

RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

## FEATURES

- For surface mounted applications
- Low profile package
- Low incremental surge resistance, excellent clamping capability.
- 200W peak pulse power capability with a 10/1000  $\mu$ s wave from, repetition rate (duty cycle):0.01%.
- High temperature soldering guaranteed:  
260°C / 40 seconds at terminals

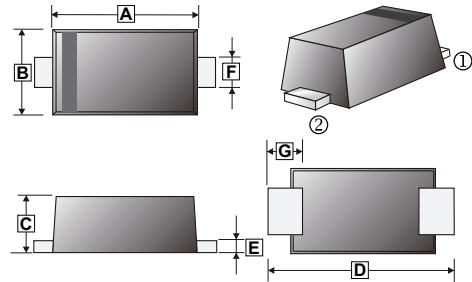
## MECHANICAL DATA

- Case: JEDEC SOD-123FS. molded plastic
- Polarity: Indicated by cathode band
- Mounting position: Any
- Weight: 0.006 ounces, 0.0155 grams

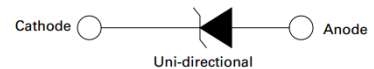
## PACKAGE INFORMATION

Package	MPQ	Leader Size
SOD-123FS	3K	7' inch

### SOD-123FS



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.50	2.90	E	0.05	0.26
B	1.50	2.00	F	0.70	1.20
C	0.95	1.10	G	0.35	0.90
D	3.40	3.90			



## MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise specified )

Parameter	Symbol	Value	Units
Non-repetitive peak pulse power dissipation with a 10/1000 $\mu$ s waveform <sup>1</sup>	P <sub>PPM</sub>	200	W
Thermal resistance junction to ambient	R <sub>θJA</sub>	220	°C / W
Thermal resistance junction to Lead	R <sub>θJL</sub>	100	°C / W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55~150	°C

Notes:

1. Non-repetitive current pulse, per Fig.4 and de-rated above T<sub>A</sub>=25°C per Fig.3

**ELECTRICAL CHARACTERISTICS** (Rating  $T_A=25^\circ\text{C}$  unless otherwise specified)

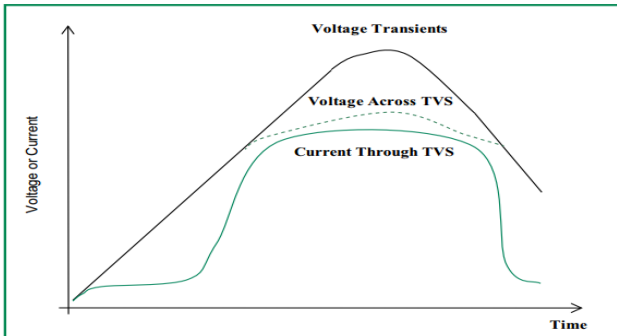
PART NUMBER	Marking	Reverse Stand Off Voltage $V_R$	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Maximum Reverse Leakage $I_R @ V_{RWM}$	Peak Pulse Current $I_{PP}$	Maximum Clamping Voltage $V_C @ I_{PP}$
			Min	Max				
			V	V				
SFS5.0A	AE	5	6.4	7	10	400	21.7	9.2
SFS6.0A	AG	6	6.67	7.37	10	400	19.4	10.3
SFS6.5A	AK	6.5	7.22	7.98	10	250	17.9	11.2
SFS7.0A	AM	7	7.78	8.6	10	100	16.7	12
SFS7.5A	AP	7.5	8.33	9.21	1	50	15.5	12.9
SFS8.0A	AR	8	8.89	9.83	1	25	14.7	13.6
SFS8.5A	AT	8.5	9.44	10.4	1	10	13.9	14.4
SFS9.0A	AV	9	10	11.1	1	5	13	15.4
SFS10A	AX	10	11.1	12.3	1	2.5	11.8	17
SFS11A	AZ	11	12.2	13.5	1	2.5	11	18.2
SFS12A	BE	12	13.3	14.7	1	2.5	10.1	19.9
SFS13A	BG	13	14.4	15.9	1	1	9.3	21.5
SFS14A	BK	14	15.6	17.2	1	1	8.6	23.2
SFS15A	BM	15	16.7	18.5	1	1	8.2	24.4
SFS16A	BP	16	17.8	19.7	1	1	7.7	26
SFS17A	BR	17	18.9	20.9	1	1	7.2	27.6
SFS18A	BT	18	20	22.1	1	1	6.8	29.2
SFS20A	BV	20	22.2	24.5	1	1	6.2	32.4
SFS22A	BX	22	24.4	26.9	1	1	5.6	35.5
SFS24A	BZ	24	26.7	29.5	1	1	5.1	38.9
SFS26A	CE	26	28.9	31.9	1	1	4.8	42.1
SFS28A	CG	28	31.1	34.4	1	1	4.4	45.4
SFS30A	CK	30	33.3	36.8	1	1	4.1	48.4
SFS33A	CM	33	36.7	40.6	1	1	3.8	53.3
SFS36A	CP	36	40	44.2	1	1	3.4	58.1
SFS40A	CR	40	44.4	49.1	1	1	3.1	64.5
SFS43A	CT	43	47.8	52.8	1	1	2.9	69.4
SFS45A	CV	45	50	55.3	1	1	2.8	72.7
SFS48A	CX	48	53.3	58.9	1	1	2.6	77.4
SFS51A	CZ	51	56.7	62.7	1	1	2.4	82.4
SFS54A	DE	54	60	66.3	1	1	2.3	87.1

Notes:

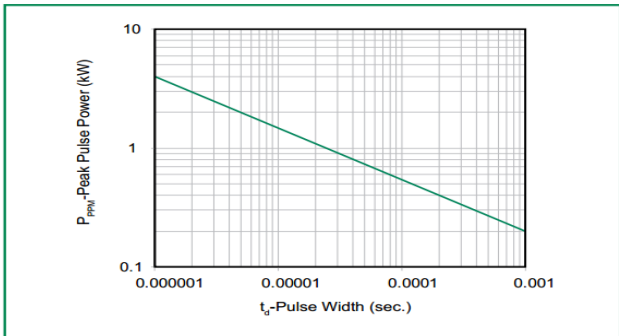
1. VBR measured after  $I_T$  applied for 300 $\mu\text{s}$ ,  $I_T$  = square wave pulse or equivalent.
2. Surge current waveform per 10 x 1000 $\mu\text{s}$  exponential wave and de-rated per Fig.2.
3. All terms and symbols are consistent with ANSI/IEEE C62.35.

**RATINGS AND CHARACTERISTIC CURVES**

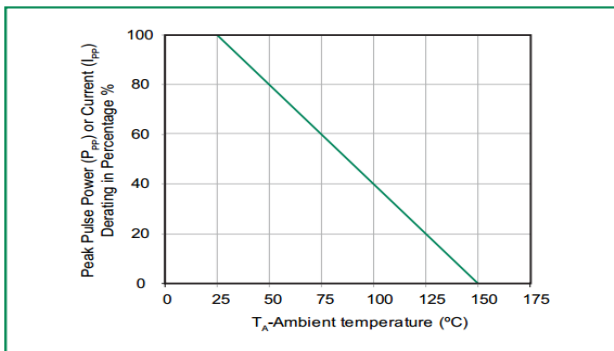
**Figure 1 - TVS Transients Clamping Waveform**



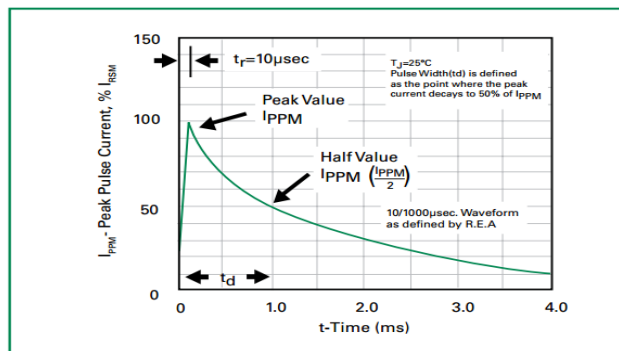
**Figure 2 - Peak Pulse Power Rating Curve**



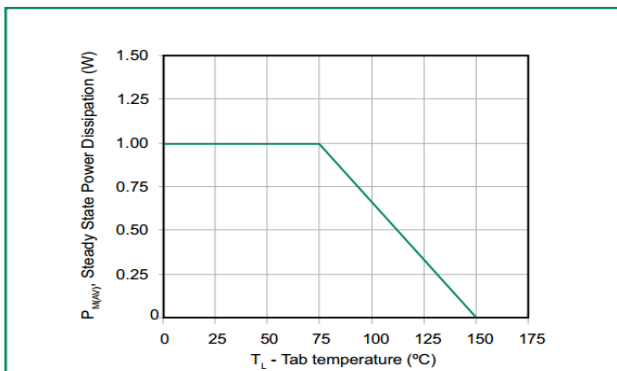
**Figure 3 - Pulse Derating Curve**



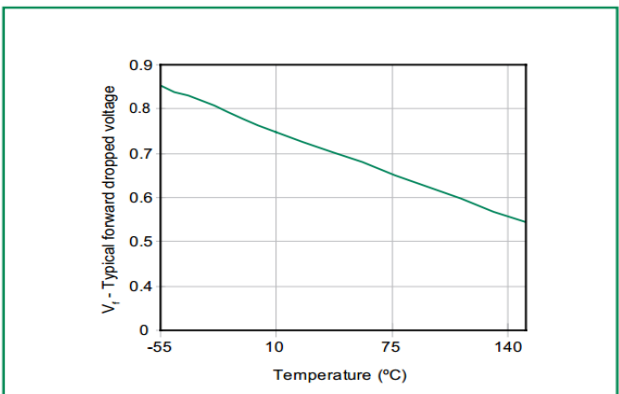
**Figure 4 - Pulse Waveform - 10x1000µS**



**Figure 5 - Steady State Power Dissipation Derating Curve**



**Figure 6 - Forward Voltage**



**Figure 7 - C<sub>i</sub> vs. Working Peak Reverse Voltage**

