Technical Data
Data Sheet N0869, Rev. C

SB120 THRU SB160 SCHOTTKY RECTIFIER

DO-41

Features

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- High Current Capability
- Low Power Loss, High Efficiency
- High Surge Current Capability
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Green Products in Compliance with the RoHS Directive
- This is a Pb − Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram

Mechanical Data

- Case: JEDEC DO-41 molded plastic body
- Terminals: Plated axial leads, solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight:0.012 ounce, 0.34 grams

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristics	Symbol	SB120	SB130	SB140	SB150	SB160	Units
Maximum repetitive peak reverse voltage Maximum DC blocking voltage	V_{RRM} V_{DC}	20	30	40	50	60	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	V
Maximum average forward rectified current 0.375"(9.5mm) lead length at T_L=100℃	$I_{(AV)}$	1.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	40					A
Maximum instantaneous forward voltage at 1.0A	V_F	0.55			0.70		V
Maximum DC reverse current T_A=25℃ at rated DC blocking voltage T_A=100℃	I_R	0.5 10					mA
Typical junction capacitance (Note 1)	C_J	110			80		pF
Typical thermal resistance junction to lead	$R_{\theta JL}$	15					℃/W
Typical thermal resistance junction to ambient(Note 2)	$R_{\theta JA}$	50.0					℃/W
Operating junction and storage temperature range	T_J,T_{STG}	-65 to +125					℃

Note: 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Thermal resistance from junction to ambient at 0.375”(9.5mm) lead length, P.C.B mounted.

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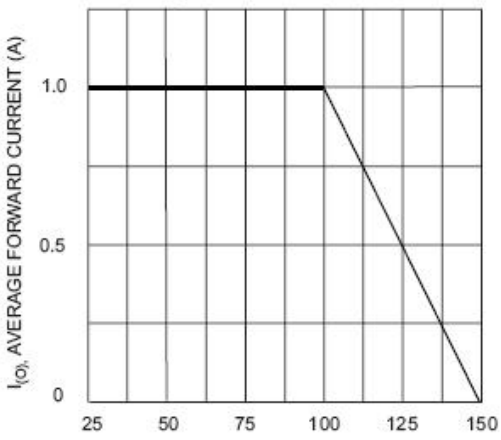
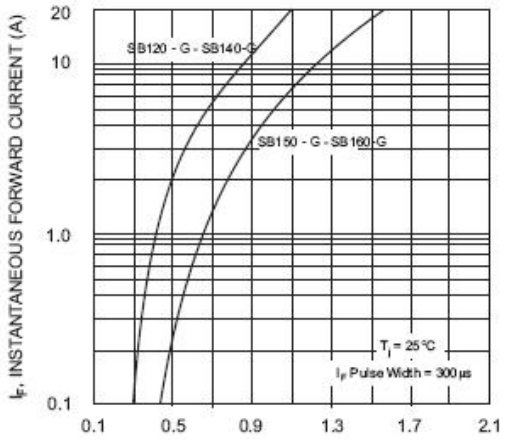
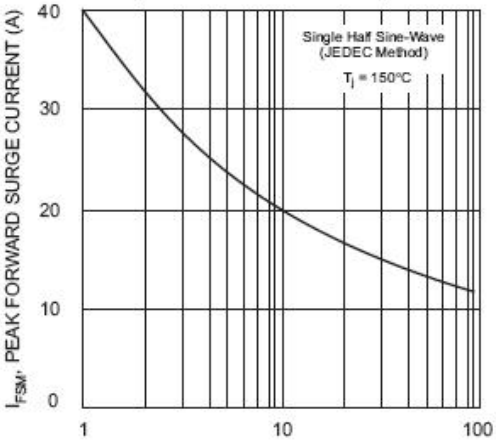
Ratings and Characteristics Curves



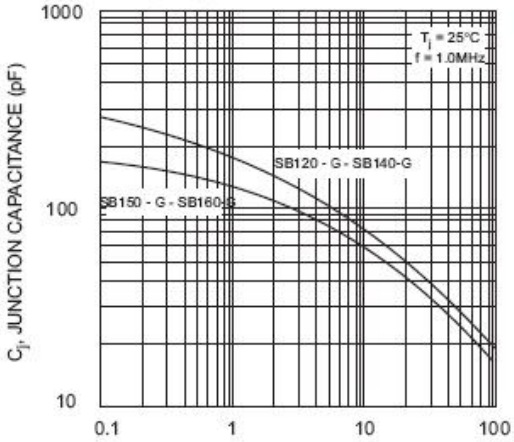
T_L, LEAD TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



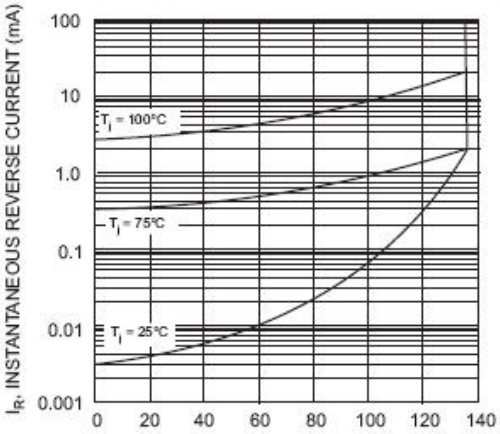
V_F, INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



NUMBER OF CYCLES AT 60 Hz
Fig. 3 Max Non-Repetitive Peak Fwd Surge Current



V_R, REVERSE VOLTAGE (V)
Fig. 4 Typical Junction Capacitance



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 5 Typical Reverse Characteristics

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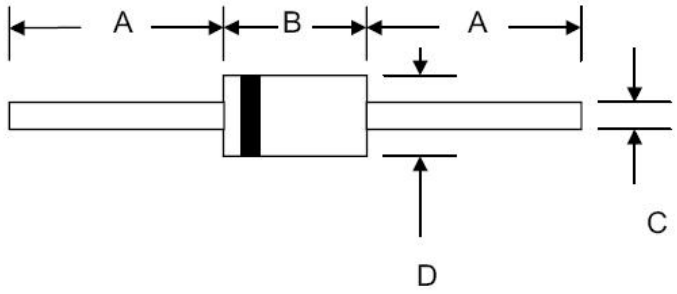
Mechanical Dimensions DO-41



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	25.4	-	1.000	-
B	4.06	5.21	0.160	0.205
C	0.71	0.864	0.028	0.034
D	2.00	2.72	0.079	0.107

Ordering Information

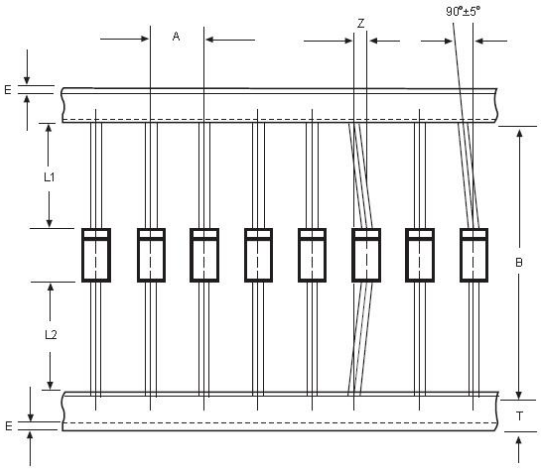
Device	Package	Shipping
SB120 THRU SB160	DO-41(Pb-Free)	5000pcs / tape

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram

SB120 = Part Name

Carrier Tape Specification DO-41



SYMBOL	Millimeters	
	Min.	Max.
A	4.50	5.50
B	50.9	53.9
Z	-	1.20
T	5.60	6.40
E	-	0.80
IL1-L2I	-	1.0

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