

**描述 / Descriptions**

表面贴装瞬态电压抑制器功率：600W,反向浪涌电压：5.0V~440V，SMBF 封装。

Surface mount transient voltage suppressor power 600 watts,Stand-Off Voltage：5.0V~440V ,SMBF package.

**特征 / Features**

玻璃钝化，低电感，适用表面贴装。无卤产品。

Glass passivated junction, Low inductance, For surface mounted applications. HF product.

**用途 / Applications**

一般用途.

General purpose.

**内部等效电路 / Equivalent Circuit**

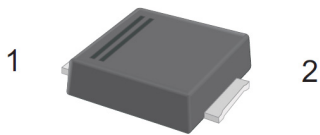


Unipolar

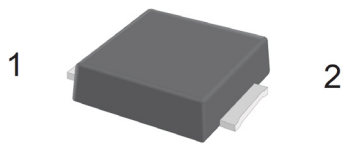


Bipolar

**引脚排列 / Pinning**



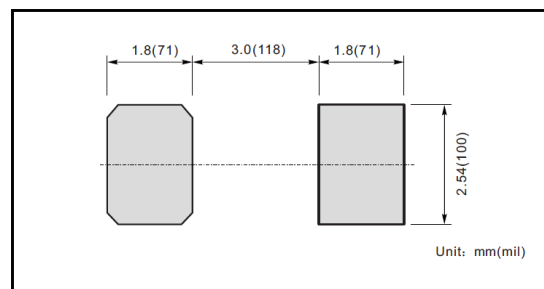
单极性



双极性

PIN	DESCRIPTION
1	Cathode
2	Anode

The recommended mounting pad size



**印章代码 / Marking**

见印章说明。See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Peak Pulse Power Dissipation on 10/1000 s waveform ( Note1,Note2, Fig.1).	P <sub>PPM</sub>	600	W
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3,Fig4).	I <sub>FSM</sub> (UNI)	100	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)	I <sub>PPM</sub>	see Table 1	A
Typical Junction capacitance at VR=4V, f=1MHz	C <sub>J</sub>	390	pF
ESD Voltage per IEC6100-4-2	Contact	V <sub>ESD1</sub>	±30 KV
	Air	V <sub>ESD2</sub>	±30 KV
Typical Thermal Resistance Junction to Ambient(Note 2)	R <sub>θJA</sub>	100	°C/W
Operating Junction Temperature and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ +150	°C

Note:

1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub> = 25°C per Fig. 2.
2. Mounted on 5 mm<sup>2</sup> (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.

**电性能参数 / Electrical Characteristics(Ta=25°C)**

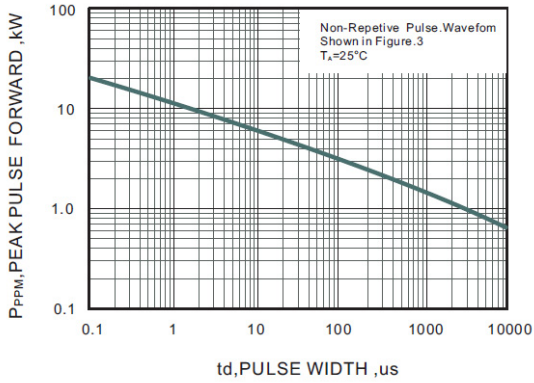
Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V <sub>BR</sub> @ I <sub>T</sub>						SMBF	
		V <sub>R</sub> RM	Min	Max	I <sub>T</sub>	I <sub>R</sub> @ V <sub>R</sub> RM	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>	Device Marking Code	
UNI	BI	V	V	V	mA	μA	V	A	UNI	BI
SMBFJ5.0A	SMBFJ5.0CA	5	6.4	7	10	800	9.2	65.3	KE	AE
SMBFJ6.0A	SMBFJ6.0CA	6	6.67	7.37	10	800	10.3	58.3	KG	AG
SMBFJ6.5A	SMBFJ6.5CA	6.5	7.22	7.98	10	500	11.2	53.6	KK	AK
SMBFJ7.0A	SMBFJ7.0CA	7	7.78	8.6	10	200	12.0	50.0	KM	AM
SMBFJ7.5A	SMBFJ7.5CA	7.5	8.33	9.21	1	100	12.9	46.6	KP	AP
SMBFJ8.0A	SMBFJ8.0CA	8	8.89	9.83	1	50	13.6	44.2	KR	AR
SMBFJ8.5A	SMBFJ8.5CA	8.5	9.44	10.4	1	20	14.4	41.7	KT	AT
SMBFJ9.0A	SMBFJ9.0CA	9	10	11.1	1	10	15.4	39.0	KV	AV
SMBFJ10A	SMBFJ10CA	10	11.1	12.3	1	5	17.0	35.3	KX	AX
SMBFJ11A	SMBFJ11CA	11	12.2	13.5	1	1	18.2	33.0	KZ	AZ
SMBFJ12A	SMBFJ12CA	12	13.3	14.7	1	1	19.9	30.0	LE	BE
SMBFJ13A	SMBFJ13CA	13	14.4	15.9	1	1	21.5	28.0	LG	BG
SMBFJ14A	SMBFJ14CA	14	15.6	17.2	1	1	23.2	25.9	LK	BK
SMBFJ15A	SMBFJ15CA	15	16.7	18.5	1	1	24.4	24.6	LM	BM
SMBFJ16A	SMBFJ16CA	16	17.8	19.7	1	1	26.0	23.1	LP	BP
SMBFJ17A	SMBFJ17CA	17	18.9	20.9	1	1	27.6	21.8	LR	BR
SMBFJ18A	SMBFJ18CA	18	20	22.1	1	1	29.2	20.6	LT	BT
SMBFJ20A	SMBFJ20CA	20	22.2	24.5	1	1	32.4	18.6	LV	BV
SMBFJ22A	SMBFJ22CA	22	24.4	26.9	1	1	35.5	16.9	LX	BX
SMBFJ24A	SMBFJ24CA	24	26.7	29.5	1	1	38.9	15.5	LZ	BZ
SMBFJ26A	SMBFJ26CA	26	28.9	31.9	1	1	42.1	14.3	ME	CE
SMBFJ28A	SMBFJ28CA	28	31.1	34.4	1	1	45.4	13.3	MG	CG
SMBFJ30A	SMBFJ30CA	30	33.3	36.8	1	1	48.4	12.4	MK	CK
SMBFJ33A	SMBFJ33CA	33	36.7	40.6	1	1	53.3	11.3	MM	CM
SMBFJ36A	SMBFJ36CA	36	40	44.2	1	1	58.1	10.4	MP	CP
SMBFJ40A	SMBFJ40CA	40	44.4	49.1	1	1	64.5	9.3	MR	CR
SMBFJ43A	SMBFJ43CA	43	47.8	52.8	1	1	69.4	8.7	MT	CT

**电性能参数 / Electrical Characteristics(Ta=25°C)**

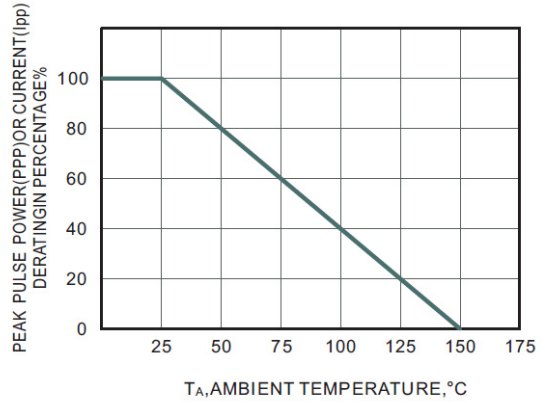
Type		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V <sub>BR</sub> @ I <sub>T</sub>						SMB	
		V <sub>RRM</sub>	Min	Max	I <sub>T</sub>	I <sub>R</sub> @ V <sub>RRM</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>	Device Marking Ccode	
UNI	BI	V	V	V	mA	uA	V	A	UNI	BI
SMBFJ45A	SMBFJ45CA	45	50	55.3	1	1	72.7	8.3	MV	CV
SMBFJ48A	SMBFJ48CA	48	53.3	58.9	1	1	77.4	7.8	MX	CX
SMBFJ51A	SMBFJ51CA	51	56.7	62.7	1	1	82.4	7.3	MZ	CZ
SMBFJ54A	SMBFJ54CA	54	60	66.3	1	1	87.1	6.9	NE	DE
SMBFJ58A	SMBFJ58CA	58	64.4	71.2	1	1	93.6	6.5	NG	DG
SMBFJ60A	SMBFJ60CA	60	66.7	73.7	1	1	96.8	6.2	NK	DK
SMBFJ64A	SMBFJ64CA	64	71.1	78.6	1	1	103.0	5.9	NM	DM
SMBFJ70A	SMBFJ70CA	70	77.8	86	1	1	113.0	5.3	NP	DP
SMBFJ75A	SMBFJ75CA	75	83.3	92.1	1	1	121.0	5.0	NR	DR
SMBFJ78A	SMBFJ78CA	78	86.7	95.8	1	1	126.0	4.8	NT	DT
SMBFJ85A	SMBFJ85CA	85	94.4	104	1	1	137.0	4.4	NV	DV
SMBFJ90A	SMBFJ90CA	90	100	111	1	1	146.0	4.1	NX	DX
SMBFJ100A	SMBFJ100CA	100	111	123	1	1	162.0	3.7	NZ	DZ
SMBFJ110A	SMBFJ110CA	110	122	135	1	1	177.0	3.4	PE	EE
SMBFJ120A	SMBFJ120CA	120	133	147	1	1	193.0	3.1	PG	EG
SMBFJ130A	SMBFJ130CA	130	144	159	1	1	209.0	2.9	PK	EK
SMBFJ150A	SMBFJ150CA	150	167	185	1	1	243.0	2.5	PM	EM
SMBFJ160A	SMBFJ160CA	160	178	197	1	1	259.0	2.3	PP	EP
SMBFJ170A	SMBFJ170CA	170	189	209	1	1	275.0	2.2	PR	ER
SMBFJ180A	SMBFJ180CA	180	201	222	1	1	292.0	2.1	PT	ET
SMBFJ188A	SMBFJ188CA	188	209	231	1	1	304.0	2.0	PB	EB
SMBFJ200A	SMBFJ200CA	200	224	247	1	1	324.0	1.9	PV	EV
SMBFJ220A	SMBFJ220CA	220	246	272	1	1	356.0	1.7	PX	EX
SMBFJ250A	SMBFJ250CA	250	279	309	1	1	405.0	1.5	PZ	EZ
SMBFJ300A	SMBFJ300CA	300	335	371	1	1	486.0	1.3	QE	FE
SMBFJ350A	SMBFJ350CA	350	391	432	1	1	567.0	1.1	QG	FG
SMBFJ400A	SMBFJ400CA	400	447	494	1	1	648.0	0.6	QK	FK
SMBFJ440A	SMBFJ440CA	440	492	543	1	1	713.0	0.9	QM	FM

**电参数曲线图 / Electrical Characteristic Curve**

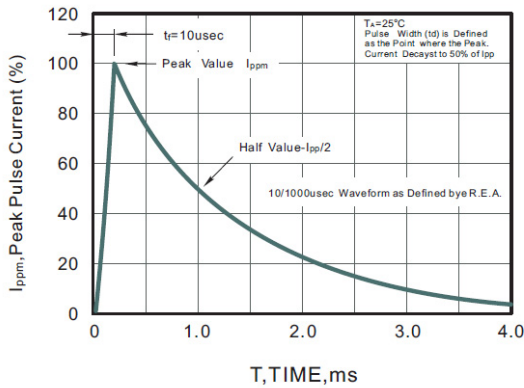
**Fig.1 Peak Pulse Power Rating Curve**



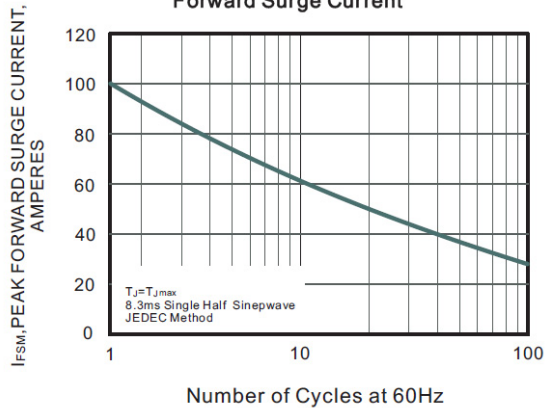
**Fig.2 Forward Current Derating Curve**



**Fig.3 Pulse Waveform**

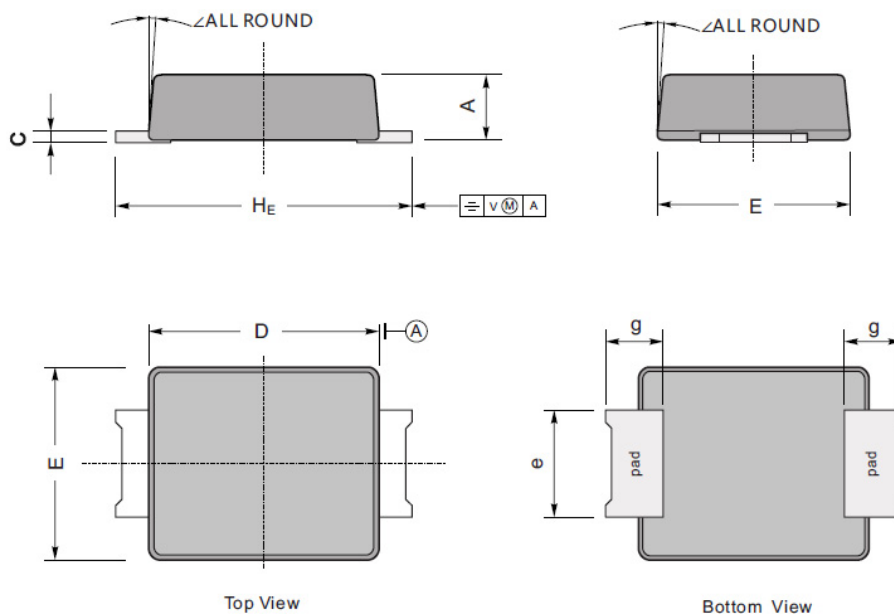


**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



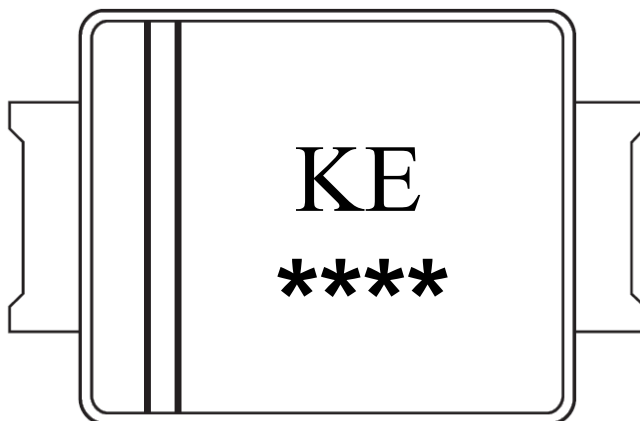
外形尺寸图 / Package Dimensions

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		

## 单极性印章图



说明：

KE : 为型号代码

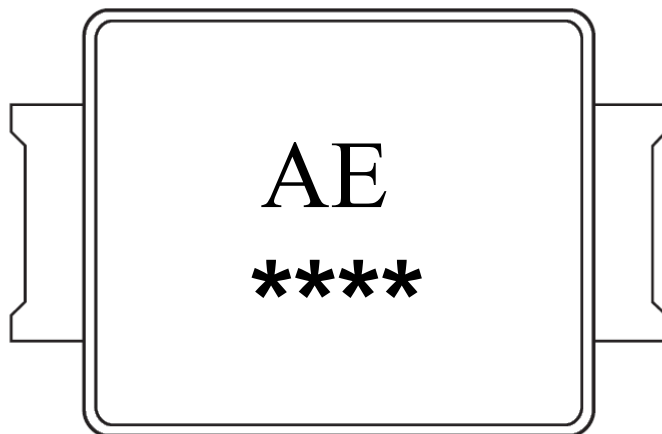
\*\*\*\* : 为生产批号追溯码，第1个\*为年月代码，后面3个\*为当月小批号代码

Note:

KE : Product Type Code

\*\*\*\* : Lot No. Code ,The 1st \* means:YM Code ,The last 3 \* means:little Lot No  
Code

## 双极性印章图



说明：

KE : 为型号代码

\*\*\*\* : 为生产批号追溯码，第1个\*为年月代码，后面3个\*为当月小批号代码

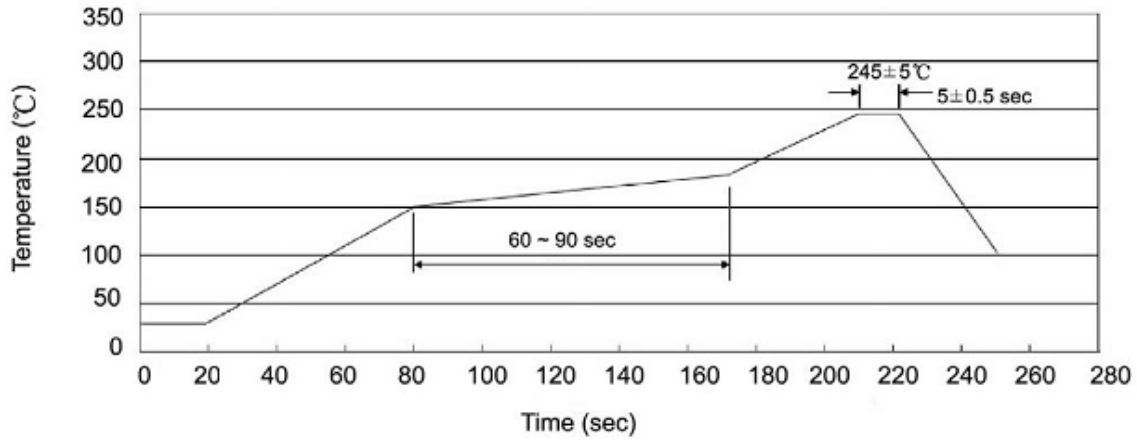
Note:

KE : Product Type Code

\*\*\*\* : Lot No. Code ,The 1st \* means:YM Code ,The last 3 \* means:little Lot No Code



**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec;
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm <sup>3</sup> )		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SMBF	5000	2	10000	5	50000	13" ×15	336X332X40	380X335X366

**使用说明 / Notices**