

GSDB520-1 Series

Surface Mount Schottky Barrier Rectifiers

Product Description

Reverse Voltage 20V TO 200V Forward Current 5.0A

Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance
- Low profile surface mounted application in order to optimize board space
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- Guard ring for overvoltage protection
- Ultra high-speed switching
- Silicon epitaxial planar chip, metal silicon junction
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical Data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SMC-1
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : Approximated 0.19 grams

Packages

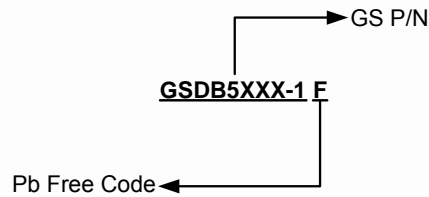


SMC-1

Marking Information

P/N	Package	Part Marking
GSDB520-1F	SMC-1	SS52
GSDB530-1F	SMC-1	SS53
GSDB540-1F	SMC-1	SS54
GSDB550-1F	SMC-1	SS55
GSDB560-1F	SMC-1	SS56
GSDB580-1F	SMC-1	SS58
GSDB5100-1F	SMC-1	S510
GSDB5150-1F	SMC-1	S515
GSDB5200-1F	SMC-1	S520

Ordering Information



Part Number	Package	Quantity
GSDB520-1F Series	SMC-1	3000 PCS

Electrical Characteristics

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

Symbol	Conditions	B520-1	B530-1	B540-1	B550-1	B560-1	Unit
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	20	30	40	50	60	V
V_{RMS}	Maximum RMS Voltage	14	21	28	35	42	V
V_R	Continuous Reverse Voltage	20	30	40	50	60	V
V_F	Maximum Forward Voltage @ $I_F=5.0\text{A}$	0.5		0.7			V
Symbol	Conditions	B580-1	B5100-1	B5150-1	B5200-1	Unit	
V_{RRM}	Maximum Repetitive Peak Reverse Voltage	80	100	150	200	V	
V_{RMS}	Maximum RMS Voltage	56	70	105	140	V	
V_R	Continuous Reverse Voltage	80	100	150	200	V	
V_F	Maximum Forward Voltage @ $I_F=5.0\text{A}$	0.85		0.90	0.92	V	
I_R	Maximum DC Reverse Current At Rated DC Blocking Voltage	$T_A=25^\circ\text{C}$	0.5			mA	
		$T_A=100^\circ\text{C}$	20				
C_J	Typical Junction Capacitance	380			pF		
I_O	Forward Rectified Current	5.0			A		
I_{FSM}	Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	150			A		
$R_{\theta JA}$	Thermal Resistance Junction to Ambient	40			$^\circ\text{C/W}$		
$R_{\theta JC}$	Thermal Resistance Junction to Case	20			$^\circ\text{C/W}$		
T_J	Operating Temperature Range	-55 to +125			$^\circ\text{C}$		
T_{STG}	Storage Temperature Range	-65 to +175			$^\circ\text{C}$		

Typical Characteristics

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

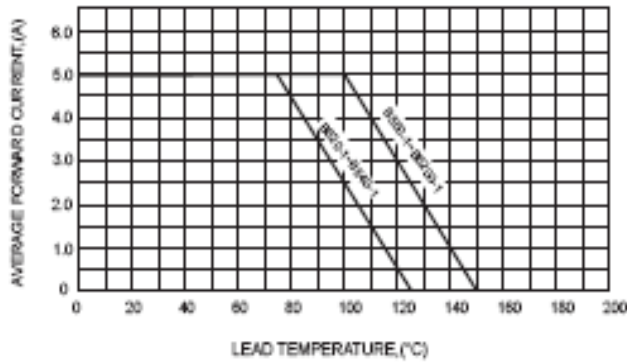


FIG.2-TYPICAL FORWARD CHARACTERISTICS

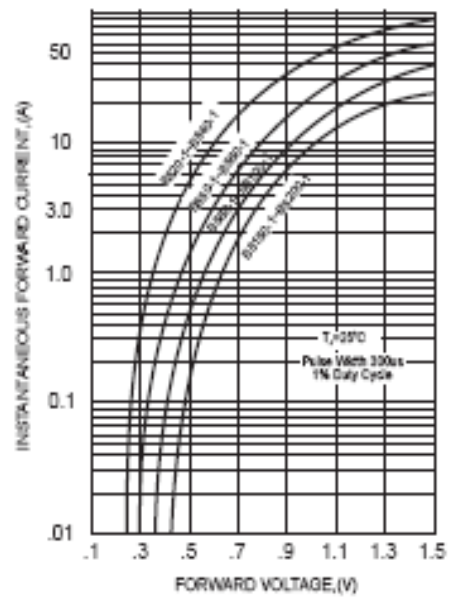


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

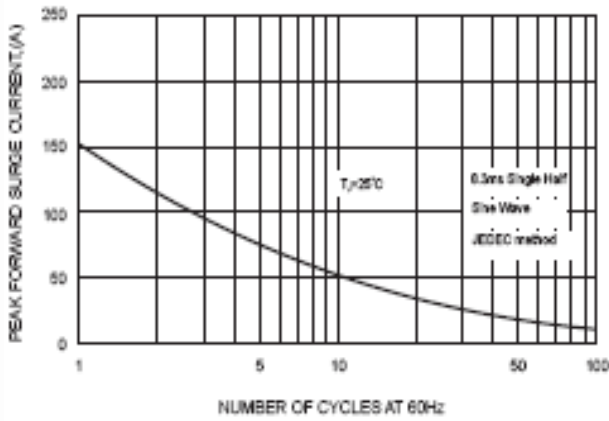


FIG.4-TYPICAL JUNCTION CAPACITANCE

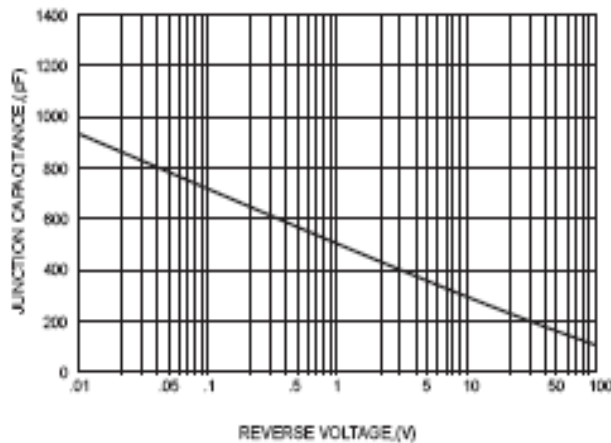
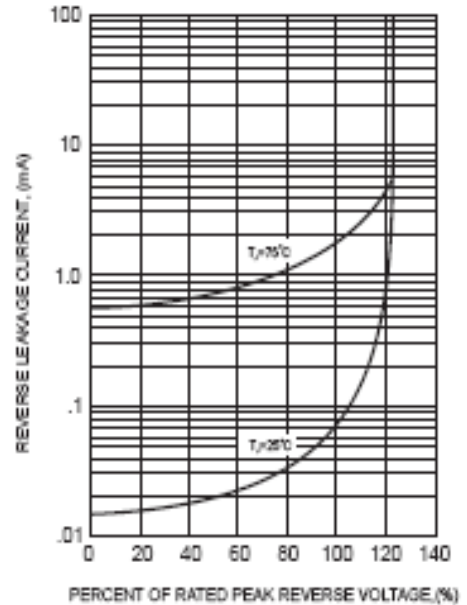
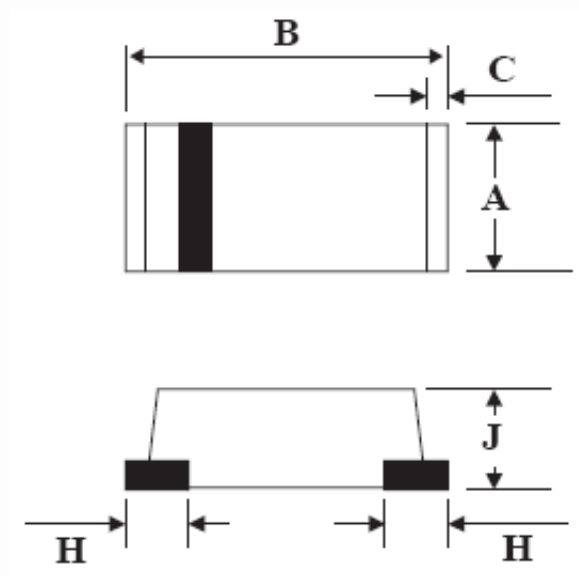


FIG.5 - TYPICAL REVERSE CHARACTERISTICS



Package Dimension

SMC-1



Dimensions				
Symbol	Millimeters		Inches	
	Min	Max	Min	Max
A	4.20	4.80	0.165	0.189
B	6.30	6.90	0.248	0.272
C	0.30(TYP)	-	0.012(TYP)	-
H	1.20(TYP)	-	0.047(TYP)	-
J	1.90	2.50	0.075	0.098

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