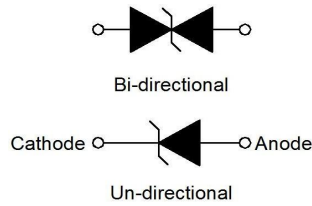


400W Transient Voltage Suppressor

Parameter	Value	Unit
P _{PP}	400	W
V _{RWM}	3.3~75	V
T _j	-55 to +125	°C



SMF/SOD-123FL

Features

- For surface mounted applications
- Excellent clamping capability
- 400W peak pulse power capability with a 10/1000μs waveform
- Low profile package and low inductance
- Typical I_R less than 1uA above 12V
- Fast response time: typically less than 1.0ps from 0V to V_{BR} min

Applications

- Computer System
- Domestic Appliance
- Video Input

Maximum Rated Values (at T_j = 25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000μs waveform	P _{PP}	400	W
Steady state power dissipation at T _L =75°C	P _{M(AV)}	1.0	W
Operating junction temperature range	T _j	-55 to +125	°C
Storage temperature range	T _{stg}	-55 to +150	°C

Electrical Characteristics (at T_j = 25°C unless otherwise specified)

Part Number		VR	IR@VR	VBR@IT		IT	VC@IPP	IPP①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
P4SMFT3.3A	/	3.3	200	5.2	6	10	8.0	50.00
P4SMFT5.0A	P4SMFT5.0CA	5.0	400	6.40	7.00	10	9.2	43.48
P4SMFT6.0A	P4SMFT6.0CA	6.0	400	6.67	7.37	10	10.3	38.84
P4SMFT6.5A	P4SMFT6.5CA	6.5	250	7.22	7.98	10	11.2	35.72
P4SMFT7.0A	P4SMFT7.0CA	7.0	100	7.78	8.60	10	12.0	33.34
P4SMFT7.5A	P4SMFT7.5CA	7.5	50	8.33	9.21	1	12.9	31.01
P4SMFT8.0A	P4SMFT8.0CA	8.0	25	8.89	9.83	1	13.6	29.42
P4SMFT8.5A	P4SMFT8.5CA	8.5	10	9.44	10.40	1	14.4	27.78
P4SMFT9.0A	P4SMFT9.0CA	9.0	5	10.00	11.10	1	15.4	25.98
P4SMFT10A	P4SMFT10CA	10.0	2.5	11.10	12.30	1	17.0	23.53
P4SMFT11A	P4SMFT11CA	11.0	2.5	12.20	13.50	1	18.2	21.98

P4SMFT12A	P4SMFT12CA	12.0	2.5	13.30	14.70	1	19.9	20.11
P4SMFT13A	P4SMFT13CA	13.0	1	14.40	15.90	1	21.5	18.61
P4SMFT14A	P4SMFT14CA	14.0	1	15.60	17.20	1	23.2	17.25
P4SMFT15A	P4SMFT15CA	15.0	1	16.70	18.50	1	24.4	16.40
P4SMFT16A	P4SMFT16CA	16.0	1	17.80	19.70	1	26.0	15.39
P4SMFT17A	P4SMFT17CA	17.0	1	18.90	20.90	1	27.6	14.50
P4SMFT18A	P4SMFT18CA	18.0	1	20.00	22.10	1	29.2	13.70
P4SMFT20A	P4SMFT20CA	20.0	1	22.20	24.50	1	32.4	12.35
P4SMFT22A	P4SMFT22CA	22.0	1	24.40	26.90	1	35.5	11.27
P4SMFT24A	P4SMFT24CA	24.0	1	26.70	29.50	1	38.9	10.29
P4SMFT26A	P4SMFT26CA	26.0	1	28.90	31.90	1	42.1	9.51
P4SMFT28A	P4SMFT28CA	28.0	1	31.10	34.40	1	45.4	8.82
P4SMFT30A	P4SMFT30CA	30.0	1	33.30	36.80	1	48.4	8.27
P4SMFT33A	P4SMFT33CA	33.0	1	36.70	40.60	1	53.3	7.51
P4SMFT36A	P4SMFT36CA	36.0	1	40.00	44.20	1	58.1	6.89
P4SMFT40A	P4SMFT40CA	40.0	1	44.40	49.10	1	64.5	6.21
P4SMFT43A	P4SMFT43CA	43.0	1	47.80	52.80	1	69.4	5.77
P4SMFT45A	P4SMFT45CA	45.0	1	50.00	55.30	1	72.7	5.51
P4SMFT48A	P4SMFT48CA	48.0	1	53.30	58.90	1	77.4	5.17
P4SMFT51A	P4SMFT51CA	51.0	1	56.70	62.70	1	82.4	4.86
P4SMFT54A	P4SMFT54CA	54.0	1	60.00	66.30	1	87.1	4.60
P4SMFT58A	P4SMFT58CA	58.0	1	64.4	71.20	1	93.6	4.28
P4SMFT60A	P4SMFT60CA	60.0	1	66.7	73.70	1	96.8	4.14
P4SMFT64A	P4SMFT64CA	64.0	1	71.10	78.60	1	103.0	3.89
P4SMFT70A	P4SMFT70CA	70.0	1	77.8	86.00	1	113.0	3.54
P4SMFT75A	P4SMFT75CA	75.0	1	83.3	92.10	1	121.0	3.31
P4SMFT43A	P4SMFT43CA	43.0	1	47.8	52.80	1	69.4	5.77
P4SMFT45A	P4SMFT45CA	45.0	1	50.00	55.30	1	72.7	5.51
P4SMFT48A	P4SMFT48CA	48.0	1	53.30	58.90	1	77.4	5.17
P4SMFT51A	P4SMFT51CA	51.0	1	56.70	62.70	1	82.4	4.86
P4SMFT54A	P4SMFT54CA	54.0	1	60.00	66.30	1	87.1	4.60
P4SMFT58A	P4SMFT58CA	58.0	1	64.4	71.20	1	93.6	4.28
P4SMFT60A	P4SMFT60CA	60.0	1	66.7	73.70	1	96.8	4.14
P4SMFT64A	P4SMFT64CA	64.0	1	71.10	78.60	1	103.0	3.89
P4SMFT70A	P4SMFT70CA	70.0	1	77.80	86.00	1	113.0	3.54
P4SMFT75A	P4SMFT75CA	75.0	1	83.30	92.10	1	121.0	3.31

Ratings And V-I Characteristics Curves (at $T_j=25^\circ\text{C}$, unless otherwise noted)

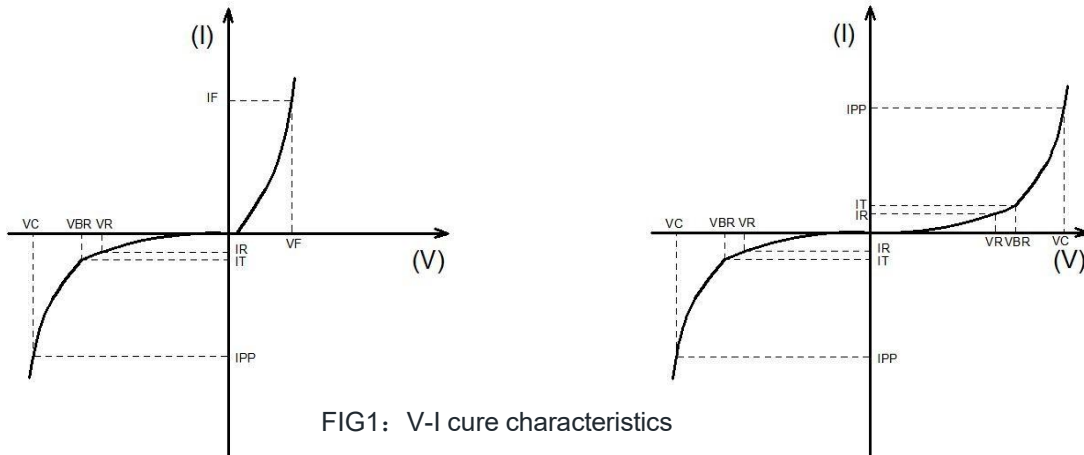


FIG1: V-I cure characteristics

Symbol	Parameter
I_F	Mean Forward Current
V_F	Maximum Forward Voltage @ I_F
V_R	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_R
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}

Typical Characteristics

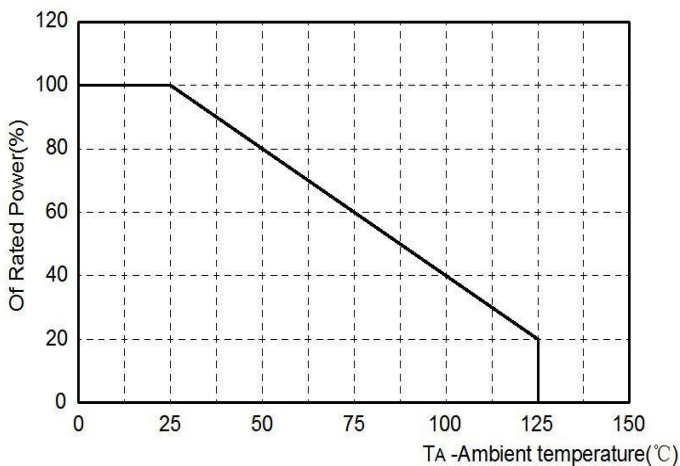


FIG2: Pulse Derating Curve

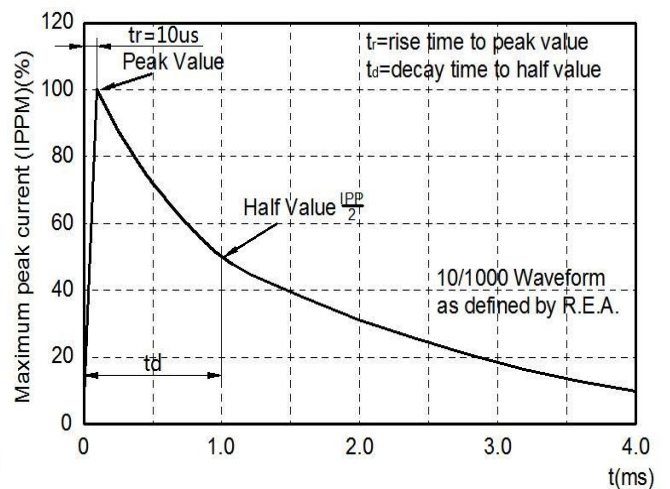


FIG3: Pulse Waveform

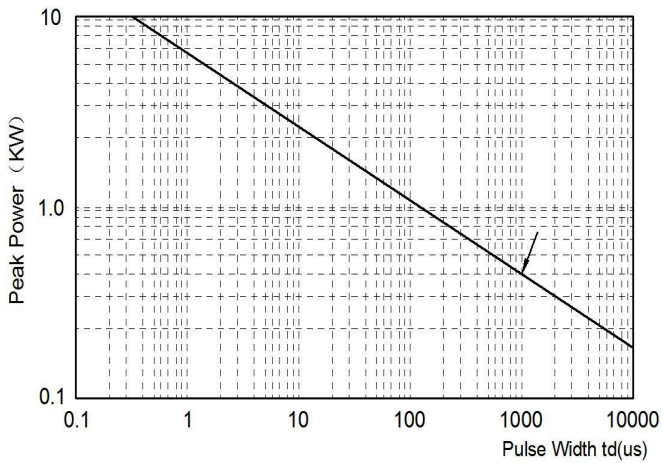


FIG4: Peak Pulse Power Rating Curve

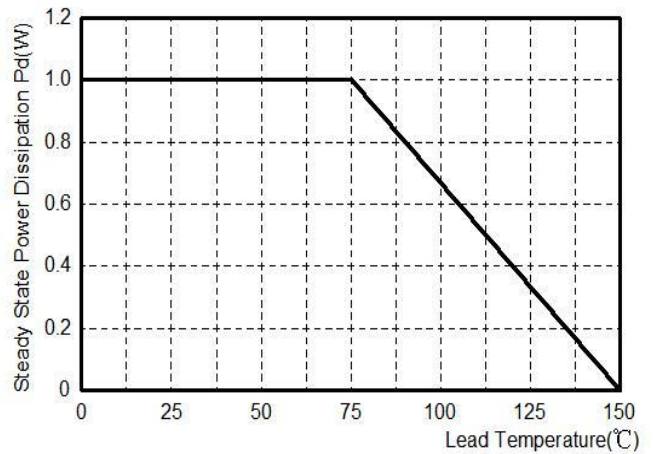
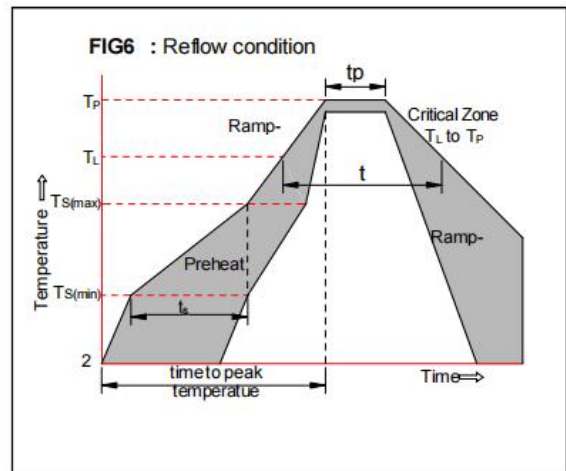


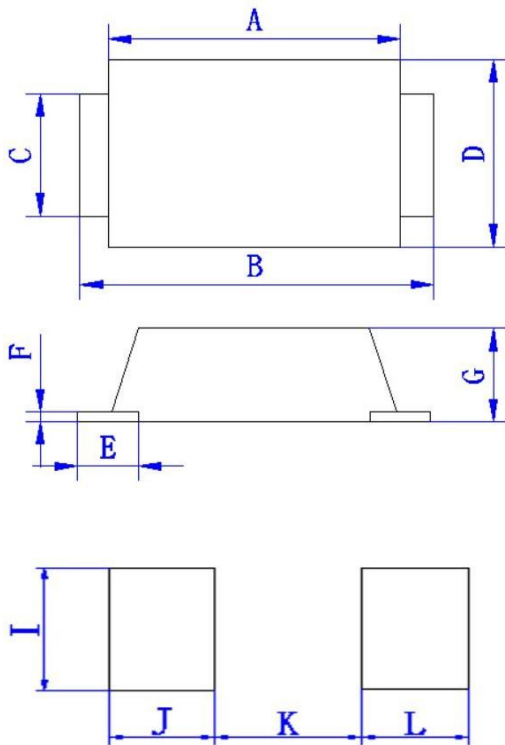
FIG5: Steady State Power Dissipation

Soldering parameters

Reflow Condition		Pb-Free assembly (see as below)
Pre Heat	Temperature Min ($T_{s(min)}$)	+150°C
	Temperature Max($T_{s(max)}$)	+200°C
	Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	Temperature(T_L)(Liquid us)	+217°C
	Temperature(t_L)	60-150 secs.
Peak Temp (T_P)		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		+260°C



Package Outlines SOD-123FL



Ref.(mm)	Millimeters	
	Min.	Max.
A	2.5	3.0
B	3.4	4.0
C	0.7	1.1
D	1.5	1.9
E	0.45	0.95
F	0.05	0.26
G	0.9	1.1
I	1.2	-
J	0.85	-
K	-	2.3
L	0.85	-

*Important Usage Information and Disclaimer

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