

### Features

- For surface mounted applications in order to optimize board space.
- Low profile package.
- Excellent clamping capability.
- IEC61000-4-2 ESD 15kV Air,8kV contact compliance
- Protects one I/O line
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free

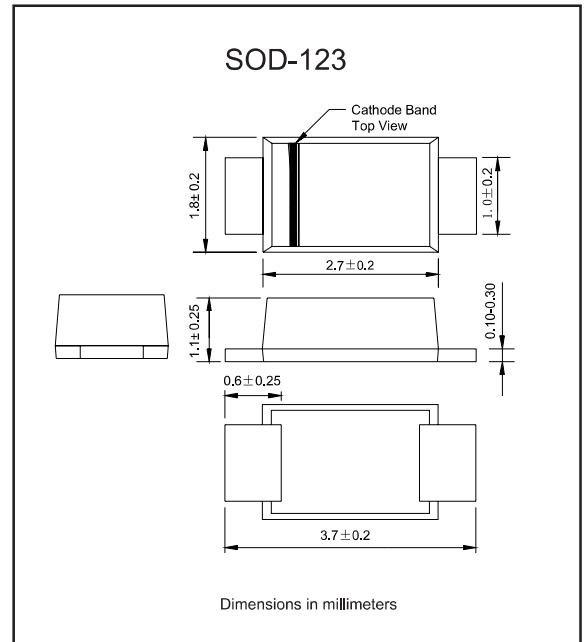
### Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Portable devices
- Portable instrumentation
- Handhelds and notebooks
- Digital cameras

### Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

### Package outline



### Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	Value	UNIT
Peak Power Dissipation	Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$ by $10 \times 1000\mu\text{s}$ (Note 1)	$P_{PPM}$	400	W
Operating junction temperature range		$T_J$	-55 to +150	$^\circ\text{C}$
Storage temperature range		$T_{STG}$	-55 to +150	$^\circ\text{C}$

Note: 1. Non-repetitive current pulse, per Fig. 2 and derated above  $T_A=25^\circ\text{C}$  per Fig. 1

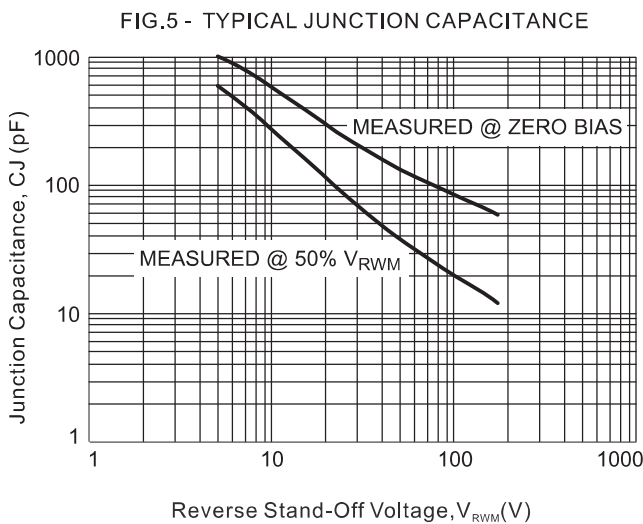
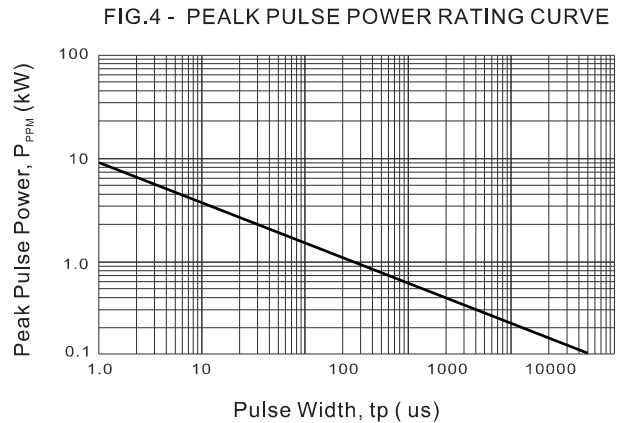
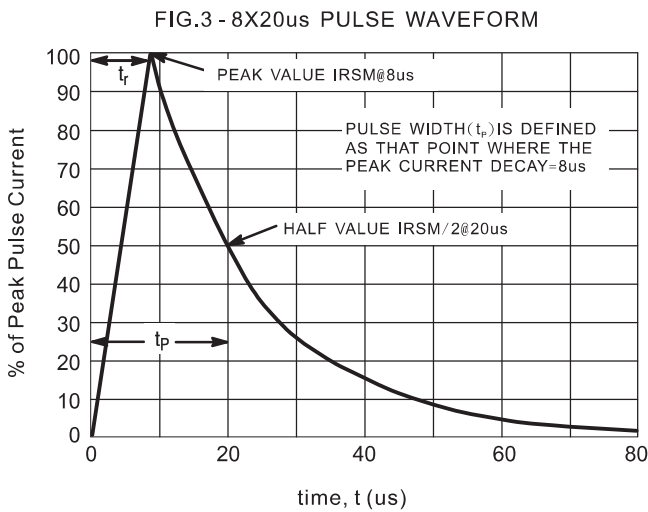
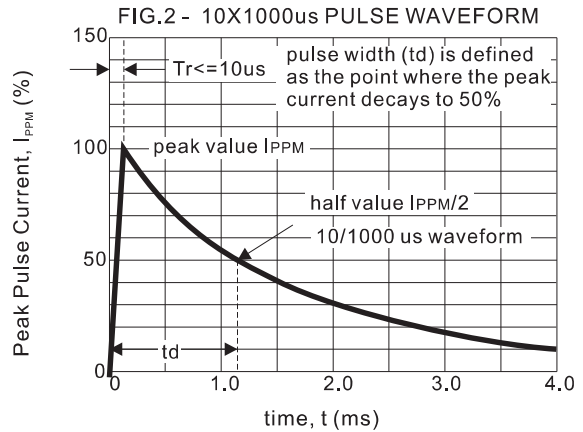
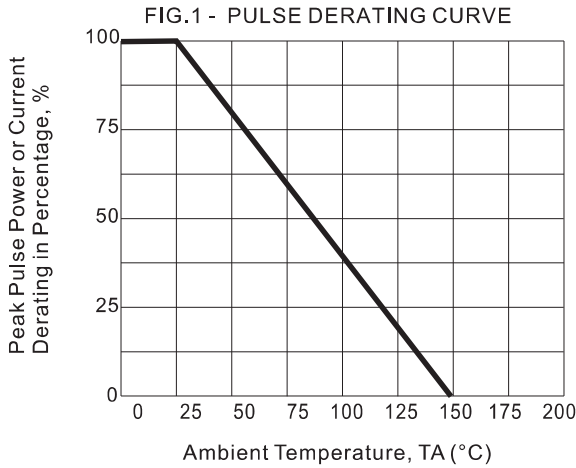
## 400W Surface Mount Unidirectional Bidirectional Transient Voltage Suppressors Diodes- 5.0V- 170V

### Electrical characteristics (at T =25°C unless otherwise noted)





Part Number Add C For Bi-Directional (Note 4)	Reverse Standoff Voltage $V_{RWM}$ (V)	Breakdown Voltage $V_{BR}$ @ $I_T$ (Note 5)		Test Current $I_T$ (mA)	Max. Reverse Leakage @ $V_{RWM}$ (Note 6) $I_R$ ( $\mu$ A)	Max. Clamping Voltage @ $I_{PP}$ $V_C$ (V)	Max. Peak Pulse Current $I_{PP}$ (A)	Marking Code	
		Min (V)	Max (V)					BI-	UNI-
S4MF5.0(C)A	5.0	6.40	7.25	10	40	9.2	43.5	4TE	4KE
S4MF6.0(C)A	6.0	6.67	7.37	10	40	10.3	38.0	4TG	4KG
S4MF6.5(C)A	6.5	7.22	7.98	10	30	11.2	35.7	4TK	4KK
S4MF7.0(C)A	7.0	7.78	8.60	10	30	12.0	33.3	4TM	4KM
S4MF7.5(C)A	7.5	8.33	9.21	1.0	30	12.9	31.0	4TP	4KP
S4MF8.0(C)A	8.0	8.89	9.83	1.0	20	13.6	29.4	4TR	4KR
S4MF8.5(C)A	8.5	9.44	10.4	1.0	10	14.4	27.7	4TT	4KT
S4MF9.0(C)A	9.0	10.0	11.1	1.0	5.0	15.4	26.0	4TV	4KV
S4MF10(C)A	10	11.1	12.3	1.0	2.0	17.0	23.5	4TX	4KX
S4MF11(C)A	11	12.2	13.5	1.0	1.0	18.2	22.0	4TZ	4KZ
S4MF12(C)A	12	13.3	14.7	1.0	1.0	19.9	20.1	4UE	4LE
S4MF13(C)A	13	14.4	15.9	1.0	1.0	21.5	18.6	4UG	4LG
S4MF14(C)A	14	15.6	17.2	1.0	1.0	23.2	17.2	4UK	4LK
S4MF15(C)A	15	16.7	18.5	1.0	1.0	24.4	16.4	4UM	4LM
S4MF16(C)A	16	17.8	19.7	1.0	1.0	26.0	15.4	4UP	4LP
S4MF17(C)A	17	18.9	20.9	1.0	1.0	27.6	14.5	4UR	4LR
S4MF18(C)A	18	20.0	22.1	1.0	1.0	29.2	13.7	4UT	4LT
S4MF20(C)A	20	22.2	24.5	1.0	1.0	32.4	12.3	4UV	4LV
S4MF22(C)A	22	24.4	26.9	1.0	1.0	35.5	11.2	4UX	4LX
S4MF24(C)A	24	26.7	29.5	1.0	1.0	38.9	10.3	4UZ	4LZ
S4MF26(C)A	26	28.9	31.9	1.0	1.0	42.1	9.5	4VE	4ME
S4MF28(C)A	28	31.1	34.4	1.0	1.0	45.4	8.8	4VG	4MG
S4MF30(C)A	30	33.3	36.8	1.0	1.0	48.4	8.3	4VK	4MK
S4MF33(C)A	33	36.7	40.6	1.0	1.0	53.3	7.5	4VM	4MM
S4MF36(C)A	36	40.0	44.2	1.0	1.0	58.1	6.9	4VP	4MP
S4MF40(C)A	40	44.4	49.1	1.0	1.0	64.5	6.2	4VR	4MR
S4MF43(C)A	43	47.8	52.8	1.0	1.0	69.4	5.8	4VT	4MT
S4MF45(C)A	45	50.0	55.3	1.0	1.0	72.7	5.5	4VV	4MV
S4MF48(C)A	48	53.3	58.9	1.0	1.0	77.4	5.2	4VX	4MX
S4MF51(C)A	51	56.7	62.7	1.0	1.0	82.4	4.9	4VZ	4MZ
S4MF54(C)A	54	60.0	66.3	1.0	1.0	87.1	4.6	4WE	4NE
S4MF58(C)A	58	64.4	71.2	1.0	1.0	93.6	4.3	4WG	4NG
S4MF60(C)A	60	66.7	73.7	1.0	1.0	96.8	4.1	4WK	4NK
S4MF64(C)A	64	71.1	78.6	1.0	1.0	103	3.9	4WM	4NM
S4MF70(C)A	70	77.8	86.0	1.0	1.0	113	3.5	4WP	4NP
S4MF75(C)A	75	83.3	92.1	1.0	1.0	121	3.3	4WR	4NR
S4MF78(C)A	78	86.7	95.8	1.0	1.0	126	3.2	4WT	4NT
S4MF85(C)A	85	94.4	104	1.0	1.0	137	2.9	4WV	4NV
S4MF90(C)A	90	100	111	1.0	1.0	146	2.7	4WX	4NX
S4MF100(C)A	100	111	123	1.0	1.0	162	2.5	4WZ	4NZ
S4MF110(C)A	110	122	135	1.0	1.0	177	2.3	4XE	4PE
S4MF120(C)A	120	133	147	1.0	1.0	193	2.1	4XG	4PG
S4MF130(C)A	130	144	159	1.0	1.0	209	1.9	4XK	4PK
S4MF150(C)A	150	167	185	1.0	1.0	243	1.6	4XM	4PM
S4MF160(C)A	160	178	197	1.0	1.0	259	1.5	4XP	4PP
S4MF170(C)A	170	189	209	1.0	1.0	275	1.5	4XR	4PR

- Notes: 4. Suffix C denotes Bi-directional device.  
5.  $V_{BR}$  measured with  $I_T$  current pulse = 300 $\mu$ s  
6. For Bi-Directional devices having  $V_{RWM}$  of 10V and under, the  $I_R$  is doubled.

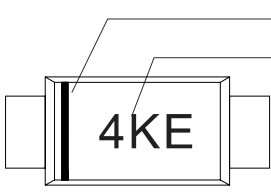

### Rating and characteristic curves (S4MF SERIES)



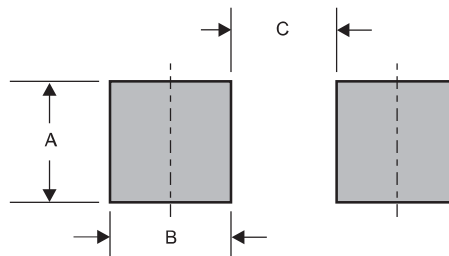
## Pinning information

Pin	Simplified outline	Symbol
Uni-Directional Pin1 cathode Pin2 anode		
Bi-Directional		

## Marking

Type number	Example
Uni-Directional	 <p>Cathode band Marking code (see page 2)</p>
Bi-Directional	 <p>Marking code (see page 2)</p>

## Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.044 (1.10)	0.040 (1.00)	0.079 (2.00)