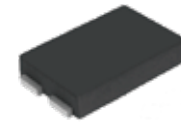


## FEATURES

- | Low Leakage Current
- | High Efficiency
- | Heatsink Design
- | Moisture Sensitivity: Level 1, Per J-STD-020



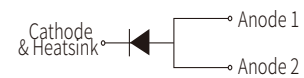
TO-277B



Marking

## MECHANICAL DATA

- | Case: TO-277B
- | Molding Compound Meets UL 94 V-0 Flammability



Schematic Symbol

## APPROVALS

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

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

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10	A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	$I_{FSM}$	180	A
Maximum Instantaneous Forward Voltage Per Diode (Note 1)	$V_F$	0.55	V
Maximum Instantaneous Reverse Current Per Diode at Rated Reverse Voltage	$I_R$	100	$\mu\text{A}$
		15	mA
Typical Thermal Resistance	$R_{\theta JL}$	11	$^{\circ}\text{C}/\text{W}$
Operating Temperature Range	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

Note 1 : Pulse Test with Pulse Width=300 $\mu\text{s}$ , 1% Duty Cycle

# CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

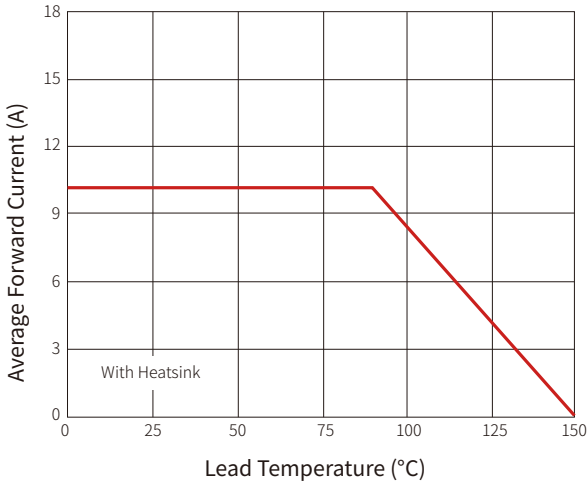


Fig.2 Typical Forward Characteristics

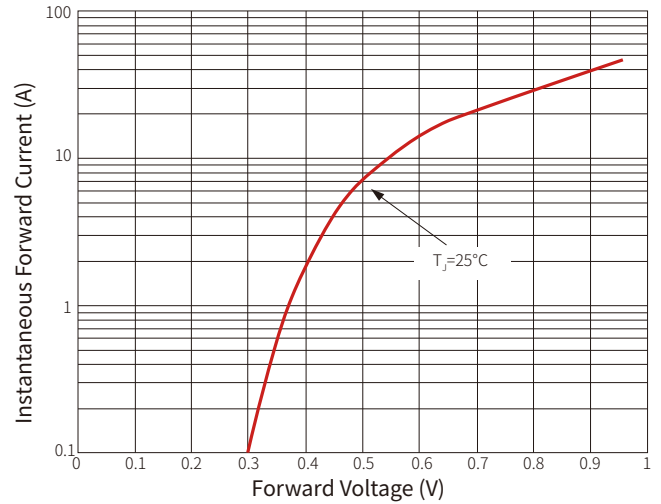


Fig.3 Maximum Non-Repetitive Peak Forward Surge Current

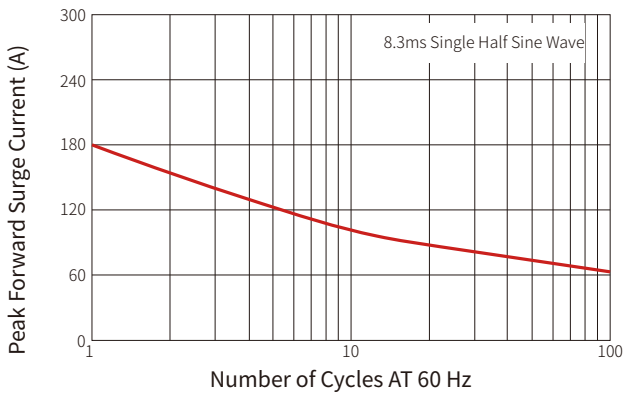
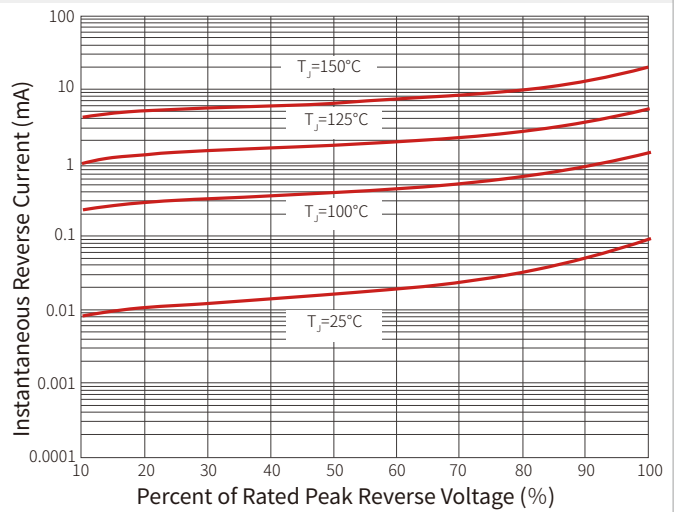
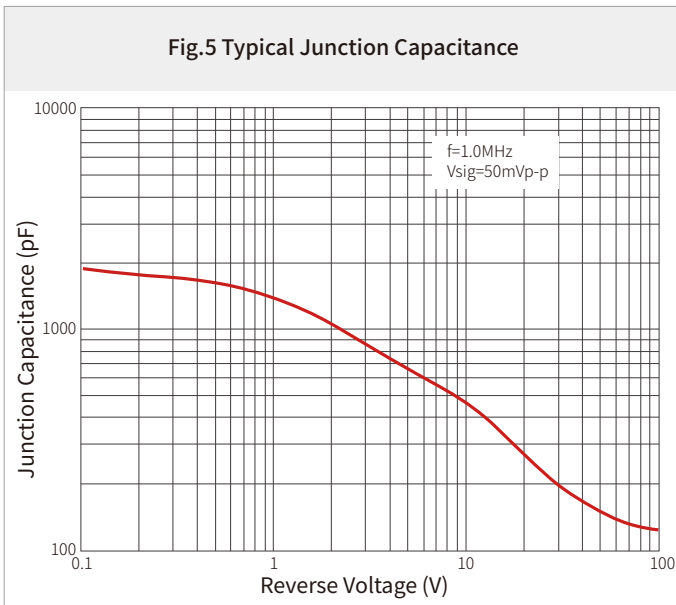


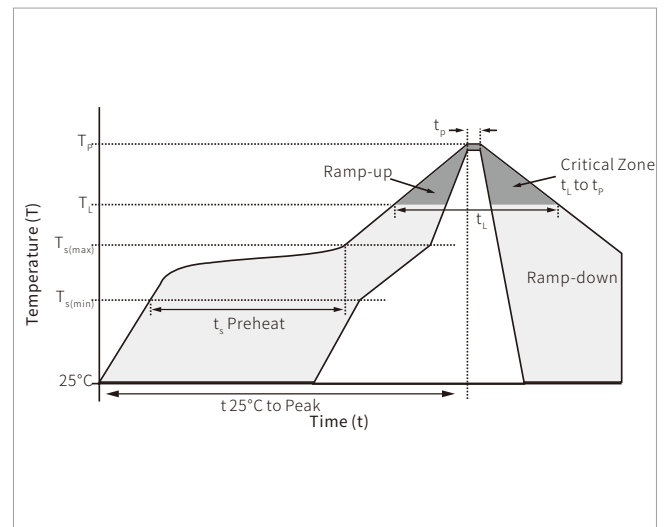
Fig.4 Typical Reverse Characteristics



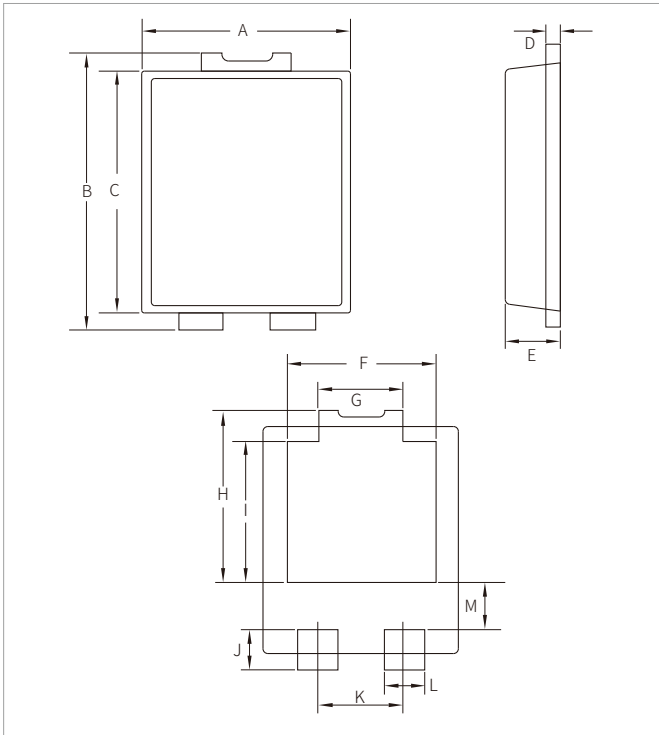


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\text{min})}$ )	150°C
	Temperature Max ( $T_{s(\text{max})}$ )	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
$T_{s(\text{max})}$ 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

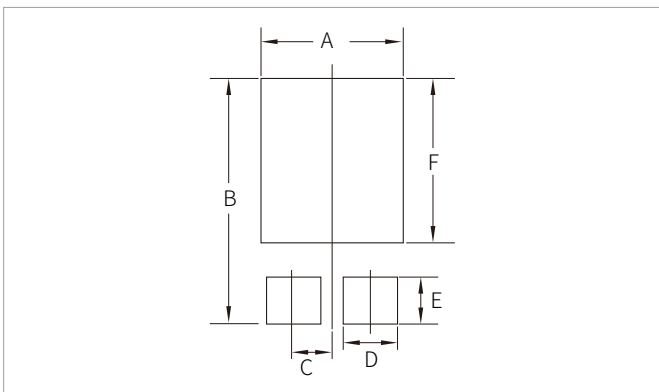


## TO-277B PACKAGE INFORMATION



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.00	4.60	0.157	0.181
B	6.20	6.80	0.244	0.268
C	5.50	6.00	0.216	0.236
D	0.25	0.40	0.010	0.016
E	1.05	1.35	0.041	0.053
F	3.00	3.50	0.118	0.138
G	1.70	2.00	0.067	0.079
H	4.20	4.50	0.165	0.177
I	3.52Nom		0.139Nom	
J	0.85	1.10	0.033	0.043
K	1.86Nom		0.073Nom	
L	0.80	1.00	0.031	0.039
M	1.10	1.40	0.043	0.055

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.40	-	0.134	-
B	6.90		0.272	
C	0.95		0.037	
D	1.30	-	0.051	-
E	1.30	-	0.051	-
F	4.60	-	0.181	-

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SP1045	TO-277B	5000PCS	13"

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Website



Wechat

To find your local partner within Semiware's global website: [www.semiware.com](http://www.semiware.com)

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