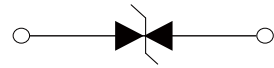


## FEATURES

- | Low profile package
- | Ideal for automated placement
- | 200 Watt peak pulse power capability with a 10/1000µs waveform
- | For surface mounted applicatons to optimize board space
- | Excellent clamping capability
- | Very fast response time
- | Low incremental surge resistance
- | Meet AEC-Q101 Requirements



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<sub>A</sub>=25°C )

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000µs waveform (Note1)	P <sub>PPM</sub>	200	Watts
Steady State Power Dissipation at T <sub>A</sub> =50°C	P <sub>D</sub>	1.0	Watts

**Notes** :1.Non-repetitive current pulse,T<sub>A</sub>=25°C.

2.8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum

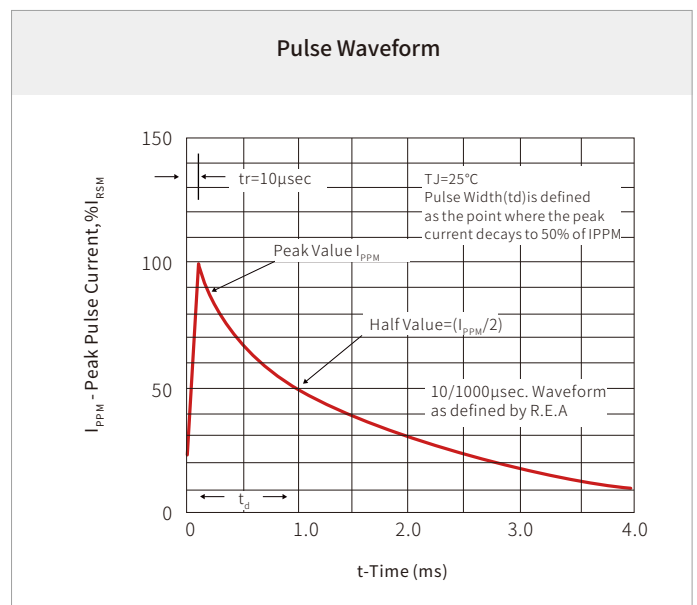
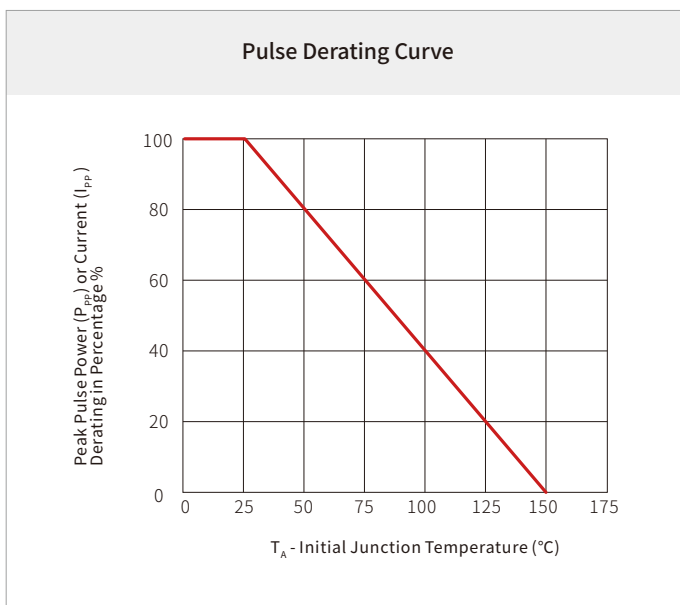
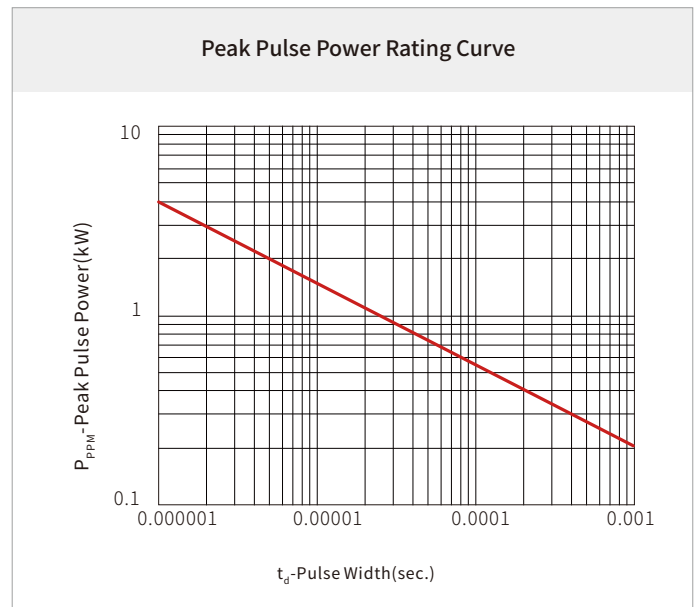
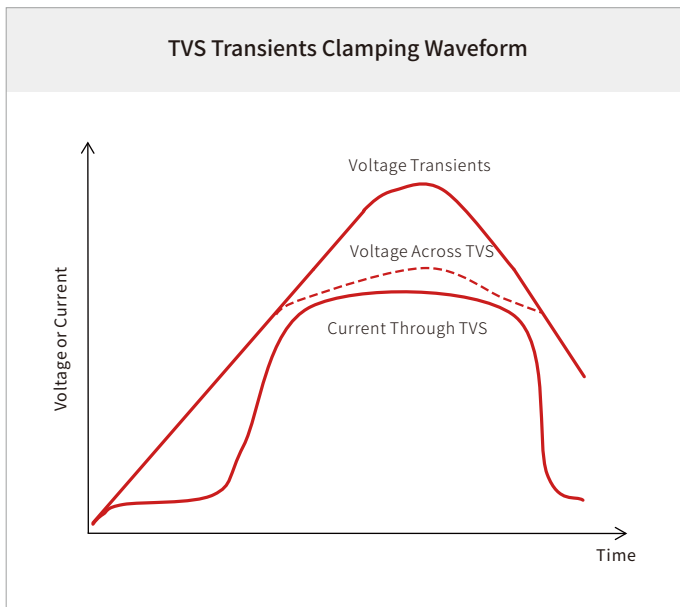
## THERMAL CONSIDERATIONS

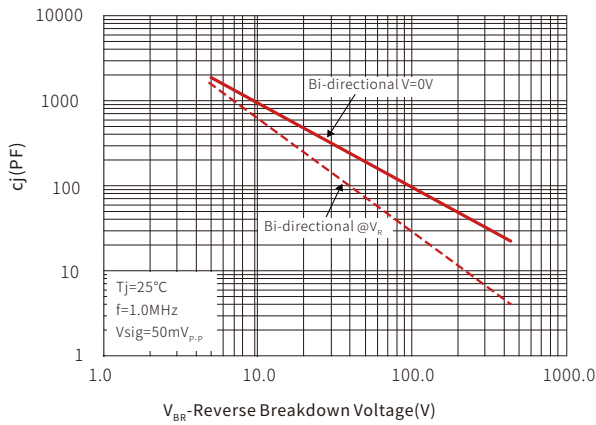
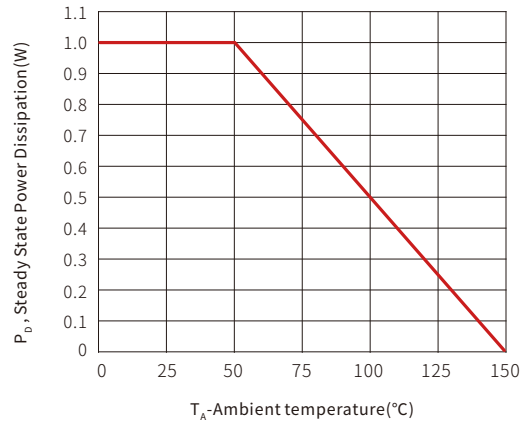
Parameter	Symbol	Value	Unit
Operating junction Temperature	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>S</sub>	-55 to +150	°C
Junction to Ambient on Printed circuit	R <sub>θJA</sub>	220	°C/W

# ELECTRICAL CHARACTERISTICS

Part Number	Device Marking Code	Reverse Stand-off Voltage	Breakdown Voltage Min.@ $I_T$	Breakdown Voltage Max.@ $I_T$	Test Current	Maximum Clamping Voltage @ $I_{PP}$	Maximum Peak Pulse Current	Maximum Reverse Leakage @ $V_{RWM}$
		$V_{RWM}$ (V)	$V_{BR}$ (V)	$V_{BR}$ (V)	$I_T$ (mA)	$V_C$ (V)	$I_{PP}$ (A)	$I_R$ ( $\mu$ A)
TPSVF20B3.3	GZ	3.3	4.3	5.3	10	7.3	27.4	800

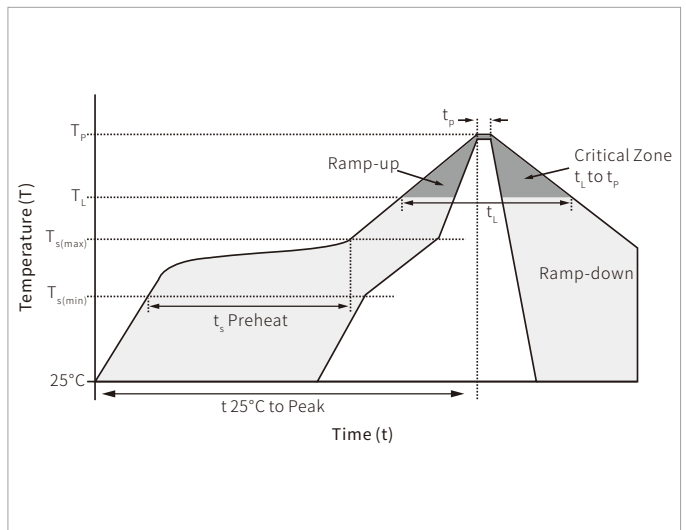
# CHARACTERISTIC CURVES



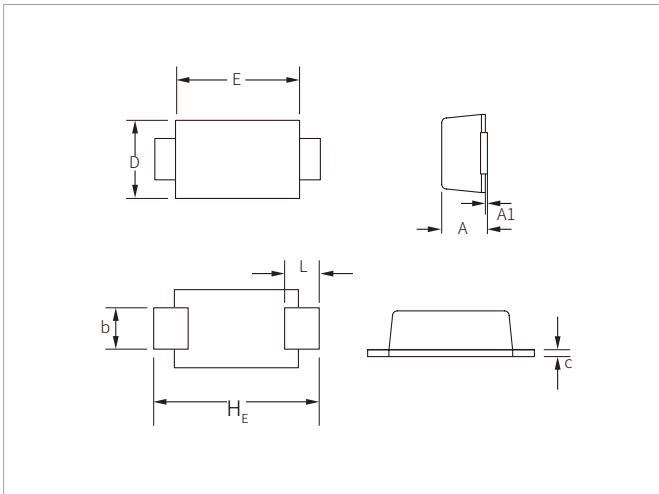
**Typical Junction Capacitance**

**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

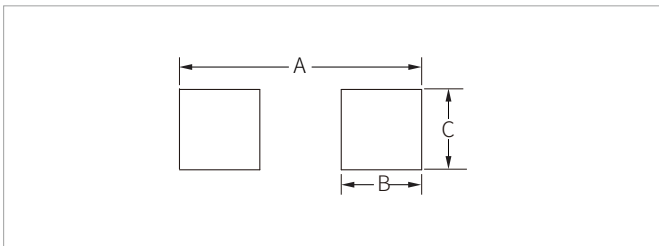


## SOD-123FL PACKAGE INFORMATION



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 <sub>E</sub>	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
TPSVF20B3.3	SOD-123FL	3000PCS	7"

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