

EVVOSEMI[®]

THINK CHANGE DO



ESD



TVS



MOS



LDO



Diode



Sensor



DC-DC

Product Specification

▶ Domestic	Part Number	P6SMBF Series
▶ Overseas	Part Number	P6SMBF Series
▶ Equivalent	Part Number	P6SMBF Series

EV is the abbreviation of name EVVO

Surface mount transient voltage suppressor power 600 watts

Stand-Off Voltage : 6.8V ~550V

FEATURES

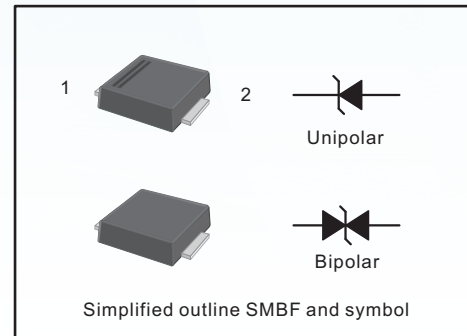
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

MECHANICAL DATA

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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 s waveform (Note1,Note2, Fig.1).	P_{PPM}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3, Fig4).	I_{FSM} (UNI)	100	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)	I_{PPM}	see Table 1	A
Typical Junction capacitance at VR=4V, f=1MHz	C_J	390	pF
ESD Voltage per IEC6100-4-2 Contact Air	V_{ESD1} V_{ESD2}	± 30 ± 30	kV
Typical Thermal Resistance Junction to Ambient(Note 2)	$R_{\theta JA}$	100	°C/W
Operating Junction Temperature and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 2.
2. Mounted on 5 mm² (0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
4. Peak pulse power waveform is 10/1000μS.

Characteristics at Ta = 25°C

Table 1

Type		Reverse Stand-off	Breakdown Voltage		Test Current	Maximum Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
		Voltage V _{RMW}	V _{BR} @ I _T		I _T		V _C @ I _{PP}	I _{PP}	SMBF	
			Min	Max					Device Marking Code	
UNI	BI	V	V	V	mA	µA	V	A	UNI	BI
600W Transient Voltage Suppresso										
P6SMBF6.8A	P6SMBF6.8CA	5.8	6.45	7.14	10	1000	10.5	58.1	6V8A	6V8C
P6SMBF7.5A	P6SMBF7.5CA	6.4	7.13	7.88	10	500	11.3	54	7V5A	7V5C
P6SMBF8.2A	P6SMBF8.2CA	7.02	7.79	8.61	10	200	12.1	50.4	8V2A	8V2C
P6SMBF9.1A	P6SMBF9.1CA	7.78	8.65	9.55	1	50	13.4	45.5	9V1A	9V1C
P6SMBF10A	P6SMBF10CA	8.55	9.5	10.5	1	10	14.5	42.1	10A	10C
P6SMBF11A	P6SMBF11CA	9.4	10.5	11.6	1	5	15.6	39.1	11A	11C
P6SMBF12A	P6SMBF12CA	10.2	11.4	12.6	1	5	16.7	36.5	12A	12C
P6SMBF13A	P6SMBF13CA	11.1	12.4	13.7	1	1	18.2	33.5	13A	13C
P6SMBF15A	P6SMBF15CA	12.8	14.3	15.8	1	1	21.2	28.8	15A	15C
P6SMBF16A	P6SMBF16CA	13.6	15.2	16.8	1	1	22.5	27.1	16A	16C
P6SMBF18A	P6SMBF18CA	15.3	17.1	18.9	1	1	25.5	24.2	18A	18C
P6SMBF20A	P6SMBF20CA	17.1	19	21	1	1	27.7	22	20A	20C
P6SMBF22A	P6SMBF22CA	18.8	20.9	23.1	1	1	30.6	19.9	22A	22C
P6SMBF24A	P6SMBF24CA	20.5	22.8	25.2	1	1	33.2	18.4	24A	24C
P6SMBF27A	P6SMBF27CA	23.1	25.7	28.4	1	1	37.5	16.3	27A	27C
P6SMBF30A	P6SMBF30CA	25.6	28.5	31.5	1	1	41.4	14.7	30A	30C
P6SMBF33A	P6SMBF33CA	28.2	31.4	34.7	1	1	45.7	13.3	33A	33C
P6SMBF36A	P6SMBF36CA	30.8	34.2	37.8	1	1	49.9	12.2	36A	36C
P6SMBF39A	P6SMBF39CA	33.3	37.1	41	1	1	53.9	11.3	39A	39C
P6SMBF43A	P6SMBF43CA	36.8	40.9	45.2	1	1	59.3	10.3	43A	43C
P6SMBF47A	P6SMBF47CA	40.2	44.7	49.4	1	1	64.8	9.4	47A	47C
P6SMBF51A	P6SMBF51CA	43.6	48.5	53.6	1	1	70.1	8.7	51A	51C
P6SMBF56A	P6SMBF56CA	47.8	53.2	58.8	1	1	77	7.9	56A	56C
P6SMBF58A	P6SMBF58CA	52.78	55.1	60.9	1	1	79.8	7.7	58A	58C
P6SMBF62A	P6SMBF62CA	53	58.9	65.1	1	1	85	7.2	62A	62C
P6SMBF68A	P6SMBF68CA	58.1	64.6	71.4	1	1	92	6.6	68A	68C
P6SMBF75A	P6SMBF75CA	64.1	71.3	78.8	1	1	103	5.9	75A	75C
P6SMBF82A	P6SMBF82CA	70.1	77.9	86.1	1	1	113	5.4	82A	82C
P6SMBF91A	P6SMBF91CA	77.8	86.5	95.5	1	1	125	4.9	91A	91C
P6SMBF100A	P6SMBF100CA	85.5	95	105	1	1	137	4.5	100A	100C
P6SMBF110A	P6SMBF110CA	94	105	116	1	1	152	4	110A	110C
P6SMBF120A	P6SMBF120CA	102	114	126	1	1	165	3.7	120A	120C
P6SMBF130A	P6SMBF130CA	111	124	137	1	1	179	3.4	130A	130C
P6SMBF150A	P6SMBF150CA	128	143	158	1	1	207	2.9	150A	150C
P6SMBF160A	P6SMBF160CA	136	152	168	1	1	219	2.8	160A	160C
P6SMBF170A	P6SMBF170CA	145	162	179	1	1	234	2.6	170A	170C
P6SMBF180A	P6SMBF180CA	154	171	189	1	1	246	2.5	180A	180C
P6SMBF200A	P6SMBF200CA	171	190	210	1	1	274	2.2	200A	200C
P6SMBF220A	P6SMBF220CA	185	209	231	1	1	328	1.9	220A	220C
P6SMBF250A	P6SMBF250CA	214	237	263	1	1	344	1.8	250A	250C
P6SMBF300A	P6SMBF300CA	256	285	315	1	1	414	1.5	300A	300C
P6SMBF350A	P6SMBF350CA	300	332	368	1	1	482	1.3	350A	350C
P6SMBF400A	P6SMBF400CA	342	380	420	1	1	548	1.1	400A	400C
P6SMBF440A	P6SMBF440CA	376	418	462	1	1	602	1	440A	440C
P6SMBF480A	P6SMBF480CA	408	456	504	1	1	658	0.9	480A	480C
P6SMBF510A	P6SMBF510CA	434	485	535	1	1	698	0.9	510A	510C
P6SMBF530A	P6SMBF530CA	451	503.5	556.5	1	1	725	0.8	530A	530C
P6SMBF540A	P6SMBF540CA	460	513	567	1	1	740	0.8	540A	540C
P6SMBF550A	P6SMBF550CA	468	522.5	577.5	1	1	760	0.8	550A	550C

Fig.1 Peak Pulse Power Rating Curve

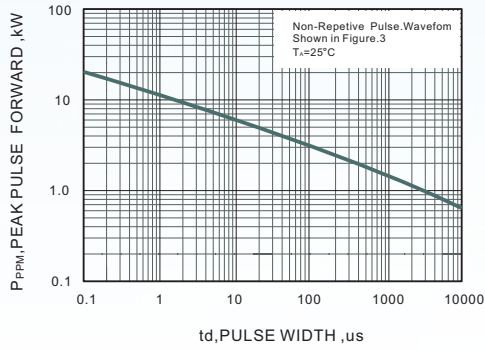


Fig.2 Forward Current Derating Curve

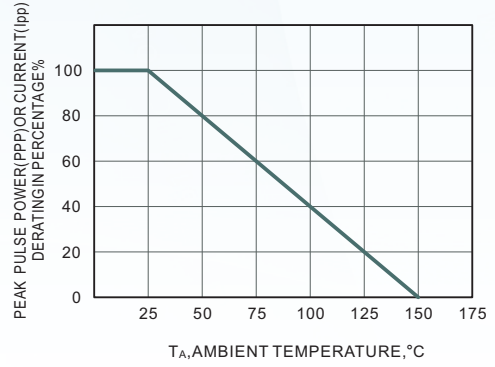


Fig.3 Pulse Waveform

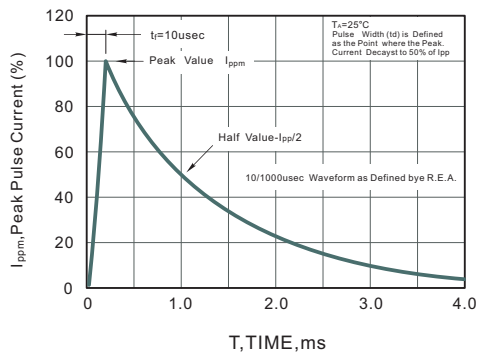
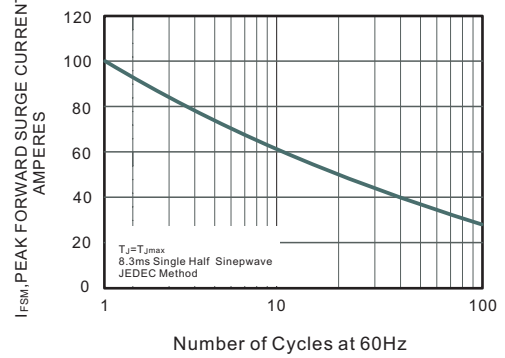


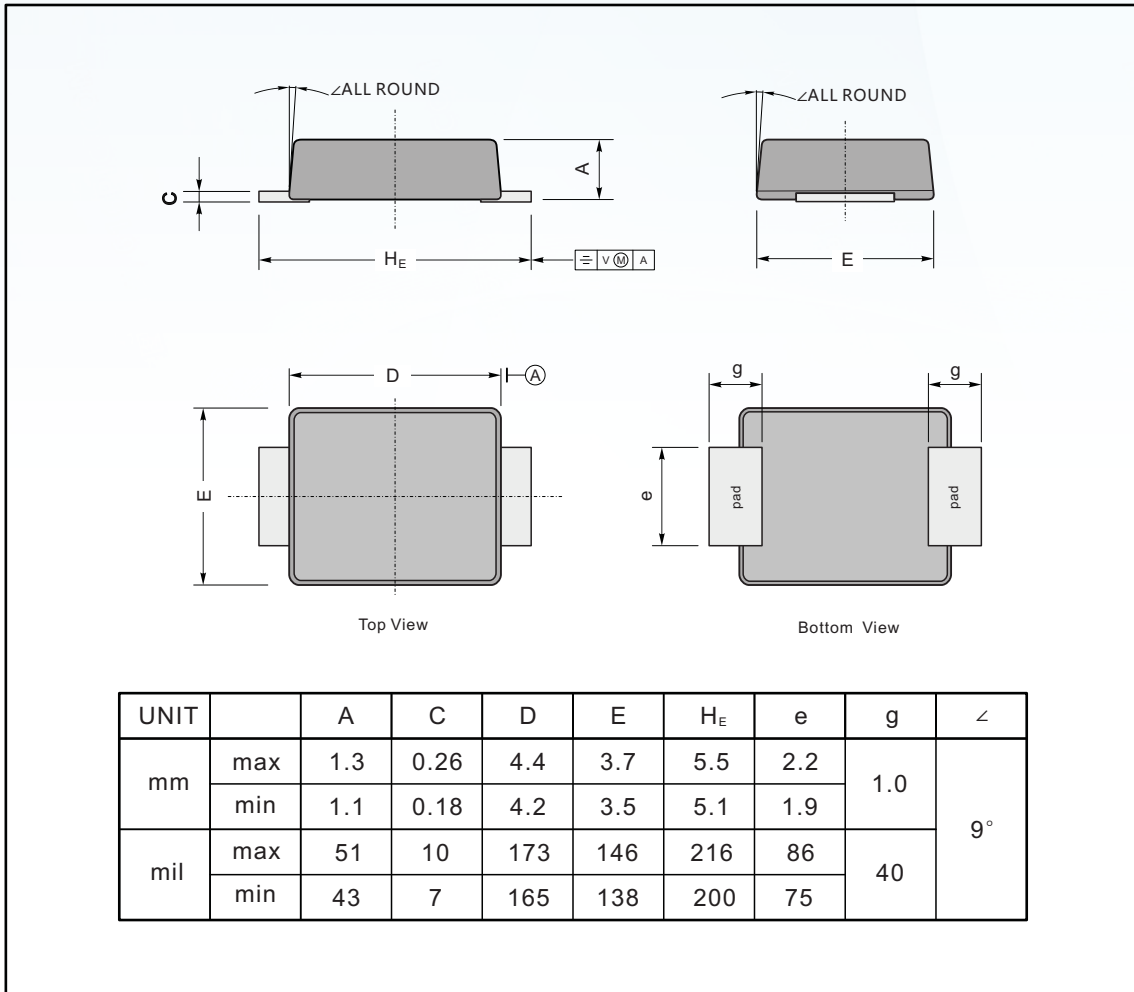
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



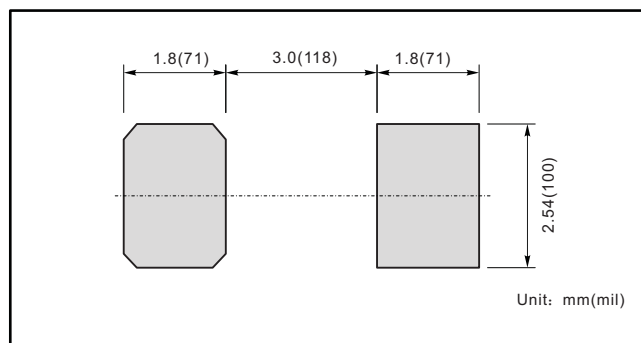
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMBF



The recommended mounting pad size



Disclaimer

EVVOSEMI ("EVVO") reserves the right to make corrections, enhancements, improvements, and other changes to its products and services at any time, and to discontinue any product or service without notice.

EVVO warrants the performance of its hardware products to the specifications applicable at the time of sale in accordance with its standard warranty. Testing and other quality control techniques are used as deemed necessary by EVVO to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

Customers should obtain and confirm the latest product information and specifications before final design, purchase, or use. EVVO makes no warranty, representation, or guarantee regarding the suitability of its products for any particular purpose, nor does EVVO assume any liability for application assistance or customer product design. EVVO does not warrant or accept any liability for products that are purchased or used for any unintended or unauthorized application.

EVVO products are not authorized for use as critical components in life support devices or systems without the express written approval of EVVOSEMI.

The EVVO logo and EVVOSEMI are trademarks of EVVOSEMI or its subsidiaries in relevant jurisdictions. EVVO reserves the right to make changes without further notice to any products herein.