

Features

- Low profile package with built-in strain relief for SMT applications
- Low incremental surge resistance, excellent clamping capability
- 400W peak pulse power capability with very fast response time
- High temperature soldering guaranteed: 260°C / 10s at terminals
- RoHS compliant with Halogen-free
- Qualified to AEC-Q101 Standards

HF



SOD-123FL

Mechanical Data

- Case: SOD-123FL
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
TP4SMF3V3A - TP4SMF78A	SOD-123FL	10000 pcs / Tape & Reel	see E. Characteristics

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (t _p = 10/1000μs)	P _{PP}	400	W
Peak Pulse Current (t _p = 10/1000μs)	I _{PP}	see E. Characteristics	A
Forward Voltage @ I _F = 1A	V _F	1.6	V

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	85	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	23	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	15	°C/W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

Electrical Characteristics (@ T_A = 25°C unless otherwise specified)

Type	Marking	Breakdown Voltage V _{BR} @I _T		Test Current	Reverse Standoff Voltage	Max. Reverse Leakage@ V _{RWM}	Max. Peak Pulse Current	Max. Clamping Voltage@I _{PP}
		V		I _T	V _{RWM}	I _R	I _{PP}	V _C
		Min	Max	mA	V	uA	A	V
TP4SMF3V3A	ADG	5.2	6	10	3.3	400	47	8.5
TP4SMF5V0A	AEG	6.4	7	10	5	400	43.5	9.2
TP4SMF6V0A	AGG	6.7	7.4	10	6	400	38.8	10.3
TP4SMF6V5A	AKG	7.2	8	10	6.5	250	35.7	11.2
TP4SMF7V0A	AMG	7.8	8.6	10	7	100	33.3	12.0
TP4SMF7V5A	APG	8.3	9.2	1	7.5	50	31.0	12.9
TP4SMF8V0A	ARG	8.9	9.8	1	8	25	29.4	13.6
TP4SMF8V5A	ATG	9.4	10.4	1	8.5	10	27.8	14.4
TP4SMF9V0A	AVG	10	11.1	1	9	5	26.0	15.4
TP4SMF10A	AXG	11.1	12.3	1	10	2.5	23.5	17.0
TP4SMF11A	AZG	12.2	13.5	1	11	2.5	22.0	18.2
TP4SMF12A	BEG	13.3	14.7	1	12	2.5	20.1	19.9
TP4SMF13A	BGG	14.4	15.9	1	13	1	18.6	21.5
TP4SMF14A	BKG	15.6	17.2	1	14	1	17.2	23.2
TP4SMF15A	BMG	16.7	18.5	1	15	1	16.4	24.4
TP4SMF16A	BPG	17.8	19.7	1	16	1	15.4	26.0
TP4SMF17A	BRG	18.9	20.9	1	17	1	14.5	27.6
TP4SMF18A	BTG	20	22.1	1	18	1	13.7	29.2
TP4SMF20A	BVG	22.2	24.5	1	20	1	12.3	32.4
TP4SMF22A	BXG	24.4	26.9	1	22	1	11.3	35.5
TP4SMF24A	BZG	26.7	29.5	1	24	1	10.3	38.9
TP4SMF26A	CEG	28.9	31.9	1	26	1	9.5	42.1
TP4SMF28A	CGG	31.1	34.4	1	28	1	8.8	45.4
TP4SMF30A	CKG	33.3	36.8	1	30	1	8.3	48.4
TP4SMF33A	CMG	36.7	40.6	1	33	1	7.5	53.3
TP4SMF36A	CPG	40	44.2	1	36	1	6.9	58.1
TP4SMF40A	CRG	44.4	49.1	1	40	1	6.2	64.5
TP4SMF43A	CTG	47.8	52.8	1	43	1	5.8	69.4
TP4SMF45A	CVG	50	55.3	1	45	1	5.5	72.7
TP4SMF48A	CXG	53.3	58.9	1	48	1	5.2	77.4
TP4SMF50A	DPG	55.5	61.4	1	50	1	5.0	80.6
TP4SMF51A	CZG	56.7	62.7	1	51	1	4.9	82.4
TP4SMF54A	DEG	60	66.3	1	54	1	4.6	87.1
TP4SMF58A	DGG	64	71.2	1	58	1	4.3	93.6
TP4SMF60A	DKG	66.7	73.7	1	60	1	4.1	96.8
TP4SMF64A	DMG	71.1	78.6	1	64	1	3.9	103
TP4SMF70A	DRG	77.8	86	1	70	1	3.5	113
TP4SMF75A	DTG	83.3	92.1	1	75	1	3.3	121
TP4SMF78A	DUG	86.7	95.8	1	78	1	3.2	126

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

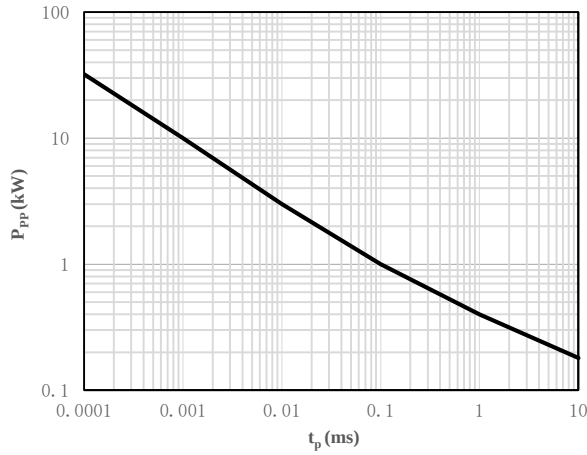


Fig 1 Peak Pulse Power Rating

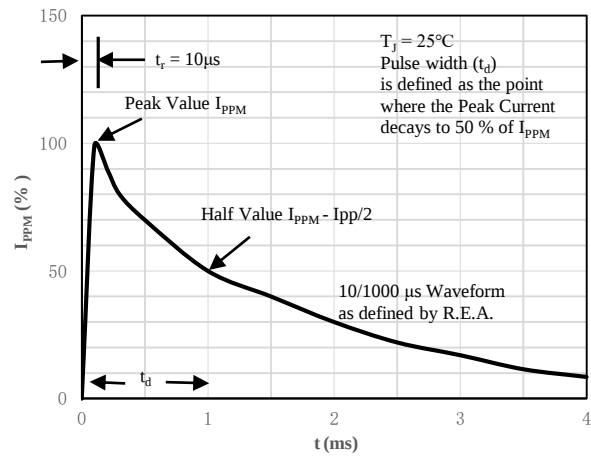


Fig 2 Pulse Waveform

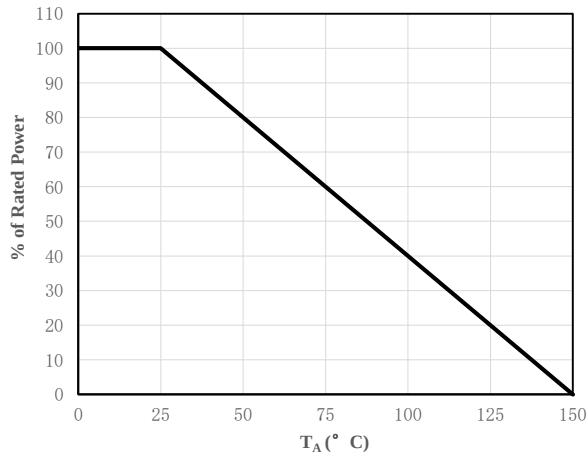
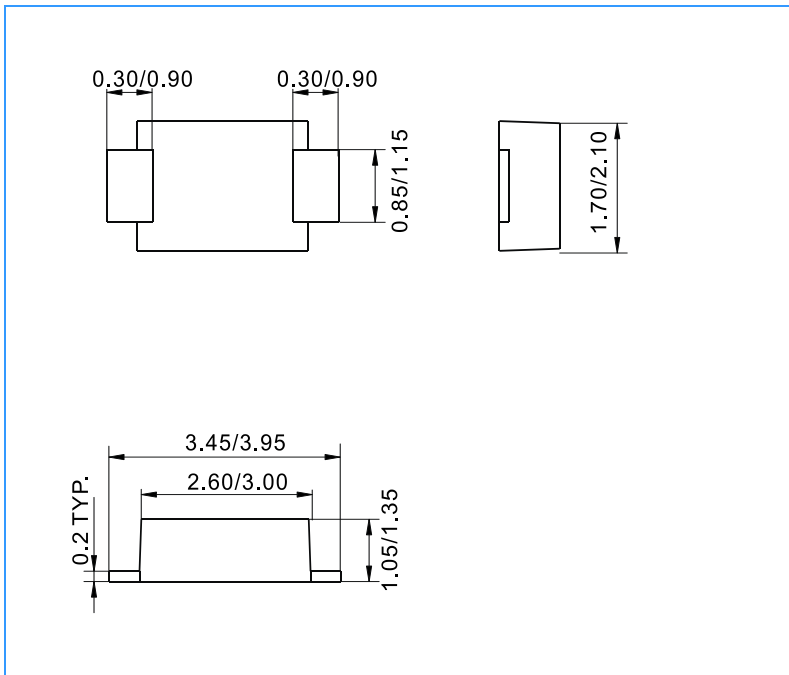


Fig 3 Power Derating Curve

Package Outline Dimensions (Unit: mm)



Mounting Pad Layout (Unit: mm)

