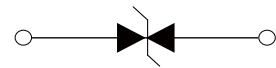


FEATURES

- | Low profile package
- | Ideal for automated placement
- | 5900 Watt peak pulse power capability with a 8/20μs waveform
- | For surface mounted applications to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance



SOD-123FL



Schematic Symbol

APPLICATIONS

- | Power supply protection
- | Automotive application
- | Industrial application
- | Power management

APPROVALS

RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 8/20μs waveform (Note1)	P_{PPM}	5900	Watts
Steady State Power Dissipation at $T_L=75^{\circ}\text{C}$	P_D	2.8	Watts
ESD Per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD Per IEC 61000-4-2 (Contact)	V_{ESD}	± 30	kV

Notes : 1. Non-repetitive current pulse, $T_A=25^{\circ}\text{C}$.

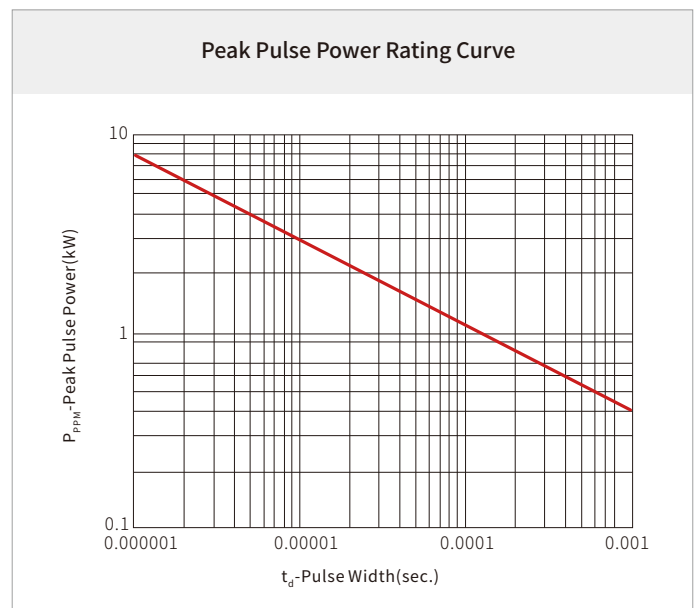
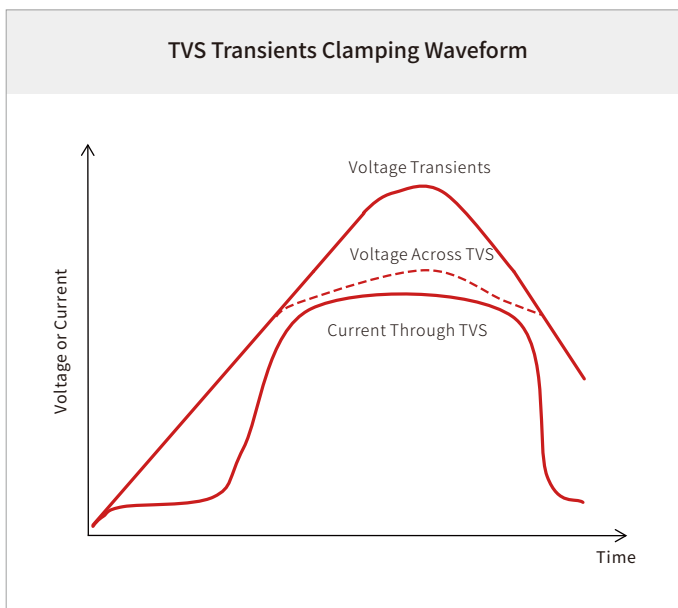
THERMAL CONSIDERATIONS

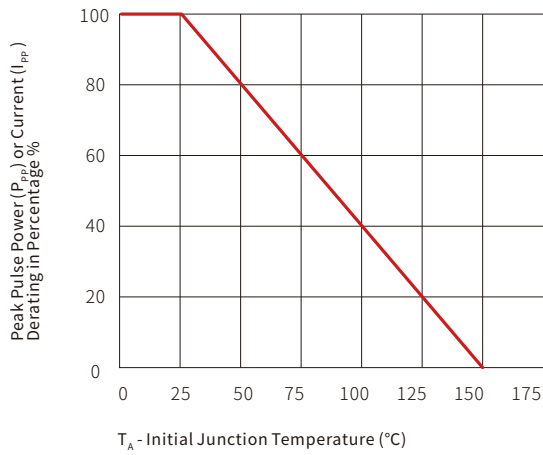
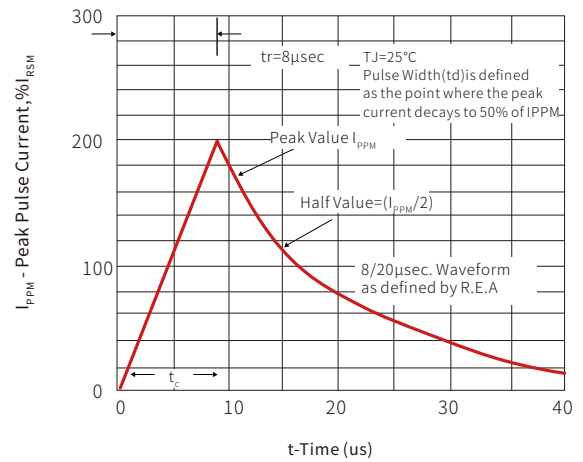
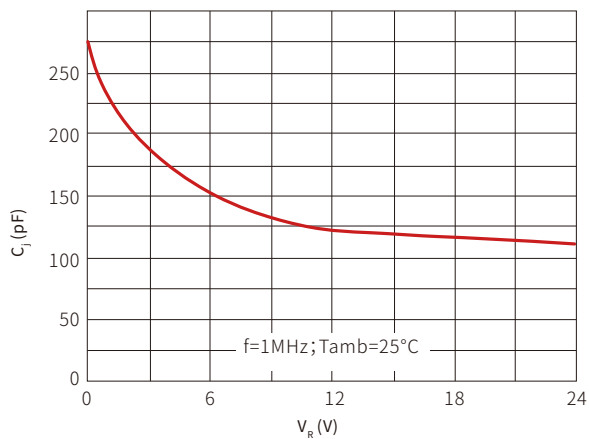
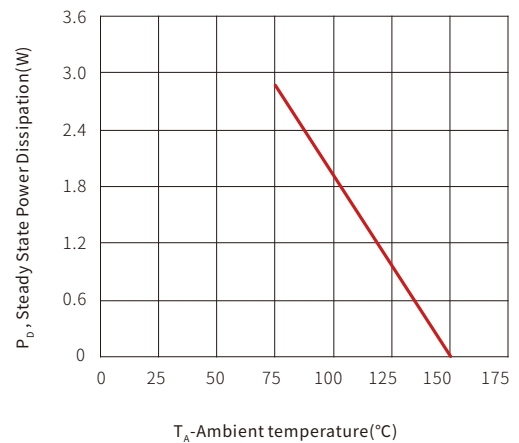
Parameter	Symbol	Value	Unit
Operating junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	T_S	-55 to +150	$^{\circ}\text{C}$
Junction to Ambient on Printed circuit	$R_{\theta JA}$	220	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	$I_T=1mA$	25			V
I_R	Reverse Leakage Current	$V_{RWM}=24V$			1.0	μA
V_C	Clamping Voltage	$I_{PP}=90A, t_p=8/20\mu s$			28	V
V_C	Clamping Voltage	$I_{PP}=185A, t_p=8/20\mu s$			32	V
I_{PP}	Peak Pulse Current	$t_p=8/20\mu s$			185	A
C_J	Off State Junction Capacitance	$V_R=0V, f=1MHz$		300		pF

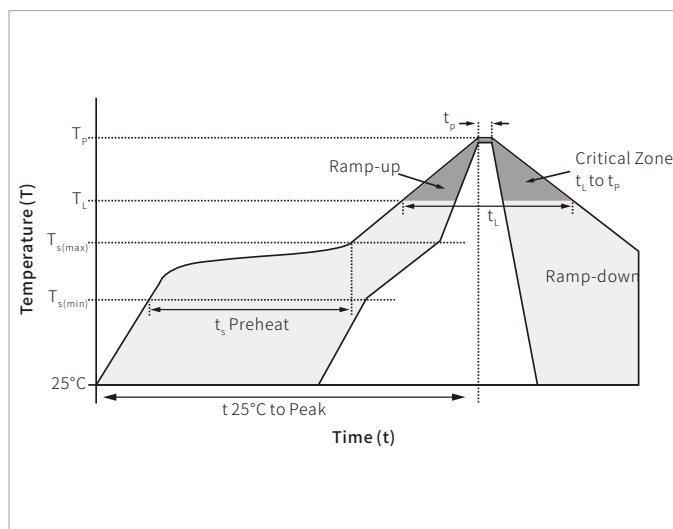
CHARACTERISTIC CURVES



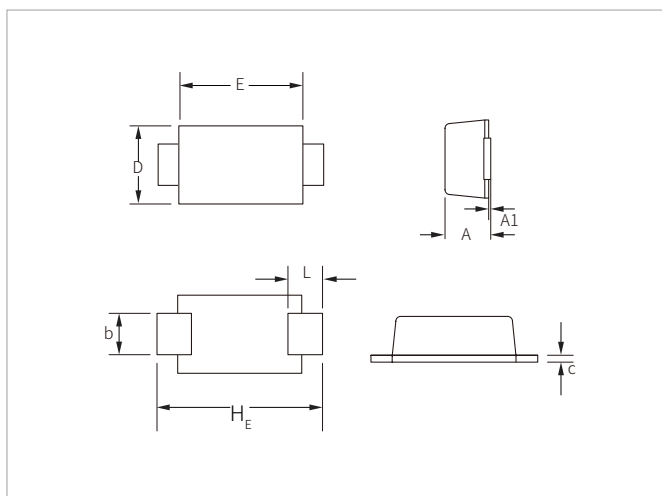
Pulse Derating Curve

Pulse Waveform

Junction Capacitance vs V_R

Steady State Power Dissipation Derating Curve


SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ($T_{s(min)}$)	150°C
	Temperature Max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Time (min to max) (t_L)	60 – 150 seconds
Peak Temperature (T_p)		260°C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes max.
Do not exceed		260°C

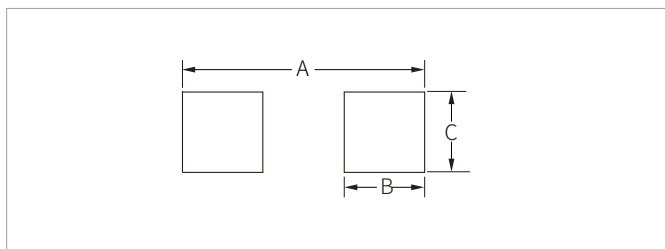


SOD-123FL PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.45	0.037	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.05	0.30	0.002	0.012
D	1.50	2.00	0.059	0.079
E	2.50	3.10	0.098	0.122
L	0.35	0.90	0.014	0.035
H _E	3.40	3.90	0.134	0.154

RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters	Inches
A	4.20	0.165
B	1.50	0.059
C	1.20	0.047

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SVF600B24	SOD-123FL	3000PCS	7"

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By QR Code

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