

## SB220E-G Thru. SB2100E-G

Voltage: 20 to 100 V

Current: 2.0 A

RoHS Device

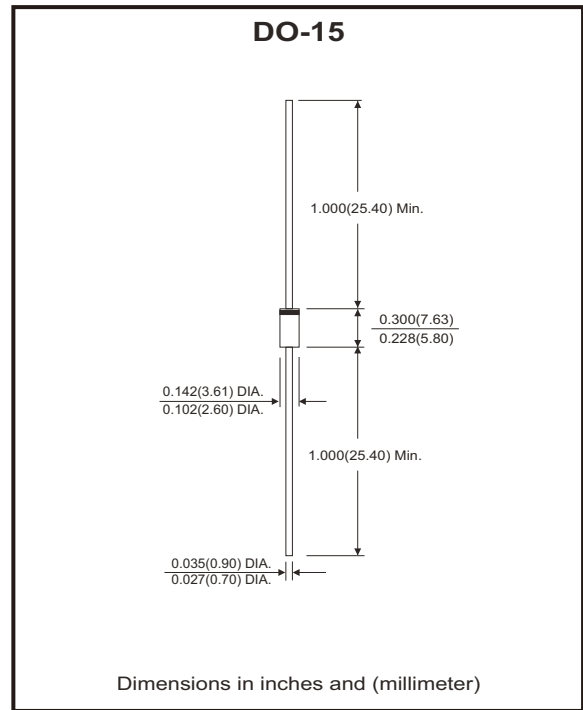


### Features

- Low drop down voltage
- 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)

### Mechanical data

- Epoxy: UL94V-0 rated flame retardant.
- Case: Molded plastic body DO-15
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.4 grams(approx.).



### Circuit Diagram



### Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Parameter	Symbol	SB 220E-G	SB 240E-G	SB 245E-G	SB 250E-G	SB 260E-G	SB 280E-G	SB 2100E-G	Unit	
Maximum recurrent peak reverse voltage	$V_{RRM}$	20	40	45	50	60	80	100	V	
Maximum RMS voltage	$V_{RMS}$	14	28	30	35	42	56	70	V	
Maximum DC blocking voltage	$V_{DC}$	20	40	45	50	60	80	100	V	
Maximum average forward rectified current 0.375" (9.5mm) lead length at $T_A=75^\circ\text{C}$ , See Figure 1	$I_{(AV)}$	2							A	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) $T_L=110^\circ\text{C}$	$I_{FSM}$	50							A	
Maximum forward voltage at 2.0A (Note 1)	$V_F$	0.50		0.70		0.85		V		
Maximum DC reverse current At rated DC blocking voltage	$I_R$	0.5							mA	
$T_J=25^\circ\text{C}$ $T_J=100^\circ\text{C}$		20				10				
Typical junction capacitance (Note 2)	$C_J$	170							pF	
Typical thermal resistance (Note 3)	$R_{\theta JA}$ $R_{\theta JL}$	50 25								$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-65 to +150							$^\circ\text{C}$	
Storage temperature range	$T_{STG}$	-65 to +150							$^\circ\text{C}$	

**NOTES:**

1. Pulse test : 300 $\mu\text{s}$  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:C

## RATING AND CHARACTERISTIC CURVES (SB220E-G Thru. SB2100E-G)

Fig.1 - Forward Current Derating Curve

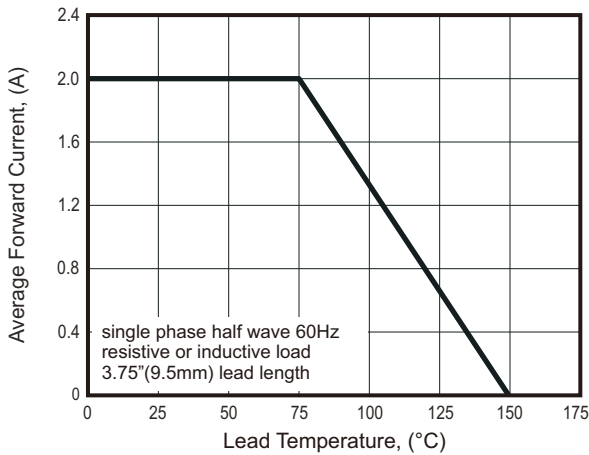


Fig.2 - Maximum Non-repetitive Peak Forward Surge Current

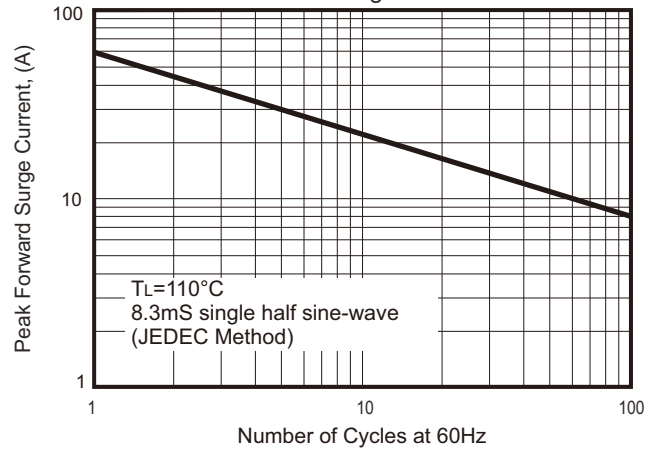


Fig.3 Typical Instantaneous Forward Characteristics

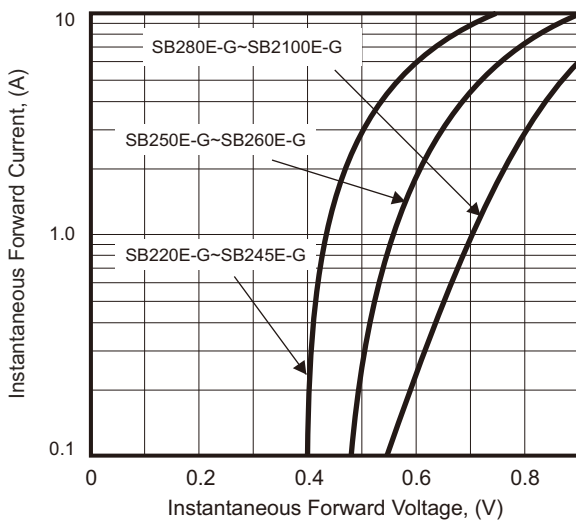


Fig.4A Typical Reverse Characteristics

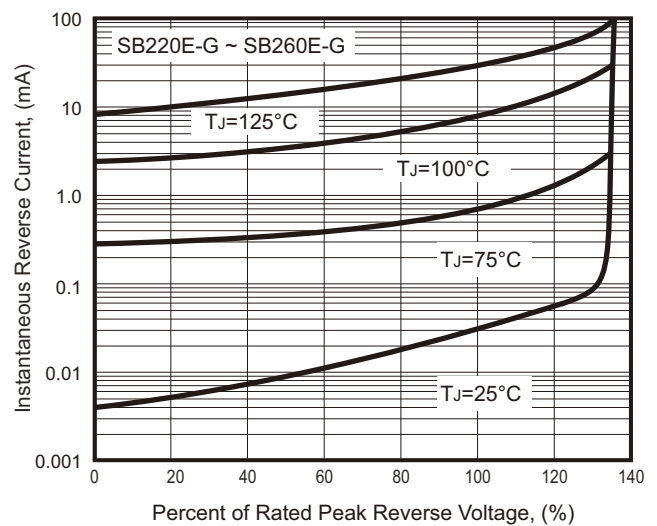


Fig.5 - Typical Junction Capacitance

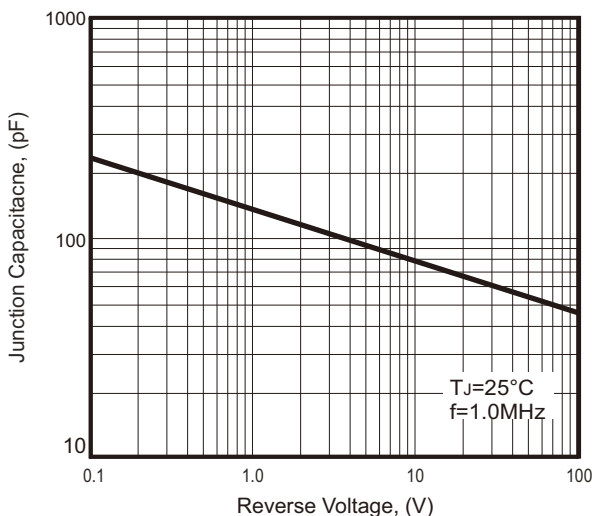
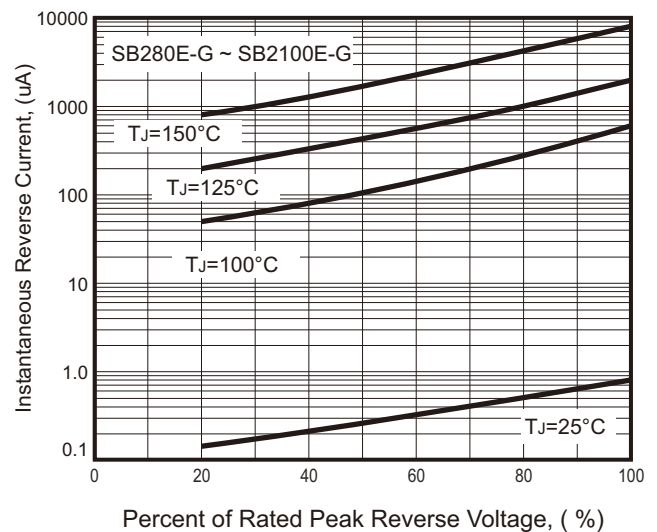


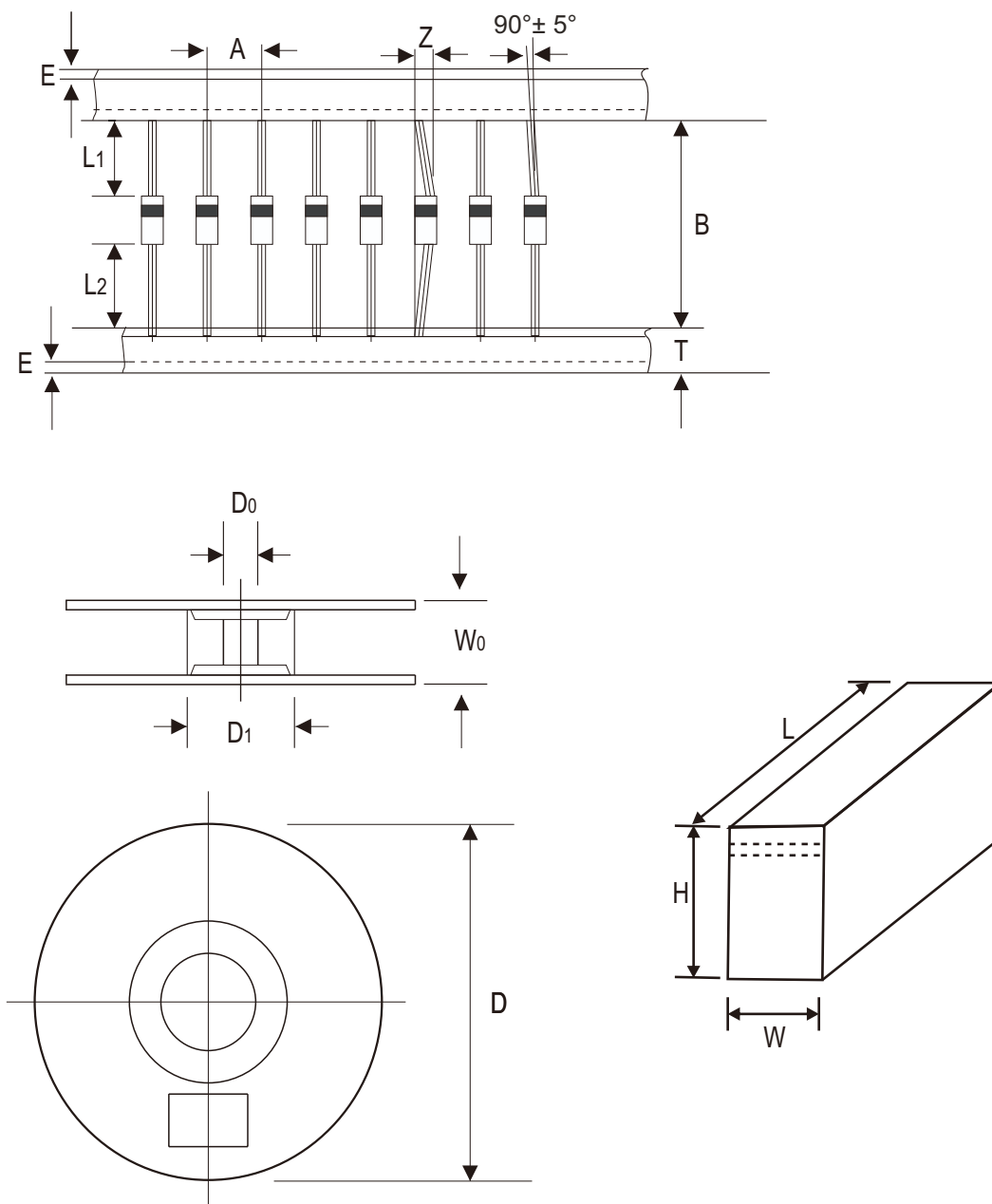
Fig.4B - Typical Reverse Characteristic



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

REV:C

## Taping Specification For Axial Lead Diodes



DO-15	SYMBOL	A	B	Z	T	E	[L1-L2]
	(mm)	$5.00 \pm 0.50$	$52.40 + 1.50 - 0.40$	1.20 (max)	$6.00 \pm 0.40$	0.80 (max)	1.00 (max)
	(inch)	$0.197 \pm 0.020$	$2.063 + 0.059 - 0.016$	0.047 (max)	$0.236 \pm 0.016$	0.031 (max)	0.039 (max)

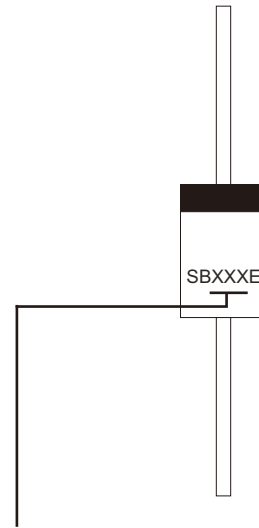
DO-15	SYMBOL	D1	D0	D	W0	L	W	H
	(mm)	$85.70 \pm 0.30$	$16.60 \pm 0.40$	330.00	$79.00 \pm 1.00$	$255.00 \pm 5.00$	$75.00 \pm 5.00$	$150.00 \pm 5.00$
	(inch)	$3.374 \pm 0.012$	$0.654 \pm 0.016$	12.992	$3.110 \pm 0.039$	$10.039 \pm 0.197$	$2.953 \pm 0.197$	$5.906 \pm 0.197$

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

REV:C

## Marking Code

Part Number	Marking Code	Packaging
SB220ET-G	SB220E	REEL
SB240ET-G	SB240E	REEL
SB245ET-G	SB245E	REEL
SB250ET-G	SB250E	REEL
SB260ET-G	SB260E	REEL
SB280ET-G	SB280E	REEL
SB2100ET-G	SB2100E	REEL
SB220EA-G	SB220E	AMMO
SB240EA-G	SB240E	AMMO
SB245EA-G	SB245E	AMMO
SB250EA-G	SB250E	AMMO
SB260EA-G	SB260E	AMMO
SB280EA-G	SB280E	AMMO
SB2100EA-G	SB2100E	AMMO
SB220EB-G	SB220E	BULK
SB240EB-G	SB240E	BULK
SB245EB-G	SB245E	BULK
SB250EB-G	SB250E	BULK
SB260EB-G	SB260E	BULK
SB280EB-G	SB280E	BULK
SB2100EB-G	SB2100E	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-15	4,000	13

Case Type	BULK PACK
	BOX ( pcs )
DO-15	500

Case Type	AMMO PACK
	BOX ( pcs )
DO-15	3,000