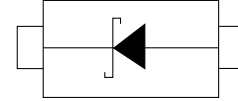


**Feature**

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications


**Mechanical Characteristics**

- Case: SMBF
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 57mg 0.002oz

**Absolute maximum rating@25°C**

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

Parameter	Symbol	PSBDB F20V3	PSBDB F40V3	PSBDB F60V3	PSBDB F80V3	PSBDB F100V3	PSBDB F120V3	PSBDB F150V3	PSBDB F200V3	Units
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	20	40	60	80	100	120	150	200	V
Maximum RMS voltage	$V_{RMS}$	14	28	42	56	70	84	105	140	V
Maximum DC Blocking Voltage	$V_{DC}$	20	40	60	80	100	120	150	200	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	3.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	80				70				A
Max Instantaneous Forward Voltage at 3 A	$V_F$	0.55		0.70		0.85		0.95		V

## Absolute maximum rating@25°C

Parameter	Symbol	PSBDA F20V3	PSBDA F40V3	PSBDA F60V3	PSBDA F80V3	PSBDA F100V3	PSBDA F120V3	PSBDA F150V3	PSBDA F200V3	Units
Maximum DC Reverse Current Ta = 25°C at Rated DC Reverse Voltage Ta =100°C	I <sub>R</sub>	0.5 5			0.3 3					mA
Typical Junction Capacitance <sup>1)</sup>	C <sub>j</sub>	450			400					pF
Typical Thermal Resistance <sup>2)</sup>	R <sub>θJA</sub>	50								°C/W
Operating Junction Temperature Range	T <sub>j</sub>	-55~±125								°C
Storage Temperature Range	T <sub>stg</sub>	-55~+150								°C

## Notes:

1. Measured at 1MHz and applied reverse voltage of 4 V D.C.
2. P.C.B. mounted with 0.5 X 0.5" (12.7 X 12.7 mm) copper pad areas.

Typical Characteristics

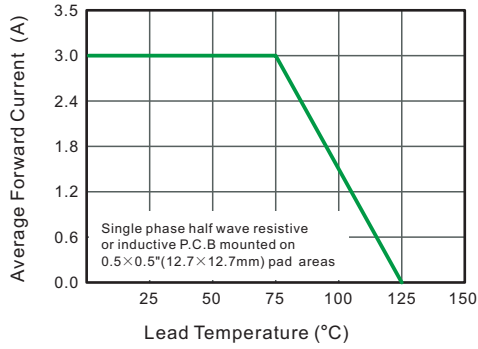


Fig.1 Forward Current Derating Curve

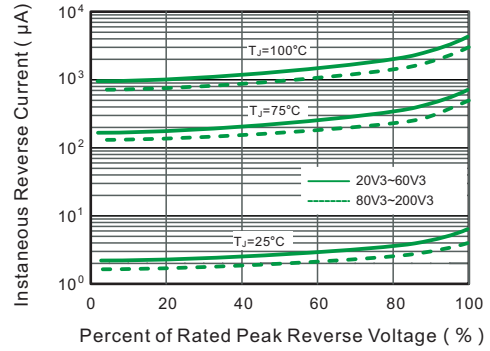


Fig.2 Typical Reverse Characteristics

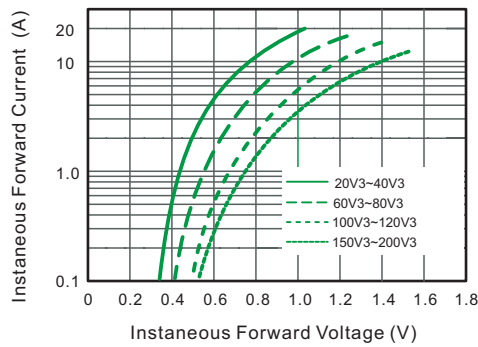


Fig.3 Typical Forward Characteristic

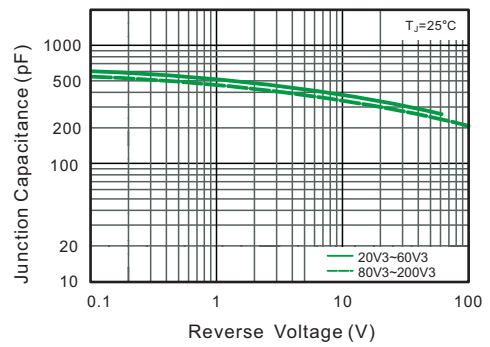


Fig.4 Typical Junction Capacitance

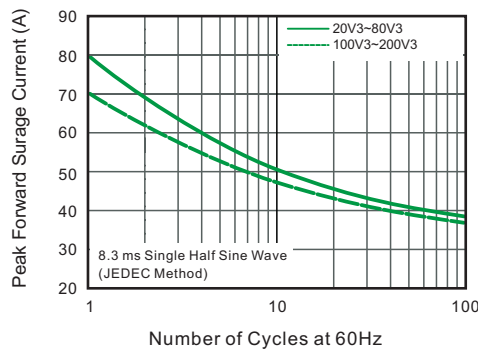


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

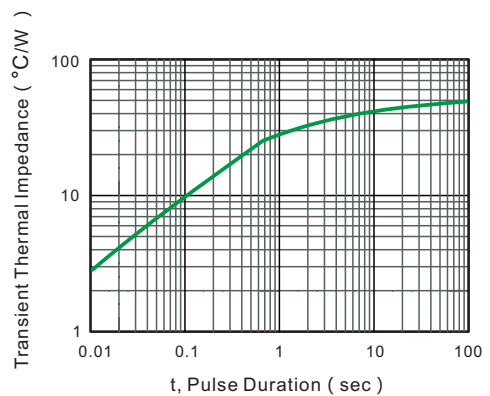
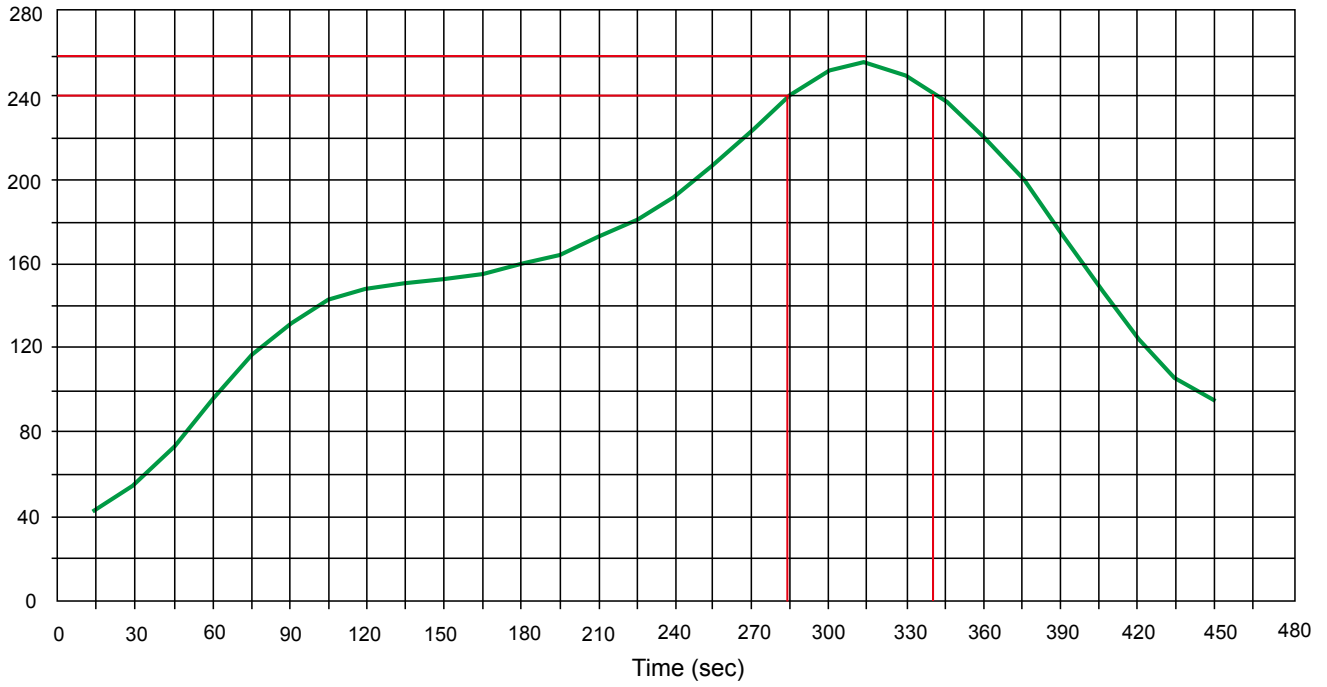


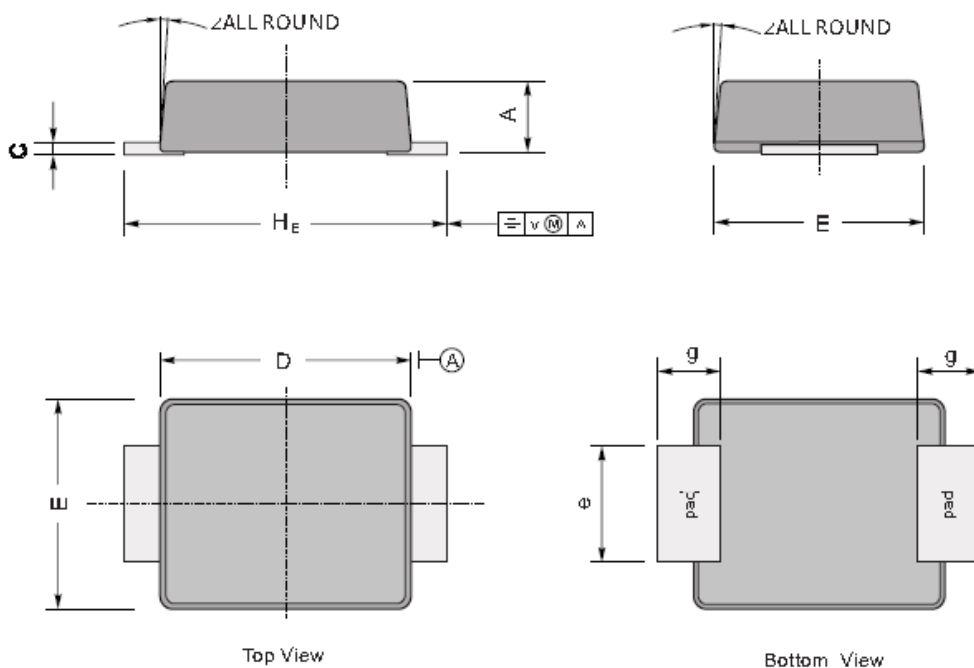
Fig.6- Typical Transient Thermal Impedance

Solder Reflow Recommendation

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

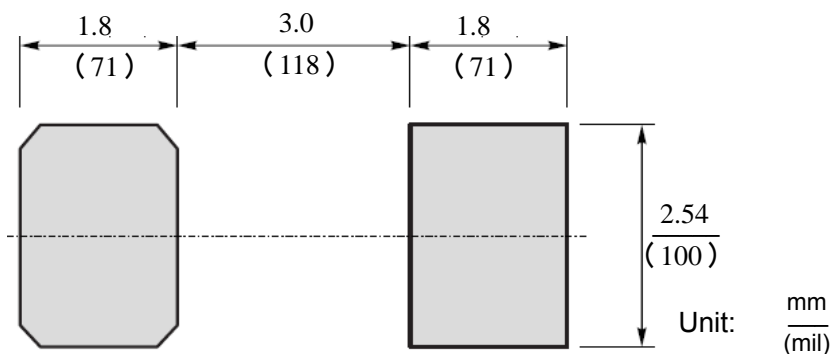


Product dimension (SMBF)



UNIT		A	C	D	E	$H_e$	e	g	$\angle$
mm	max	1.3	0.26	4.4	3.7	5.5	2.2	1.0	9°
	min	1.1	0.18	4.2	3.5	5.1	1.9		
mil	max	51	10	173	146	216	86	40	
	min	43	7	165	138	200	75		


The recommended mounting pad size



Ordering information

Device	Package	Shipping
PSBDBFXXXV3	SMBF (Pb-Free)	5000/ Tape & Reel


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