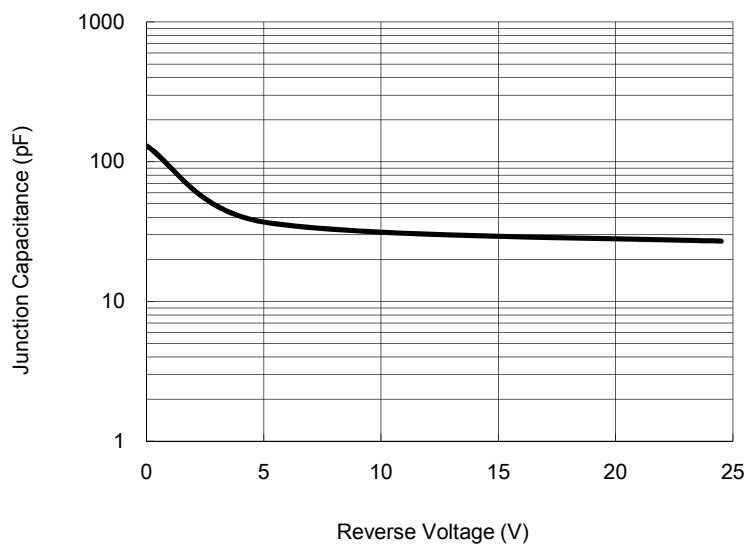


Fig. 3 Typical Junction Capacitance



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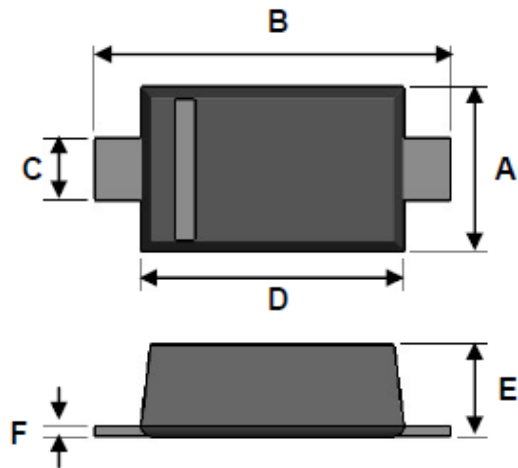
ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX (Note 2)	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
B05xxxF (Note 1)	-xx	RH	G	SOD-123F	3K / 7" Reel

Note 1: "xxx" defines voltage from 20V (B0520LWF) to 40V (B0540WF)  
 Note 2: Part No. Suffix „-xx “ would be used for special requirement

EXAMPLE					
PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
B0540WF RH	B0540WF		RH		Multiple manufacture source
B0540WF RHG	B0540WF		RH	G	Multiple manufacture source Green compound
B0540WF-B0 RHG	B0540WF	-B0	RH	G	Define manufacture source Green compound

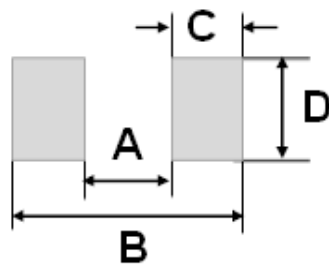
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PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.50	1.70	0.059	0.067
B	3.30	3.90	0.130	0.154
C	0.50	0.70	0.020	0.028
D	2.50	2.70	0.098	0.106
E	0.80	1.15	0.031	0.045
F	0.05	0.20	0.002	0.008

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
B0520LWF	SD
B0530WF	SE
B0540WF	SQ

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