



SMFJ3.0A thru SMFJ170A

表面贴装瞬间抑制二极管

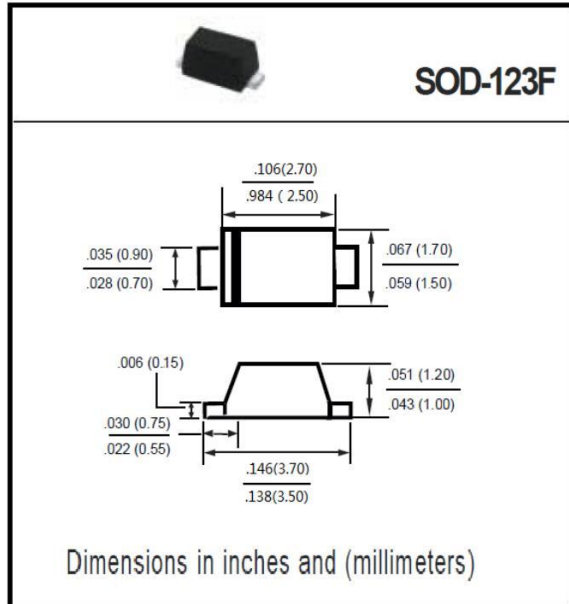
隔离电压 3.0 --- 170 V

峰值功率 300W

Surface Mount Transient Voltage Suppressors

Stand-off Voltage 3.0 to 170V

Peak Pulse Power 300W



特征 Features

- 表面安装应用 For surface mount applications
 - 玻璃钝化芯片 Glass passivated junction
 - 快速响应时间 Very fast response time
 - 优良钳位能力 Excellent clamping capability
 - 最高焊接温度 260°C/10 秒
- High temperature soldering guaranteed:
260°C/10 seconds at terminals
- 200W 峰值脉冲保护能力(≥60V 为 175W)
200W peak pulse power capability (175W above 60V)
 - 10/1000μs 波形, 重复率:0.01%
a 10/1000μs waveform, repetition rate (duty cycle): 0.01%

机械数据 Mechanical Data

- 封装: 塑料封装 Case: Molded plastic body
- 端子: 焊料被镀 Terminals: Solder plated
- 极性: 色环端为负极 Polarity: Color band denotes cathode end
- 安装位置: 任意 Mounting Position: Any
- 重量: 0.016 克 Weight: 0.016 gram

极限值和温度特性 $T_A = 25^\circ\text{C}$ 除非另有规定。

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
最大峰值脉冲功率 Peak pulse power dissipation with a 10/1000μs waveform ^(1, 2) (see fig. 1)	P_{PPM}	300	W
最大峰值脉冲电流 Peak pulse current with a 10/1000μs waveform ⁽¹⁾	I	See Next Table	A
正向峰值浪涌电流 8.3ms 单一正弦半波 Peak forward surge current 8.3ms single half sine-wave uni-directional only ⁽²⁾	I_{FSM}	20	A
典型热阻 Typical thermal resistance ⁽³⁾	$R_{\theta JA}$	120	°C/W
工作结温和存储温度 Operating junction and storage temperature range	T_J, T_{STG}	-55---+150	°C

Notes: (1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 2. Rating is 175W above 60V

(2) Mounted on 0.2 x 0.2" (5.0 x 5.0mm) copper pads to each terminal

(3) Mounted on minimum recommended pad layout



SMFJ3.0A thru SMFJ170A

Electrical Characteristics

Type Number	Reverse Stand-Off Voltage	Breakdown Voltage@IT		Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @VRWM
(UNI)	VRWM(V)	VBR MIN.(V)	VBR MAX.(V)	IT(mA)	VC(V)	IPP(A)	IR(μA)
SMFJ3.0A	3.0	4.10	4.50	10	8.0	25.0	400
SMFJ5.0A	5.0	6.40	7.25	10	9.2	21.7	400
SMFJ6.0A	6.0	6.67	7.67	10	10.3	19.4	400
SMFJ6.5A	6.5	7.22	8.30	10	11.2	17.9	400
SMFJ7.0A	7.0	7.78	8.95	10	12.0	16.7	250
SMFJ7.5A	7.5	8.33	9.58	1	12.9	15.5	100
SMFJ8.0A	8.0	8.89	10.23	1	13.6	14.7	50
SMFJ8.5A	8.5	9.44	10.82	1	14.4	13.9	10
SMFJ9.0A	9.0	10.00	11.50	1	15.4	13.5	5.0
SMFJ10A	10.0	11.10	12.80	1	17.0	11.8	2.5
SMFJ11A	11.0	12.20	14.00	1	18.2	11.0	2.5
SMFJ12A	12.0	13.30	15.30	1	19.9	10.1	2.5
SMFJ13A	13.0	14.40	16.50	1	21.5	9.30	2.5
SMFJ14A	14.0	15.60	17.90	1	23.2	8.60	2.5
SMFJ15A	15.0	16.70	19.20	1	24.4	8.20	2.5
SMFJ16A	16.0	17.80	20.50	1	26.0	7.70	2.5
SMFJ17A	17.0	18.90	21.70	1	27.6	7.20	2.5
SMFJ18A	18.0	20.00	23.30	1	29.2	5.80	2.5
SMFJ20A	20.0	22.20	25.50	1	32.4	6.20	2.5
SMFJ22A	22.0	24.40	28.00	1	35.5	5.60	2.5
SMFJ24A	24.0	26.70	30.70	1	38.9	5.10	2.5
SMFJ26A	26.0	28.90	33.20	1	42.1	4.80	2.5
SMFJ28A	28.0	31.10	35.80	1	45.4	4.40	2.5
SMFJ30A	30.0	33.30	38.30	1	48.4	4.10	2.5
SMFJ33A	33.0	36.70	42.20	1	53.3	3.80	2.5
SMFJ36A	36.0	40.00	46.00	1	58.1	3.40	2.5
SMFJ40A	40.0	44.40	51.10	1	64.5	3.10	2.5
SMFJ43A	43.0	47.80	54.90	1	69.4	2.90	2.5
SMFJ45A	45.0	50.00	57.50	1	72.7	2.80	2.5
SMFJ48A	48.0	53.30	61.30	1	77.4	2.60	2.5
SMFJ51A	51.0	56.70	65.20	1	82.4	2.40	2.5
SMFJ54A	54.0	60.00	69.00	1	87.1	2.30	2.5
SMFJ58A	58.0	64.40	74.10	1	93.6	2.10	2.5
SMFJ60A	60.0	66.70	76.70	1	96.8	1.80	2.5
SMFJ64A	64.0	71.10	81.80	1	103.0	1.70	2.5
SMFJ70A	70.0	77.80	89.50	1	113.0	1.50	2.5
SMFJ75A	75.0	83.30	95.80	1	121.0	1.40	2.5
SMFJ78A	78.0	86.70	99.70	1	126.0	1.40	2.5
SMFJ85A	85.0	94.40	108.20	1	137.0	1.30	2.5
SMFJ90A	90.0	100.00	115.50	1	146.0	1.20	2.5
SMFJ100A	100.0	111.00	128.00	1	162.0	1.10	2.5
SMFJ110A	110.0	122.00	140.50	1	177.0	1.00	2.5
SMFJ120A	120.0	133.00	153.00	1	193.0	0.90	2.5
SMFJ130A	130.0	144.00	165.50	1	209.0	0.80	2.5
SMFJ150A	150.0	167.00	192.60	1	243.0	0.70	2.5
SMFJ160A	160.0	178.00	205.00	1	259.0	0.70	2.5
SMFJ170A	170.0	189.00	217.50	1	275.0	0.60	2.5



SMFJ3.0A thru SMFJ170A

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified

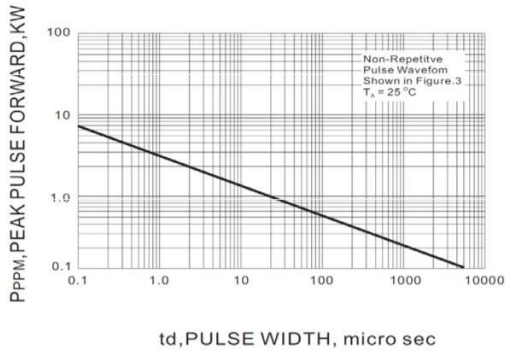


Fig.1 PEAK PULSE POWER RATING CURVE

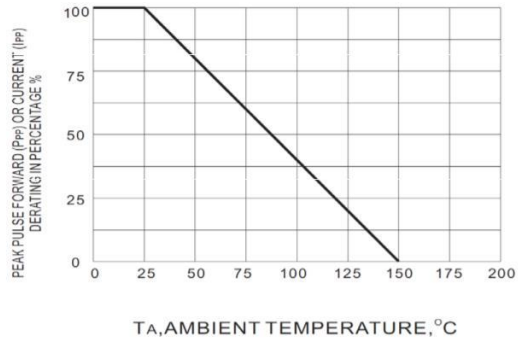


Fig.2 DERATING CURVE

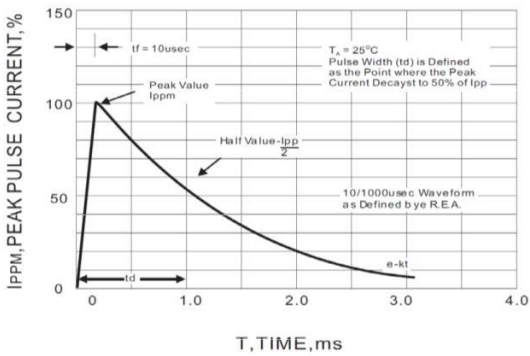


Fig.3 PULSE WAVEFORM

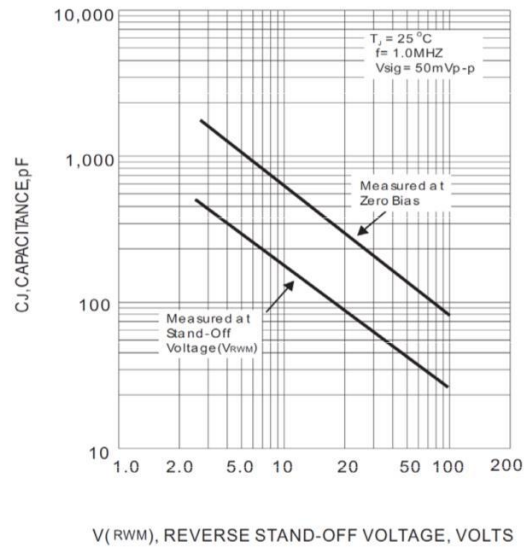


Fig.4 TYPICAL JUNCTION CAPACITANCE

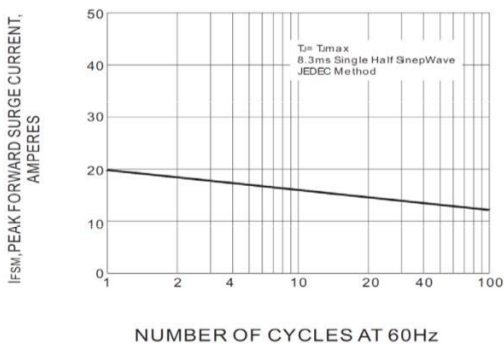
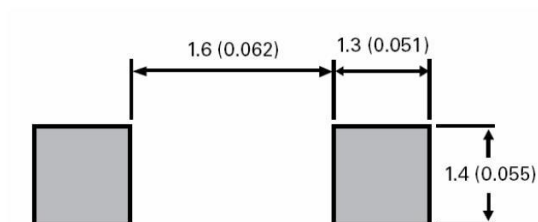


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



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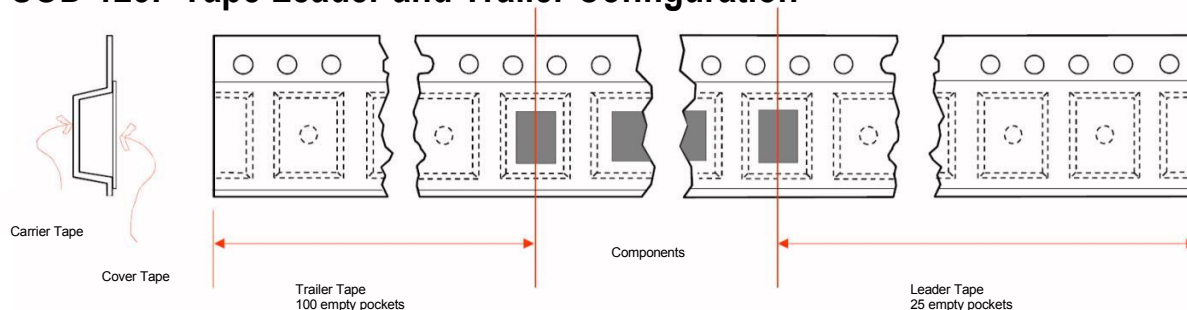
Mounting Pad Layout



Packing

Part number	Component Package	Quantity	Packaging Option
SMFJ3.0A-170A	SOD-123F	3000	Tape & Reel – 8mm/7" tape
		10000	Tape & Reel – 8mm/13" tape

SOD-123F Tape Leader and Trailer Configuration



Tape and Reel Specification

