

## SB120E-G Thru. SB1100E-G

Voltage: 20 to 100 V

Current: 1.0 A

RoHS Device

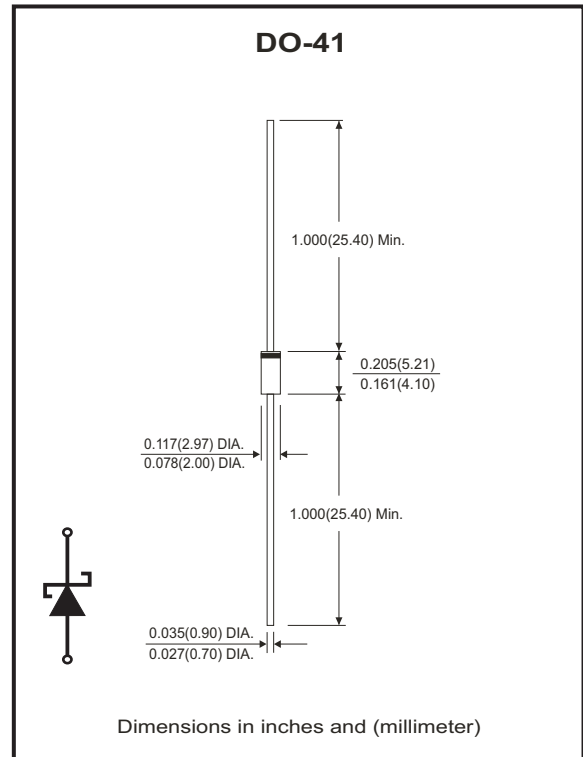


### Features

- Low drop down voltage.
- 1.0A operation at TA=75°C with no thermal runaway.
- For use in low voltage, high frequency invertors free wheeling and polarity protection.
- Silicon epitaxial planar chips.
- ESD test under IEC6100-4-2 : Standard: >15KV(Air) & 8KV(Contact).
- Lead-free part, meet RoHS requirements.

### Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic body DO-41
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.34 grams(approx.).



### Maximum Rating and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	SB 120E-G	SB 140E-G	SB 145E-G	SB 150E-G	SB 160E-G	SB 180E-G	SB 1100E-G	Unit
Maximum recurrent peak reverse voltage	V <sub>RRM</sub>	20	40	45	50	60	80	100	V
Maximum RMS voltage	V <sub>RMS</sub>	14	28	30	35	42	56	70	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	40	45	50	60	80	100	V
Maximum average forward rectified current 0.375" (9.5mm) lead length at TA=75°C, See Figure 1	I <sub(av)< sub=""></sub(av)<>	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) TL=110°C	I <sub>FSM</sub>	30							A
Maximum forward voltage at 1.0A (Note 1)	V <sub>F</sub>	0.50		0.70		0.85		V	
Maximum DC reverse current At rated DC blocking voltage	I <sub>R</sub>	0.5							mA
		10			5				
Typical junction capacitance (Note 2)	C <sub>J</sub>	110							pF
Typical thermal resistance (Note 3)	R <sub>θJA</sub>	80							°C/W
	R <sub>θJL</sub>	30							
Operating junction temperature range	T <sub>J</sub>	-65 to +125			-65 to +150				°C
Storage temperature range	T <sub>STG</sub>	-65 to +150							°C

**NOTES:**

1. Pulse test : 300µs pulse width, 1% duty cycle.
2. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
3. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted 0.375" (9.5mm) lead length

Company reserves the right to improve product design , functions and reliability without notice.

REV: B

## RATING AND CHARACTERISTIC CURVES (SB120E-G Thru. SB1100E-G)

Fig.1 - Forward Current Derating Curve

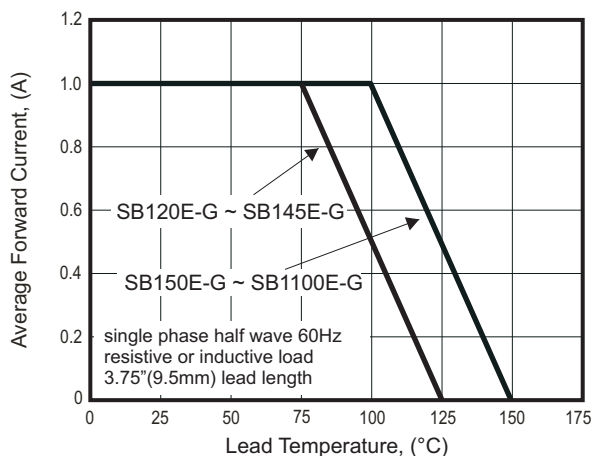


Fig.2 - Maximum Non-repetitive Peak Forward Surge Current

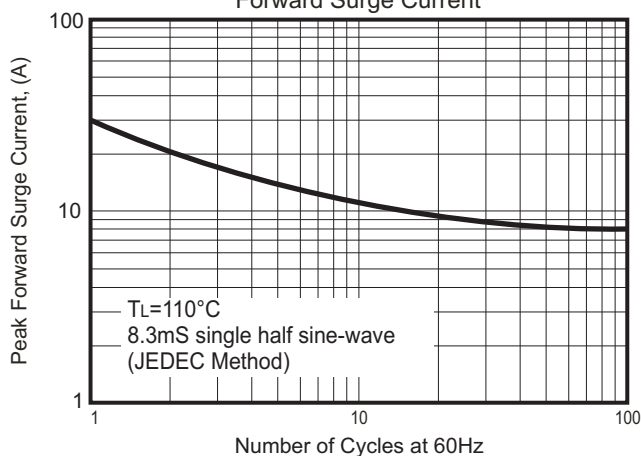


Fig.3 - Typical Instantaneous Forward Characteristics

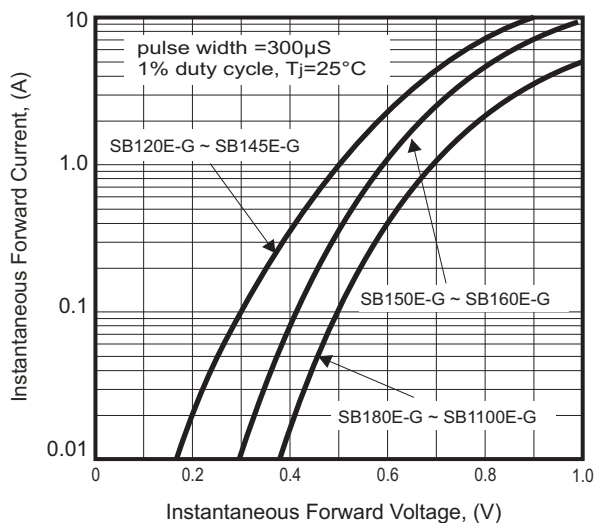


Fig.4A - Typical Reverse Characteristics

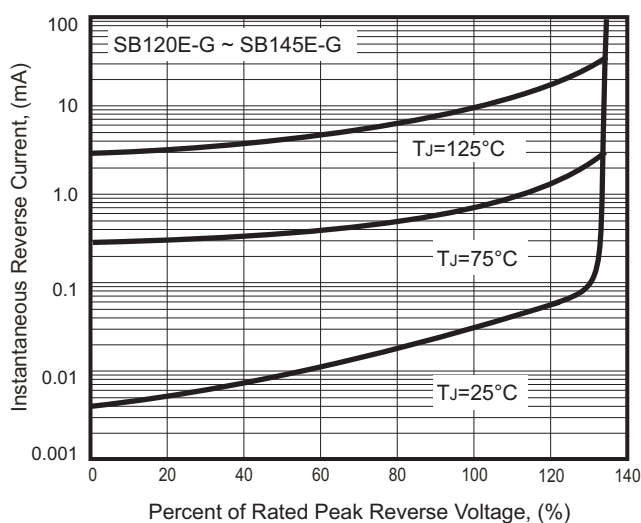


Fig.5 - Typical Junction Capacitance

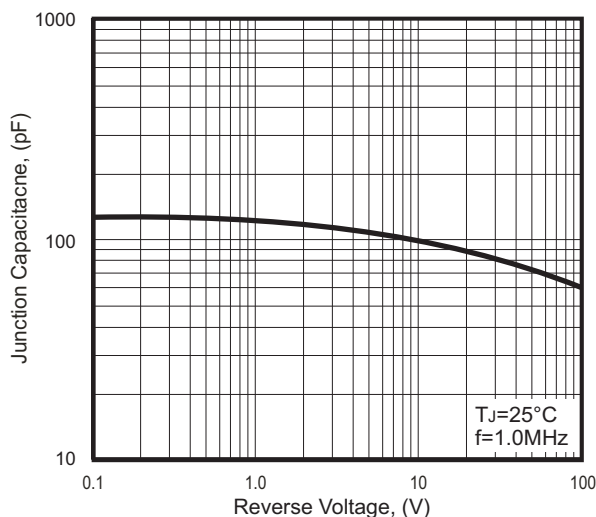
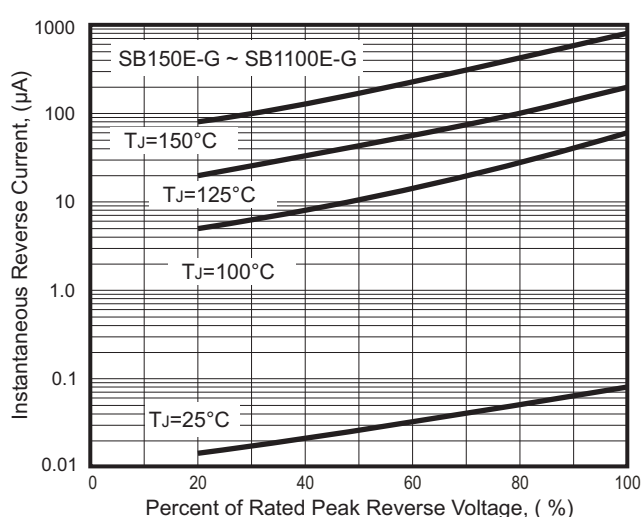


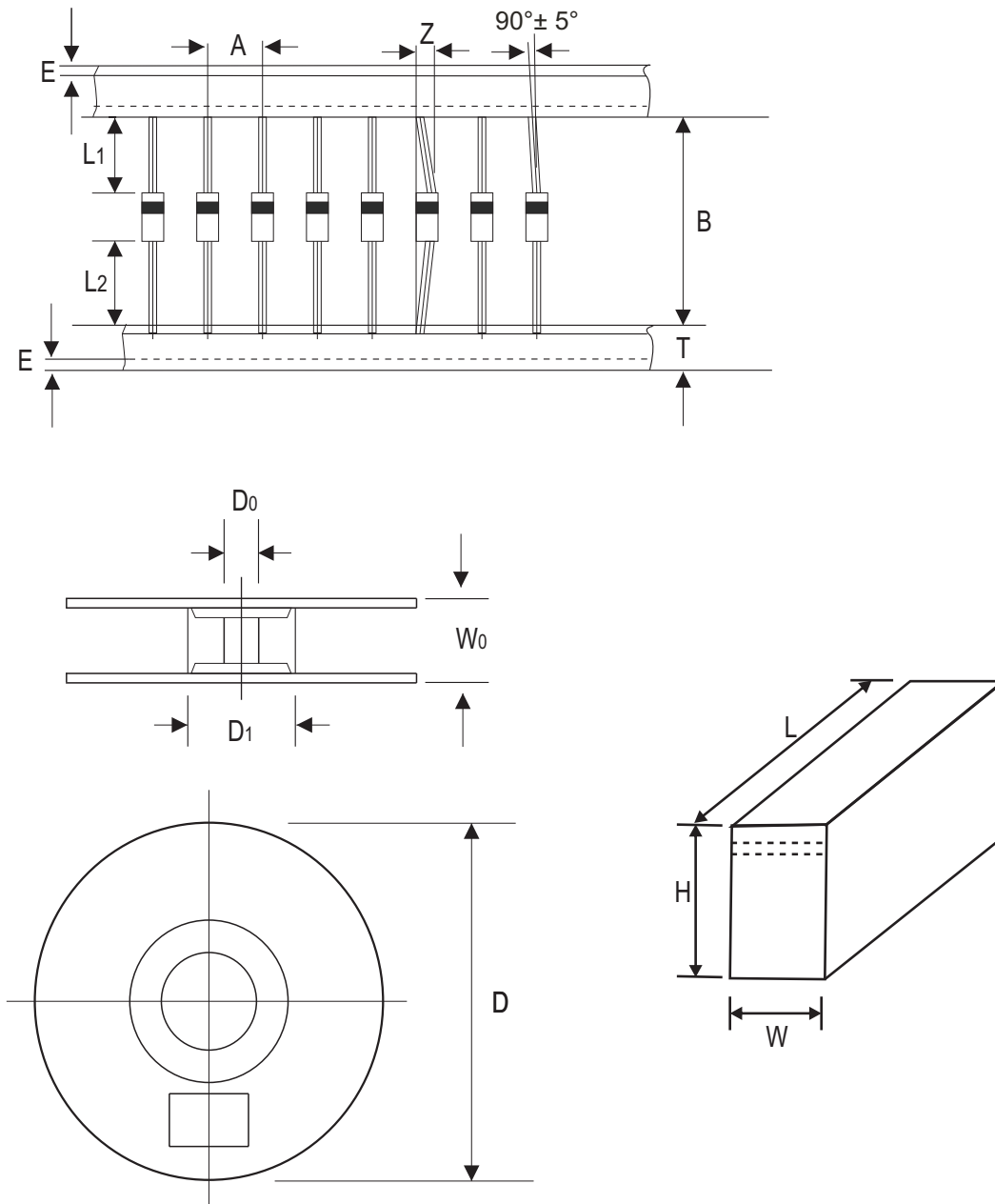
Fig.4B - Typical Reverse Characteristic



Company reserves the right to improve product design, functions and reliability without notice.

REV: B

## Taping Specification For Axial Lead Diodes



DO-41	SYMBOL	A	B	Z	T	E	[L1-L2]
	(mm)	$5.00 \pm 0.50$	$52.40 \pm 1.50$	1.60 (max)	$6.00 \pm 0.40$	3.00 (max)	1.00 (max)
	(inch)	$0.197 \pm 0.020$	$2.063 \pm 0.059$	0.063 (max)	$0.236 \pm 0.016$	0.118 (max)	0.039 (max)

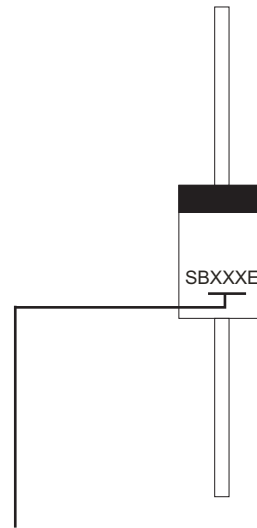
DO-41	SYMBOL	D1	D0	D	W0	L	W	H
	(mm)	$82.20 \pm 0.30$	$16.60 \pm 0.40$	330.00	$77.00 \pm 1.00$	$260.00 \pm 5.00$	$75.00 \pm 5.00$	$140.00 \pm 5.00$
	(inch)	$3.236 \pm 0.012$	$0.654 \pm 0.016$	12.992	$3.031 \pm 0.039$	$10.236 \pm 0.197$	$2.953 \pm 0.197$	$5.512 \pm 0.197$

Company reserves the right to improve product design, functions and reliability without notice.

REV: B

## Marking Code

Part Number	Marking Code	Packaging
SB120ET-G	SB120E	REEL
SB140ET-G	SB140E	REEL
SB145ET-G	SB145E	REEL
SB150ET-G	SB150E	REEL
SB160ET-G	SB160E	REEL
SB180ET-G	SB180E	REEL
SB1100ET-G	SB1100E	REEL
SB120EA-G	SB120E	AMMO
SB140EA-G	SB140E	AMMO
SB145EA-G	SB145E	AMMO
SB150EA-G	SB150E	AMMO
SB160EA-G	SB160E	AMMO
SB180EA-G	SB180E	AMMO
SB1100EA-G	SB1100E	AMMO
SB120EB-G	SB120E	BULK
SB140EB-G	SB140E	BULK
SB145EB-G	SB145E	BULK
SB150EB-G	SB150E	BULK
SB160EB-G	SB160E	BULK
SB180EB-G	SB180E	BULK
SB1100EB-G	SB1100E	BULK



XXX / XXXX = Product type marking code

Note:

1) Suffix code after part number to specify packaging item .

Packaging	Code
REEL PACK	T
AMMO PACK	A
BULK PACK	B

## Standard Packaging

Case Type	REEL PACK	
	REEL ( pcs )	Reel Size (inch)
DO-41	5,000	13

Case Type	BULK PACK
	BOX ( pcs )
DO-41	1,000

Case Type	AMMO PACK
	BOX ( pcs )
DO-41	5,000

Company reserves the right to improve product design , functions and reliability without notice.

REV: B