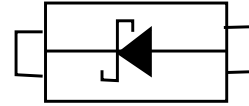


**Feature**

- 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: SMAF
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg 0.00086oz

**Absolute maximum rating@25°C**

Parameter	Symbol	PSBDA F20V1	PSBDA F40V1	PSBDA F60V1	PSBDA F80V1	PSBDA F100V1	PSBDA F120V1	PSBDA F150V1	PSBDA F200V1	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	$I_{F(AV)}$	1.0								A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	40				30				A
Max Instantaneous Forward Voltage at 1 A	$V_F$	0.55		0.70		0.85		0.90		V

Absolute maximum rating@25°C

Parameter	Symbol	PSBDA F20V1	PSBDA F40V1	PSBDA F60V1	PSBDA F80V1	PSBDA F100V1	PSBDA F120V1	PSBDA F150V1	PSBDA F200V1	Units
Maximum DC Reverse Current Ta = 25°C at Rated DC Reverse Voltage Ta =100°C	$I_R$		0.3 10			0.2 5		0.1 2		mA
Typical Junction Capacitance <sup>1)</sup>	$C_j$	110				80				pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$					115				°C/W
Operating Junction Temperature Range	$T_j$					-55~±125				°C
Storage Temperature Range	$T_{stg}$					-55~+150				°C

Typical Characteristics

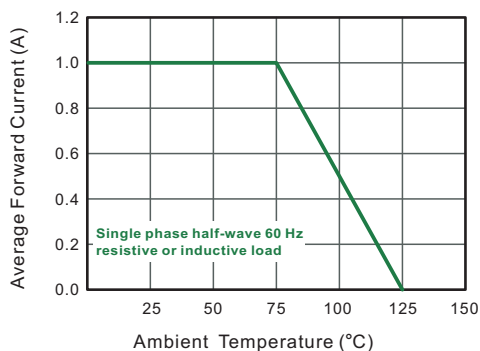


Fig.1 Forward Current Derating Curve

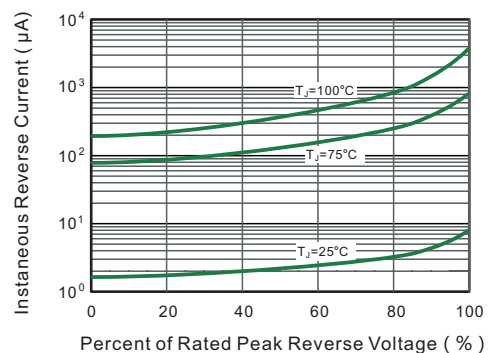
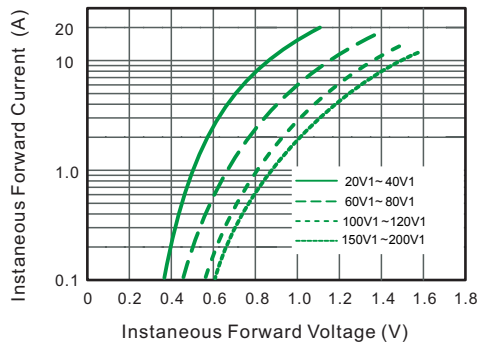
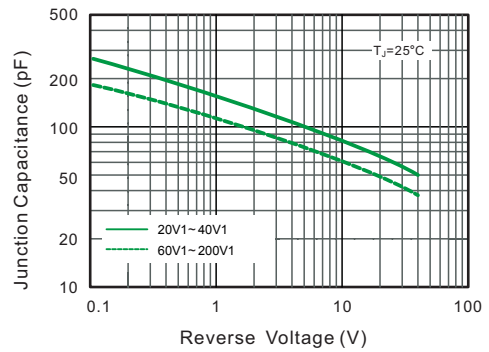


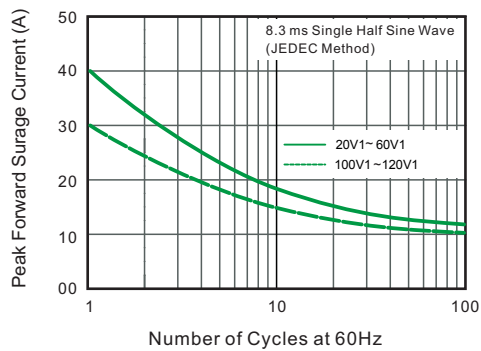
Fig.2 Typical Reverse Characteristics



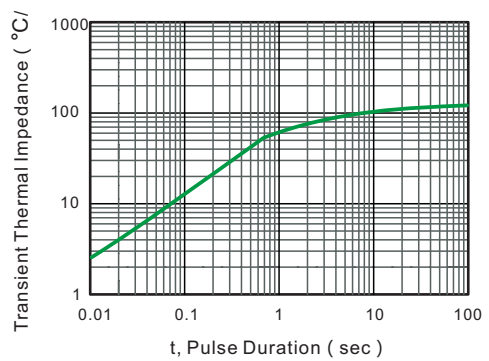
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**



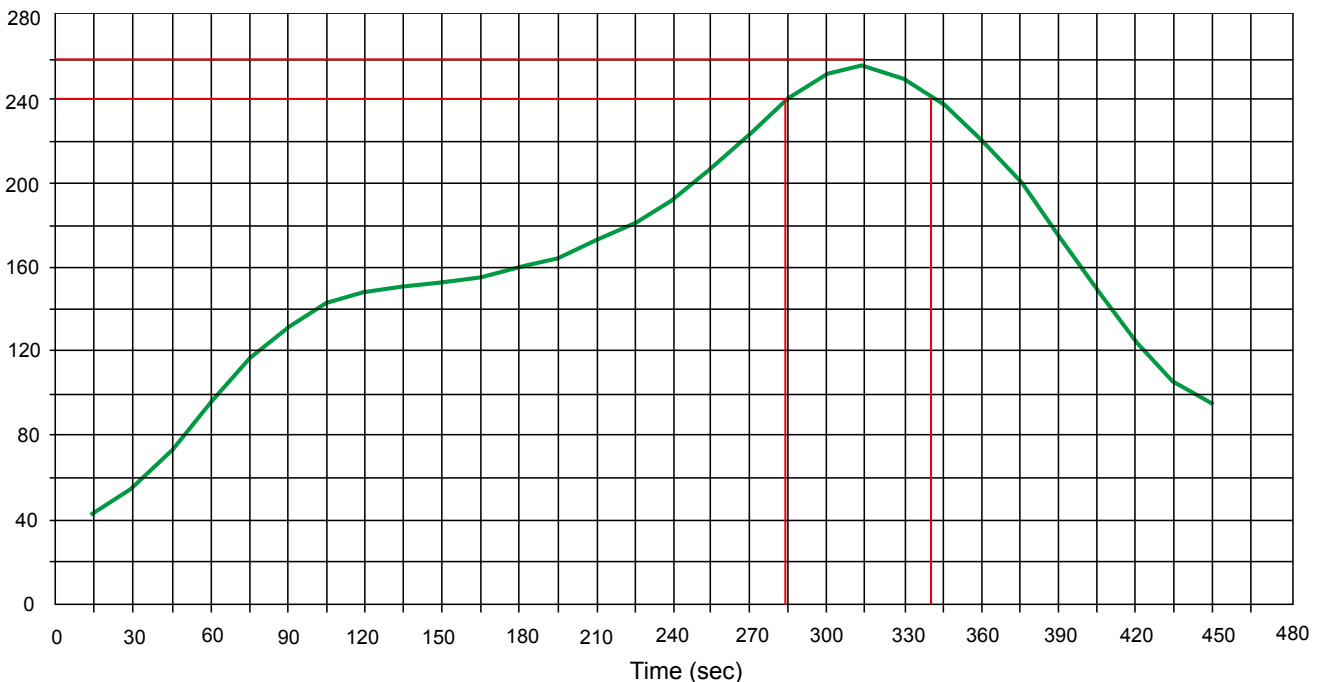
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



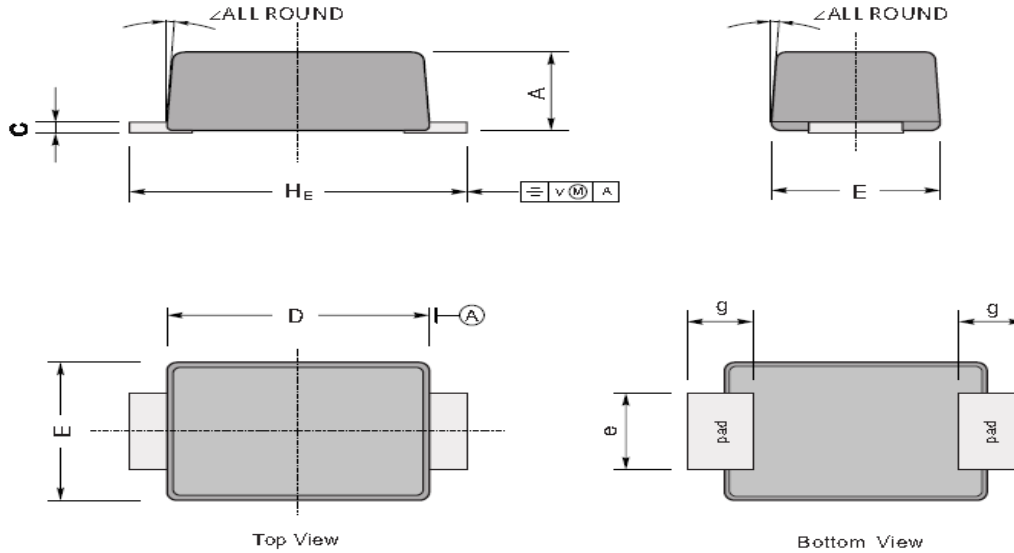
**Fig.6- Typical Transient Thermal Impedance**

## Solder Reflow Recommendation

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

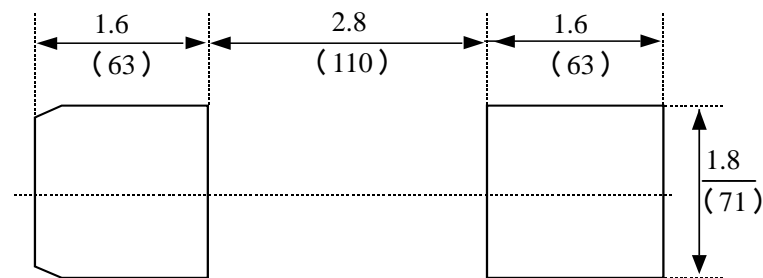


Product dimension (SMAF)



UNIT		A	C	D	E	e	g	H <sub>E</sub>	∠
mm	max	1.3	0.23	3.7	2.7	1.6	1.3	4.9	7°
	min	1.1	0.18	3.3	2.4	1.3	1.0	4.4	
mil	max	51	9.1	146	106	63	51	193	
	min	43	7.1	130	94	51	39	173	

The recommended mounting pad size




Unit:  $\frac{\text{mm}}{\text{mil}}$

Ordering information

Device	Package	Shipping
PSBDAF20~200V1	SMAF (Pb-Free)	3000/ Tape & Reel


**IMPORTANT NOTICE**

 and **Prisemi**<sup>®</sup> are registered trademarks of **Prisemi Electronics Co., Ltd (Prisemi)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: <http://www.prisemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2009, Prisemi Electronics

 **Prisemi**<sup>®</sup> is a registered trademark of Prisemi Electronics.

All rights are reserved.