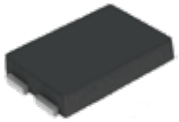
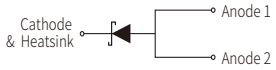
FEATURES

- Excellent high temperature stability
- Low forward voltage
- Low power loss/ high efficiency
- High forward surge capability
- Ideal for automated placement
- Meet AEC-Q101 Requirements



TO-277B

Marking



Schematic Symbol

APPLICATIONS

- Trench Schottky barrier rectifier is designed for high frequency miniature switched mode power supplies such as adapters, lighting and on-board DC/DC converters.

APPROVALS

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

MAXIMUM RATINGS (T_A=25°C)

Parameter		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	100	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 Per Diode		I_{FSM}	180	A
Maximum Instantaneous Forward Voltage Per Diode (Note 1) I_F = 10A	T_J =25°C	V_F	0.85	V
Maximum Instantaneous Reverse Current Per Diode at Rated Reverse Voltage	T_J =25°C	I_R	10	μA
Typical Thermal Resistance		$R_{\theta JL}$	11	°C/W
Operating Temperature Range		T_J	-55 to 175	°C
Storage Temperature Range		T_{STG}	-55 to 175	°C

Note 1: Pulse Test with Pulse Width=300μs, 1% Duty Cycle

CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

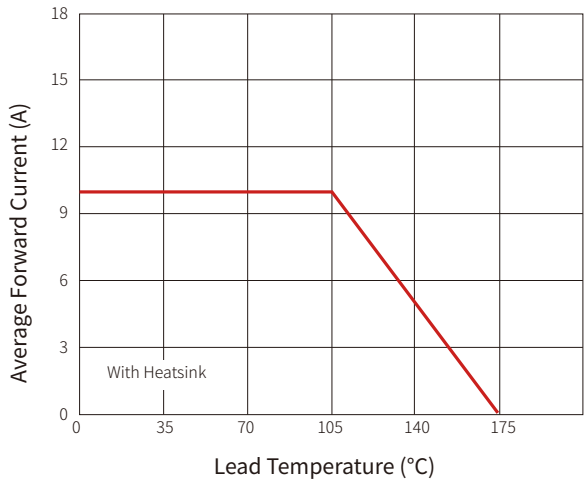


Fig.2 Typical Forward Characteristics

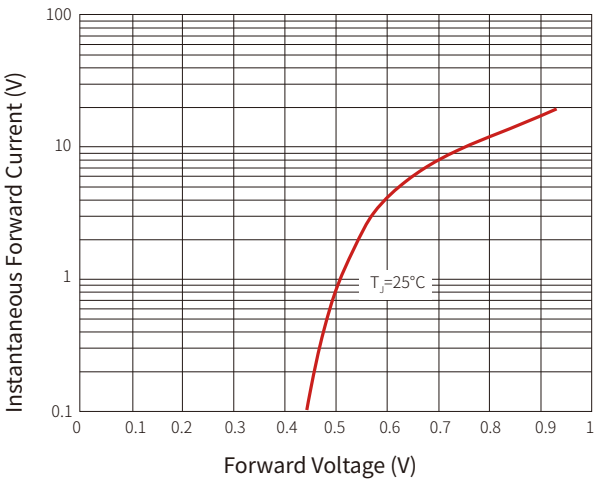


Fig.3 Maximum Non-repetitive Forward Surge Current

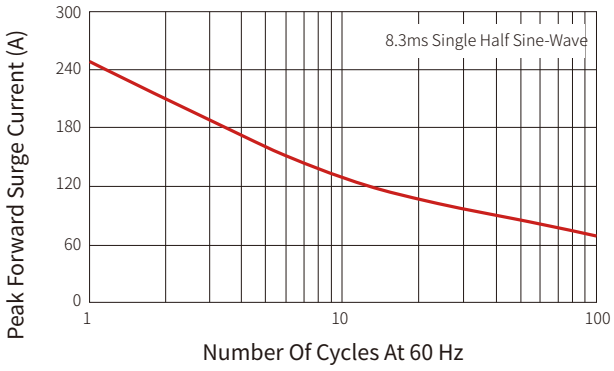


Fig.4 Typical Reverse Characteristics

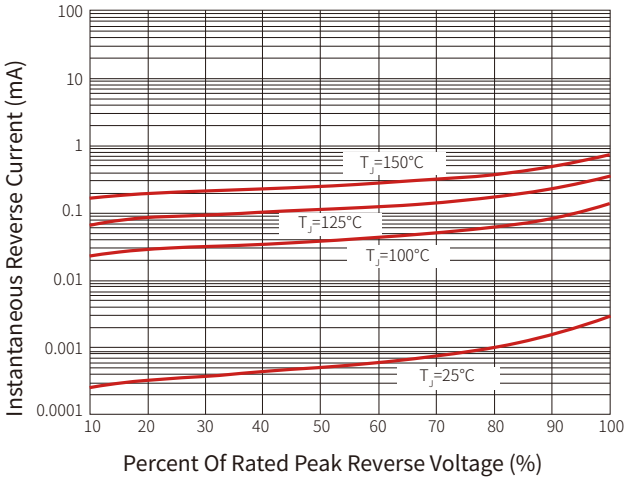
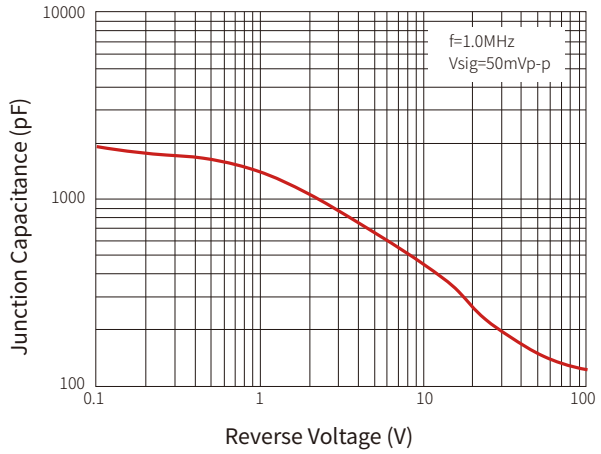
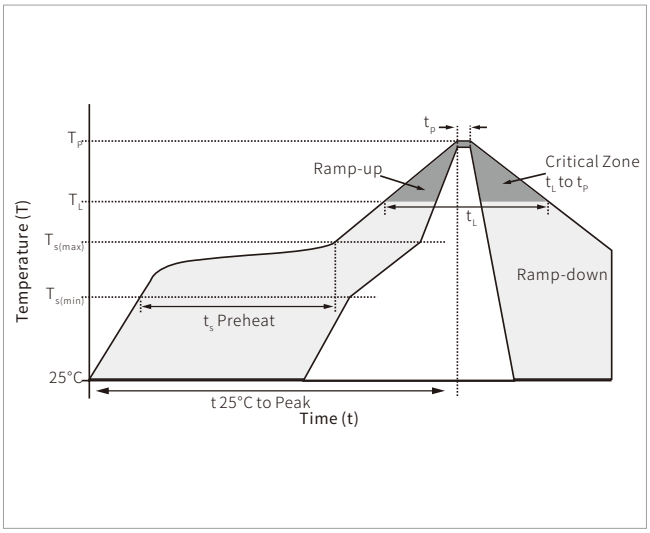


Fig.5 Typical Junction Capacitance

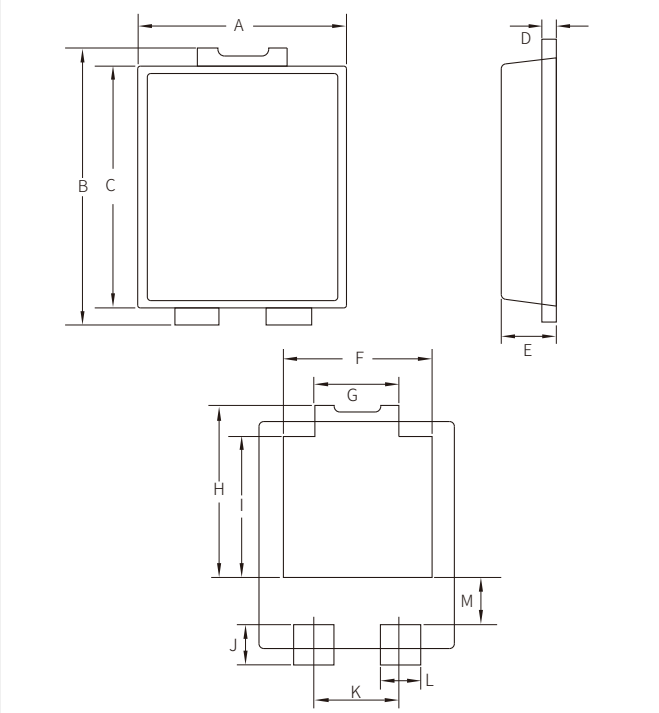


SOLDERING PARAMETERS

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

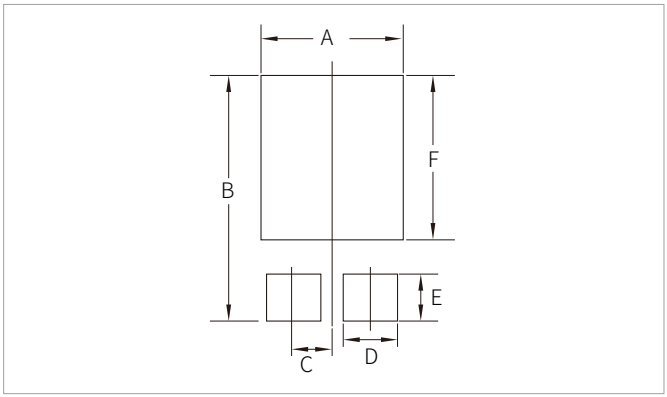


TO-277B PACKAGE INFORMATION



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
SB10100Q	TO-277B	5000PCS	13”

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