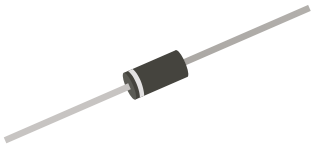
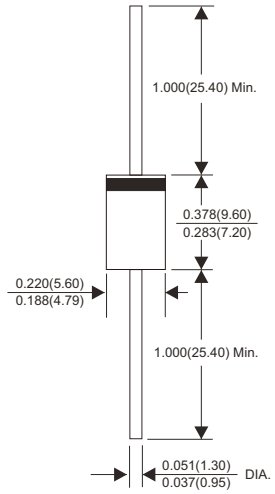
SB520-G Thru. SB5100-G

Voltage: 20 to 100 V
Current: 5.0 A
RoHS Device



DO-201AD



Dimensions in inches and (millimeter)

Features

- Low drop down voltage.
- Metal-Semiconductor junction with guard ring
- High surge current capability
- Silicon epitaxial planar chips.
- For use in low voltage, high efficiency inverters, free wheeling, and polarity protection applications
- Lead-free part, meet RoHS requirements.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic body DO-201AD
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 1.12 grams (approx.).

Circuit Diagram



Electrical Characteristics (at T_A=25°C unless otherwise noted)

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Symbol	SB 520-G	SB 540-G	SB 545-G	SB 550-G	SB 560-G	SB 580-G	SB 5100-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 0.5" (12.7mm) lead length at T_A=75°C, See Figure 1		$I_{(AV)}$	5.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method) TL=110°C		I_{FSM}	100							A
Maximum forward voltage at 5.0A (Note 1)		V_F	0.55			0.70		0.85		V
Maximum DC reverse current At rated DC blocking voltage	T_J=25°C	I_R	0.5							mA
	T_J=100°C	I_R	50			30				
Typical junction capacitance (Note 2)		C_J	350			135				pF
Typical thermal resistance (Note 3)		$R_{\theta JA}$ $R_{\theta JL}$	35 15							°C/W
Operating junction temperature range		T_J	-65 to +150							°C
Storage temperature range		T_{STG}	-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 junction to ambient and from junction to lead P.C.B mounted 0.500"(12.7mm)lead length with 2.5*2.5"(63.5*63.5mm) copper pad.

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

RATING AND CHARACTERISTIC CURVES (SB520-G Thru. SB5100-G)

Fig.1 - Forward Current Derating Curve

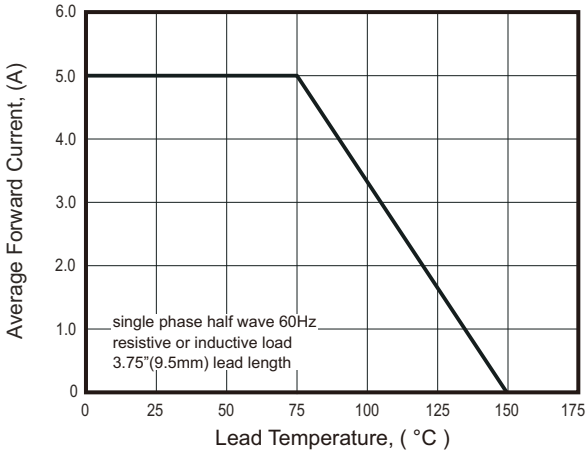


Fig.2 - Maximum Non-repetitive Peak Forward Surge Current

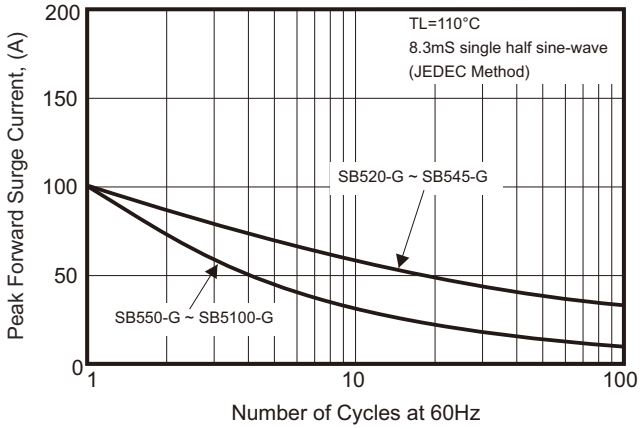


Fig.3 - Typical Instantaneous Forward Characteristics

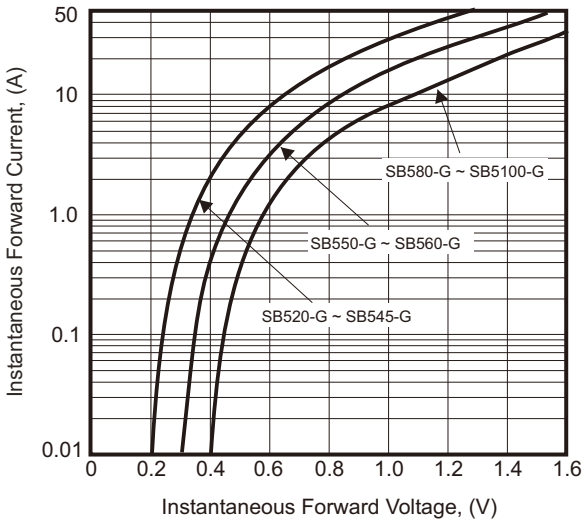


Fig.4A - Typical Reverse Characteristics

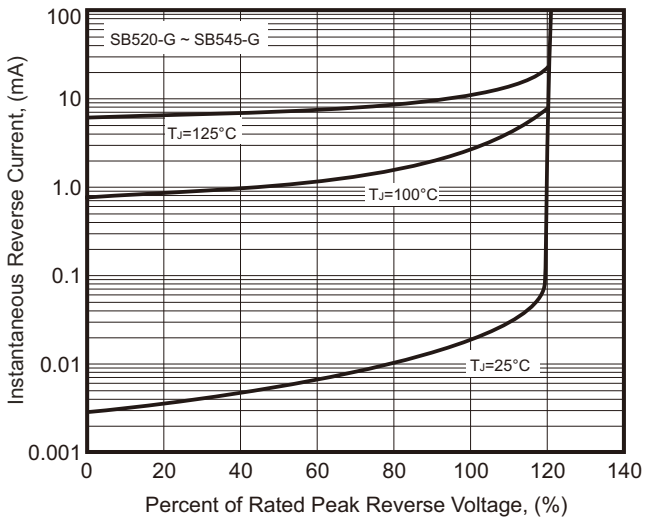


Fig.5 - Typical Junction Capacitance

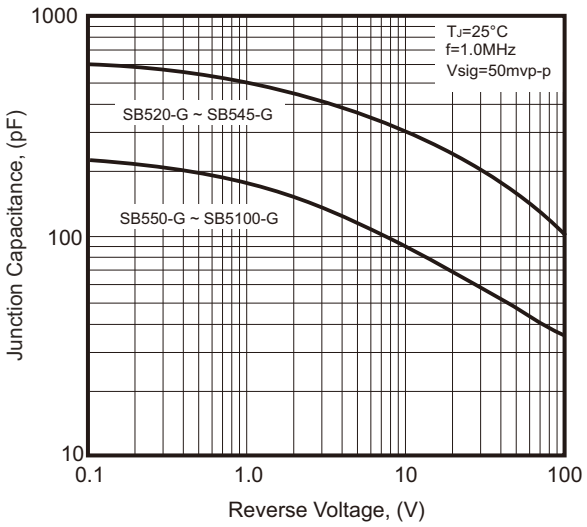
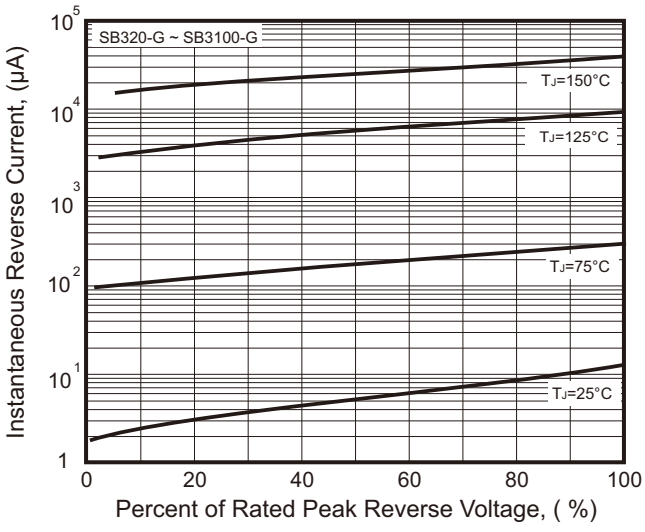


Fig.4B - Typical Reverse Characteristic



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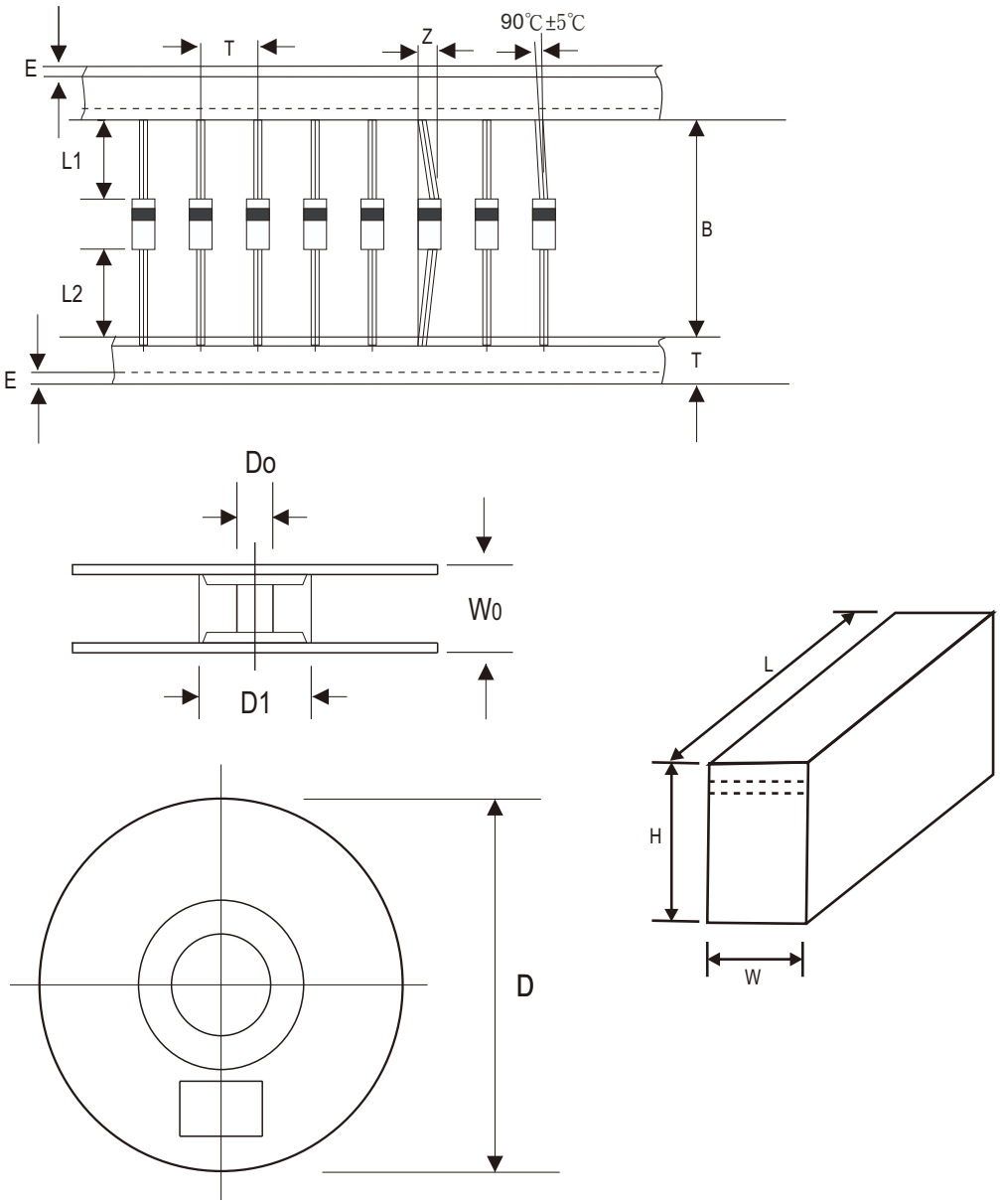
Taping Specification For Axial Lead Diodes



	SYMBOL	A	B	Z	T	E	|L1-L2|
DO-201AD	(mm)	10.00 ± 0.50	52.40 ± 1.50	1.60(max)	6.00 ± 0.40	3.00(max)	1.00(max)
	(inch)	0.394 ± 0.020	2.063 ± 0.059	0.063(max)	0.236 ± 0.016	0.118(max)	0.039(max)

	SYMBOL	D	D_0	D_1	W_0
DO-201AD	(mm)	330.00	16.60 ± 0.40	82.20 ± 0.30	77.00 ± 1.00
	(inch)	12.992	0.654 ± 0.016	3.236 ± 0.012	3.031 ± 0.039

	SYMBOL	Box Length	Box Width	Box Height
DO-201AD	(mm)	260.00 ± 5.00	80.00 ± 5.00	145.00 ± 5.00
	(inch)	10.236 ± 0.197	3.150 ± 0.197	5.709 ± 0.197

Marking Code

Part Number	Marking code	Packaging
SB520T-G	SB520	AMMO REEL
SB540T-G	SB540	AMMO REEL
SB545T-G	SB545	AMMO REEL
SB550T-G	SB550	AMMO REEL
SB560T-G	SB560	AMMO REEL
SB580T-G	SB580	AMMO REEL
SB5100T-G	SB5100	AMMO REEL
SB520B-G	SB520	BULK
SB540B-G	SB540	BULK
SB545B-G	SB545	BULK
SB550B-G	SB550	BULK
SB560B-G	SB560	BULK
SB580B-G	SB580	BULK
SB5100B-G	SB5100	BULK



XXX / XXXX = Product type marking code

Note:

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

Packaging	Code
AMMO Reel PACK	T
BULK PACK	B

Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
DO-201AD	1,200	13

Case Type	BULK PACK
	BOX (pcs)
DO-201AD	500