



DESCRIPTION

The SMFxxx is available in SOD-123FL Package.

ORDERING INFORMATION

Package Type	Part Number	
SOD-123FL	SMF5.0A/CA	SMF40A/CA
	SMF6.0A/CA	SMF43A/CA
	SMF6.5A/CA	SMF45A/CA
	SMF7.0A/CA	SMF48A/CA
	SMF7.5A/CA	SMF51A/CA
	SMF8.0A/CA	SMF54A/CA
	SMF8.5A/CA	SMF58A/CA
	SMF9.0A/CA	SMF60A/CA
	SMF10A/CA	SMF64A/CA
	SMF11A/CA	SMF70A/CA
	SMF12A/CA	SMF75A/CA
	SMF13A/CA	SMF78A/CA
	SMF14A/CA	SMF85A/CA
	SMF15A/CA	SMF90A/CA
	SMF16A/CA	SMF100A/CA
	SMF17A/CA	SMF110A/CA
	SMF18A/CA	SMF120A/CA
	SMF20A/CA	SMF130A/CA
	SMF22A/CA	SMF150A/CA
	SMF24A/CA	SMF160A/CA
SMF26A/CA	SMF170A/CA	
SMF28A/CA	SMF180A/CA	
SMF30A/CA	SMF200A//CA	
SMF33A/CA	SMF220A//CA	
SMF36A/CA		
Note	SPQ: 3,000pcs/Reel	
AiT provides all RoHS Compliant Products		

FEATURES

- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability
- Available in SOD-123FL Package

MECHANICAL DATA

Case: SOD-123FL

Terminals: Solderable per MIL-STD-750,
Method 2026

Approx. Weight: 15mg 0.00048oz

PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

Ratings at 25°C ambient temperature unless otherwise specified.

P_{PPM} , Peak Pulse Power Dissipation on $T_A=25^\circ\text{C}$ ^{NOTE1,2,5} (Fig1)	200W
I_{FSM} , Peak Forward Surge Current ^{NOTE3}	20A
I_{PPM} , Peak Pulse Current on 10/1000us Waveform ^{NOTE1} (Fig3)	See Table1
$P_{M(AV)}$, Steady State Power Dissipation ^{NOTE4}	1W
T_J, T_{STG} , Operating Junction and Storage Range	-55°C ~ +150°C
$R_{\theta JA}$, Typical Thermal Resistance	180°C/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Non-repetitive current pulse per Fig 3 and derated above $T_A=25^\circ\text{C}$ per Fig 2.

NOTE2: Mounted on 5mm² copper pads to each terminal.

NOTE3: 8.3ms single half sine wave, or equivalent square wave duty cycle=4 pulses per minutes maximum

NOTE4: lead temperature at $T_L = 75^\circ\text{C}$

NOTE5: Peak pulse power. waveform is $t_p=10/1000\mu\text{s}$.

NOTE6: A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), Which should be equal to or greater than the DC or continuous peak operating voltage level.



ELECTRICAL CHARACTERISTICS

T_A = 25°C

Part Number		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
			Min	Max				
Uni	Bi	V	V	V	mA	µA	V	A
SMF5.0A	SMF5.0CA	5	6.4	7	10	200	9.2	21.7
SMF6.0A	SMF6.0CA	6	6.67	7.37	10	100	10.3	19.4
SMF6.5A	SMF6.5CA	6.5	7.22	7.98	10	75	11.2	17.9
SMF7.0A	SMF7.0CA	7	7.78	8.6	10	50	12	16.7
SMF7.5A	SMF7.5CA	7.5	8.33	9.21	1	50	12.9	15.5
SMF8.0A	SMF8.0CA	8	8.89	9.83	1	25	13.6	14.7
SMF8.5A	SMF8.5CA	8.5	9.44	10.4	1	10	14.4	13.9
SMF9.0A	SMF9.0CA	9	10	11.1	1	5	15.4	13
SMF10A	SMF10CA	10	11.1	12.3	1	2.5	17	11.8
SMF11A	SMF11CA	11	12.2	13.5	1	2.5	18.2	11
SMF12A	SMF12CA	12	13.3	14.7	1	2.5	19.9	10.1
SMF13A	SMF13CA	13	14.4	15.9	1	1	21.5	9.3
SMF14A	SMF14CA	14	15.6	17.2	1	1	23.2	8.6
SMF15A	SMF15CA	15	16.7	18.5	1	1	24.4	8.2
SMF16A	SMF16CA	16	17.8	19.7	1	1	26	7.7
SMF17A	SMF17CA	17	18.9	20.9	1	1	27.6	7.2
SMF18A	SMF18CA	18	20	22.1	1	1	29.2	6.8
SMF20A	SMF20CA	20	22.2	24.5	1	1	32.4	6.2
SMF22A	SMF22CA	22	24.4	26.9	1	1	35.5	5.6
SMF24A	SMF24CA	24	26.7	29.5	1	1	38.9	5.1
SMF26A	SMF26CA	26	28.9	31.9	1	1	42.1	4.8
SMF28A	SMF28CA	28	31.1	34.4	1	1	45.4	4.4
SMF30A	SMF30CA	30	33.3	36.8	1	1	48.4	4.1
SMF33A	SMF33CA	33	36.7	40.6	1	1	53.3	3.8
SMF36A	SMF36CA	36	40	44.2	1	1	58.1	3.4
SMF40A	SMF40CA	40	44.4	49.1	1	1	64.5	3.1
SMF43A	SMF43CA	43	47.8	52.8	1	1	69.4	2.9
SMF45A	SMF45CA	45	50	55.3	1	1	72.7	2.8
SMF48A	SMF48CA	48	53.3	58.9	1	1	77.4	2.6
SMF51A	SMF51CA	51	56.7	62.7	1	1	82.4	2.4
SMF54A	SMF54CA	54	60	66.3	1	1	87.1	2.3
SMF58A	SMF58CA	58	64.4	71.2	1	1	93.6	2.1
SMF60A	SMF60CA	60	66.7	73.7	1	1	96.8	1.8



Part Number		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
			V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
			Min	Max				
Uni	Bi	V	V	V	mA	μA	V	A
SMF64A	SMF64CA	64	71.1	78.6	1	1	103	1.7
SMF70A	SMF70CA	70	77.8	86	1	1	113	1.5
SMF75A	SMF75CA	75	83.3	92.1	1	1	121	1.4
SMF78A	SMF78CA	78	86.7	95.8	1	1	126	1.4
SMF85A	SMF85CA	85	94.4	104	1	1	137	1.3
SMF90A	SMF90CA	90	100	111	1	1	146	1.2
SMF100A	SMF100CA	100	111	123	1	1	162	1.1
SMF110A	SMF110CA	110	122	135	1	1	177	1
SMF120A	SMF120CA	120	133	147	1	1	193	0.9
SMF130A	SMF130CA	130	144	159	1	1	209	0.8
SMF150A	SMF150CA	150	167	185	1	1	243	0.7
SMF160A	SMF160CA	160	178	197	1	1	259	0.7
SMF170A	SMF170CA	170	189	209	1	1	275	0.6
SMF180A	SMF180CA	180	201	222	1	1	292	0.5
SMF200A	SMF200CA	200	224	247	1	1	324	0.5
SMF220A	SMF220CA	220	246	272	1	1	356	0.5



TYPICAL CHARACTERISTICS

Figure1. Peak Pulse Power Rating Curve

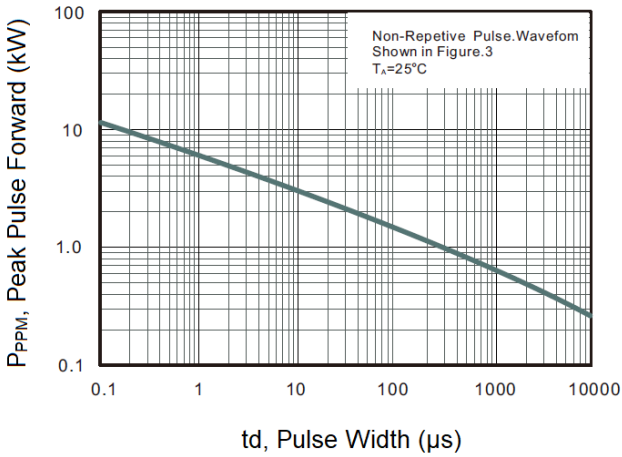


Figure 2. Forward Current Derating Curve

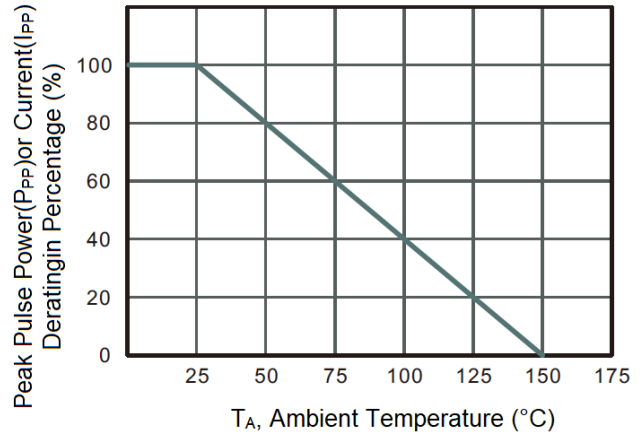


Figure3. Pulse Waveform

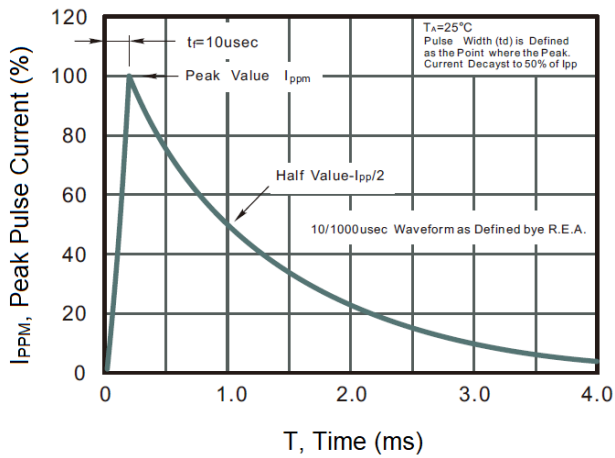
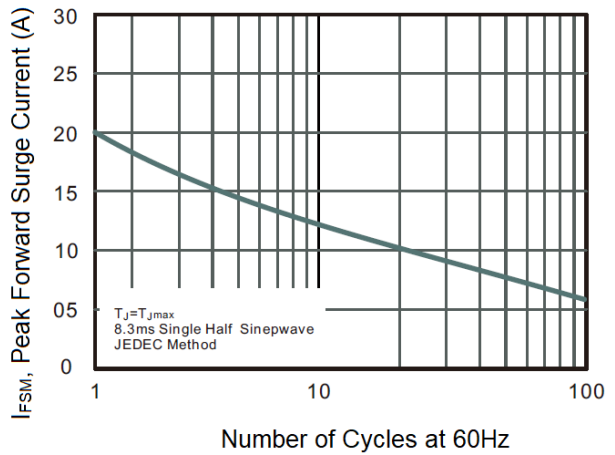


Figure4. Maximum Non-Repetitive Peak Forward Surge Current

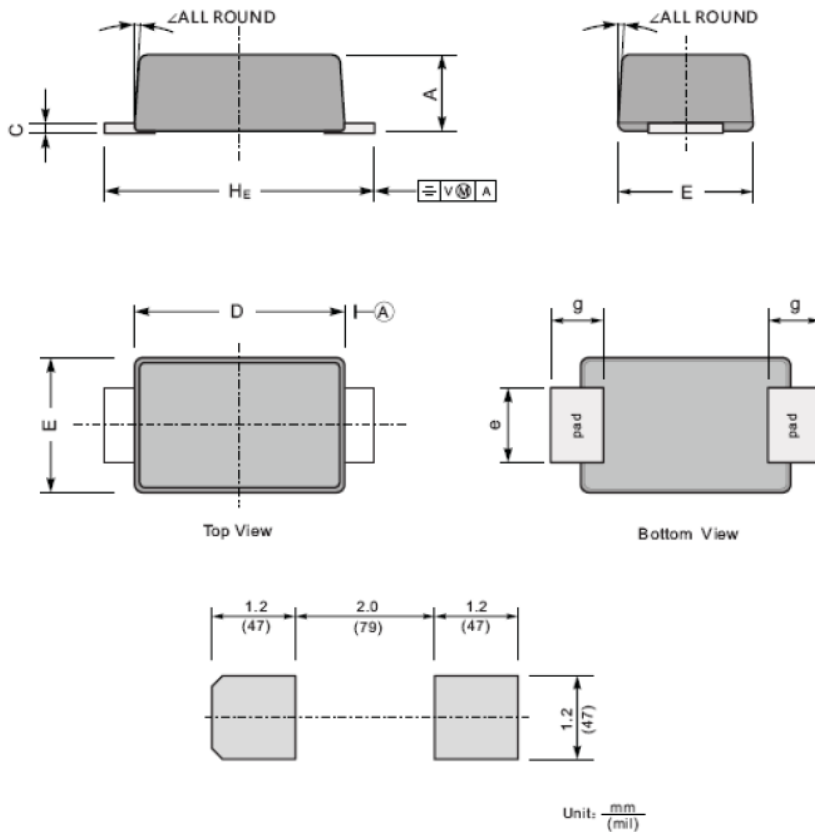




PACKAGE INFORMATION

Dimension in SOD-123FL Package (Unit: mm)

Plastic surface mounted package; 2 leads



The Recommended Mounting Pad Size

UNIT		A	C	D	E	e	g	H _E	∠
mm	Max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	Min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	Max	43	7.9	114	75	43	35	150	
	Min	35	4.7	102	67	31	28	138	



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