

GSMF5.0CA thru GSMF220CA

Surface Mount Transient Voltage Suppressors
 Peak Pulse Power 200W Stand-off Voltage 5.0V to 220V

Features

- 200W peak pulse power
- Fast response time
- Low incremental surge resistance
- Excellent clamping capability
- Low profile package with built-in strain relief
- High temperature soldering guaranteed: 260°C/10s at terminals



SOD-123FL



Bi-directional

Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

Maximum Ratings and Thermal Characteristics

($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Power Dissipation with a 10/1000 μs Waveform ¹	P_{PPM}	200	W
Peak Pulse Current with a 10/1000 μs Waveform ¹	I_{PPM}	Next Page	A
Power Dissipation, on Infinite Heat Sink, $T_L=75^\circ\text{C}$	P_D	0.4	W
Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	300	$^\circ\text{C/W}$
Maximum Thermal Resistance, Junction to Lead	$R_{\theta JL}$	26	$^\circ\text{C/W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

1. Non-repetitive current pulse and derated above $T_A=25^\circ\text{C}$.

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Electrical Characteristics (T_A=25°C unless otherwise noted)

MPN	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 ¹	V _{RWM}	I _R ²	I _{PP} ³	V _C
		Min	Max	mA	V	uA	A	V
GSMF5.0CA	5.0CA	6.40	7.07	10	5.0	400	21.74	9.2
GSMF6.0CA	6.0CA	6.67	7.37	10	6.0	400	19.42	10.3
GSMF6.5CA	6.5CA	7.22	7.98	10	6.5	250	17.86	11.2
GSMF7.0CA	7.0CA	7.78	8.60	10	7.0	100	16.67	12.0
GSMF7.5CA	7.5CA	8.33	9.21	1	7.5	50	15.50	12.9
GSMF8.0CA	8.0CA	8.89	9.83	1	8.0	25	14.71	13.6
GSMF8.5CA	8.5CA	9.44	10.40	1	8.5	10	13.89	14.4
GSMF9.0CA	9.0CA	10.00	11.10	1	9.0	5.0	12.99	15.4
GSMF10CA	10CA	11.1	12.3	1	10	2.5	11.76	17.0
GSMF11CA	11CA	12.2	13.5	1	11	2.5	10.99	18.2
GSMF12CA	12CA	13.3	14.7	1	12	2.5	10.05	19.9
GSMF13CA	13CA	14.4	15.9	1	13	1.0	9.30	21.5
GSMF14CA	14CA	15.6	17.2	1	14	1.0	8.62	23.2
GSMF15CA	15CA	16.7	18.5	1	15	1.0	8.20	24.4
GSMF16CA	16CA	17.8	19.7	1	16	1.0	7.69	26.0
GSMF17CA	17CA	18.9	20.9	1	17	1.0	7.25	27.6
GSMF18CA	18CA	20.0	22.1	1	18	1.0	6.85	29.2
GSMF19CA	19CA	21.1	23.3	1	19	1.0	6.54	30.6
GSMF20CA	20CA	22.2	24.5	1	20	1.0	6.17	32.4
GSMF22CA	22CA	24.4	26.9	1	22	1.0	5.63	35.5
GSMF24CA	24CA	26.7	29.5	1	24	1.0	5.14	38.9
GSMF26CA	26CA	28.9	31.9	1	26	1.0	4.75	42.1
GSMF28CA	28CA	31.1	34.4	1	28	1.0	4.41	45.4
GSMF30CA	30CA	33.3	36.8	1	30	1.0	4.13	48.4
GSMF33CA	33CA	36.7	40.6	1	33	1.0	3.75	53.3
GSMF36CA	36CA	40.0	44.2	1	36	1.0	3.44	58.1
GSMF40CA	40CA	44.4	49.1	1	40	1.0	3.10	64.5
GSMF43CA	43CA	47.8	52.8	1	43	1.0	2.88	69.4
GSMF45CA	45CA	50.0	55.3	1	45	1.0	2.75	72.7
GSMF48CA	48CA	53.3	58.9	1	48	1.0	2.58	77.4
GSMF51CA	51CA	56.7	62.7	1	51	1.0	2.43	82.4
GSMF54CA	54CA	60.0	66.3	1	54	1.0	2.30	87.1
GSMF58CA	58CA	64.4	71.2	1	58	1.0	2.14	93.6
GSMF60CA	60CA	66.7	73.7	1	60	1.0	2.07	96.8

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MPN	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^1	V_{RWM}	I_R^2	I_{PP}^3	V_C
		Min	Max	mA	V	μA	A	V
GSMF64CA	64CA	71.1	78.6	1	64	1	1.94	103
GSMF70CA	70CA	77.8	86	1	70	1	1.77	113
GSMF75CA	75CA	83.3	92.1	1	75	1	1.65	121
GSMF78CA	78CA	86.7	95.8	1	78	1	1.59	126
GSMF80CA	80CA	88.8	97.6	1	80	1	1.55	129
GSMF85CA	85CA	94	104	1	85	1	1.46	137
GSMF90CA	90CA	100	111	1	90	1	1.37	146
GSMF100CA	100CA	111	123	1	100	1	1.23	162
GSMF110CA	110CA	122	135	1	110	1	1.13	177
GSMF120CA	120CA	133	147	1	120	1	1.04	193
GSMF130CA	130CA	144	159	1	130	1	0.96	209
GSMF140CA	140CA	155	171	1	140	1	0.89	224
GSMF150CA	150CA	167	185	1	150	1	0.82	243
GSMF160CA	160CA	178	197	1	160	1	0.77	259
GSMF170CA	170CA	189	209	1	170	1	0.73	275
GSMF180CA	180CA	200	220	1	180	1	0.68	292
GSMF190CA	190CA	211	232	1	190	1	0.65	308
GSMF200CA	200CA	224	247	1	200	1	0.62	324
GSMF220CA	220CA	246	272	1	220	1	0.56	356

Notes:

1. Pulse test: $t_p \leq 50\text{ms}$.
2. For types with V_{RWM} of 10V and less, the I_R limit is doubled.
3. Surge current waveform per Fig.3 and derated per Fig.1.

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

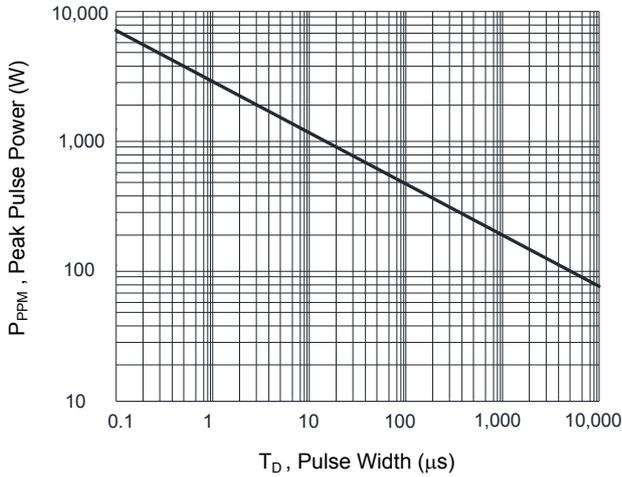


Figure 1. Peak Pulse Power Rating Curve

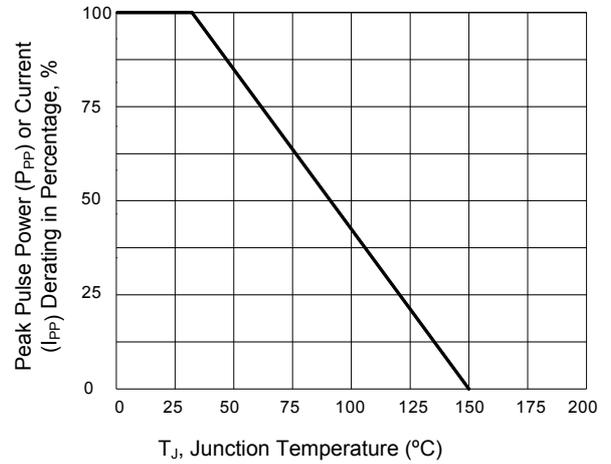


Figure 2. Pulse Power or Current Vs. Initial Junction Temperature

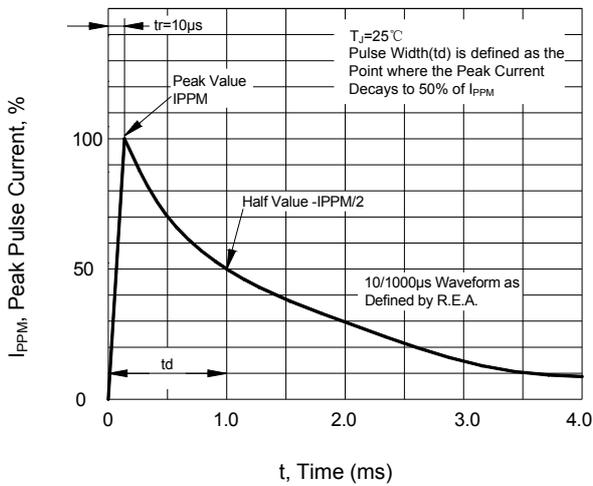
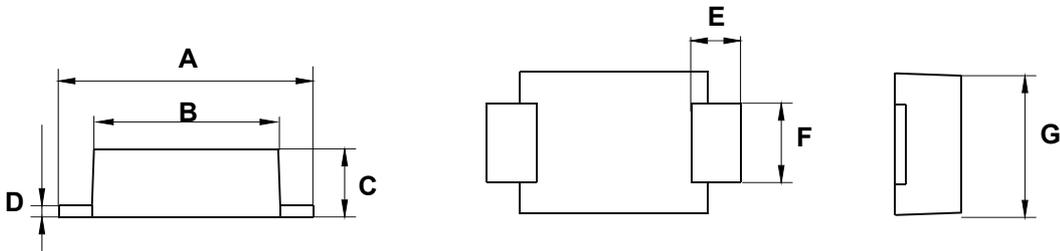


Figure 3. Pulse Waveform

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Package Outline Dimensions (SOD-123FL)



Symbol	Dimensions in millimeters		Dimensions in inches	
	Min	Max	Min	Max
A	3.45	3.95	0.136	0.156
B	2.60	3.00	0.102	0.118
C	1.05	1.35	0.041	0.053
D	0.10	0.25	0.004	0.010
E	0.30	0.90	0.012	0.035
F	0.85	1.15	0.033	0.045
G	1.60	2.00	0.063	0.079

Recommended Pad Layout

