

EP8100T Schottky Barrier Rectifiers

Features

- Plastic package has Underwriters Laboratory
- Flammability Classification 94V-0
- Low power loss,high efficiency
- For use in low voltage high frequency inverters, free wheeling,and polarity protection applications
- Guardring for over voltage protection
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Expsemi electronics

Applications

- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	-	100	V
Average Rectified Forward Current	$I_F (AV)$	50% duty cycle @ $T_L=125^{\circ}C$, rectangular wave form	8	A
Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3ms, Half Sine pulse, $T_J = 25^{\circ}C$	200	A

Electrical Characteristics:

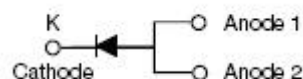
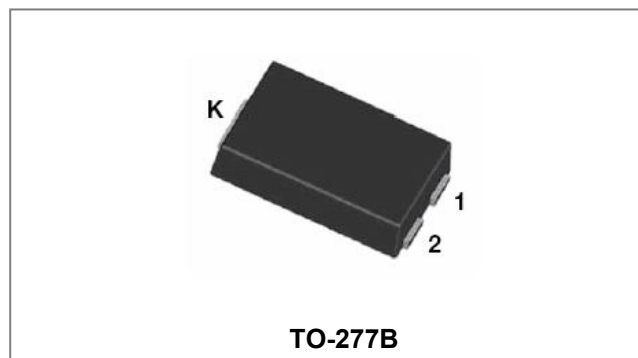
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V_{F1}	@ 10A, Pulse, $T_J = 25^{\circ}C$	-	0.88	V
Reverse Current*	I_{R1}	@ V_R = rated V_R $T_J = 25^{\circ}C$	-	5	μA
Reverse Current*	I_{R2}	@ V_R = rated V_R $T_J = 125^{\circ}C$	100	300	μA

* Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Junction Temperature	T_J	-	-55 to +175	$^{\circ}C$
Storage Temperature	T_{stg}	-	-55 to +175	$^{\circ}C$
Typical Thermal Resistance Junction to Ambient (NOTE1)	$R_{\theta JA}$	DC operation	80	$^{\circ}C/W$
Typical Thermal Resistance Junction to Lead (NOTE1)	$R_{\theta JL}$	DC operation	8	$^{\circ}C/W$
Approximate Weight	wt	-	0.10	g

NOTE: 1. Units mounted on P.C.B., 0.5 x 0.5" (30 x 30mm) copper pads.



2. Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating

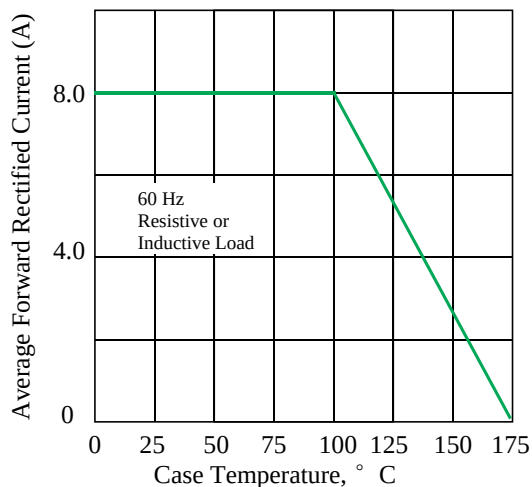


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

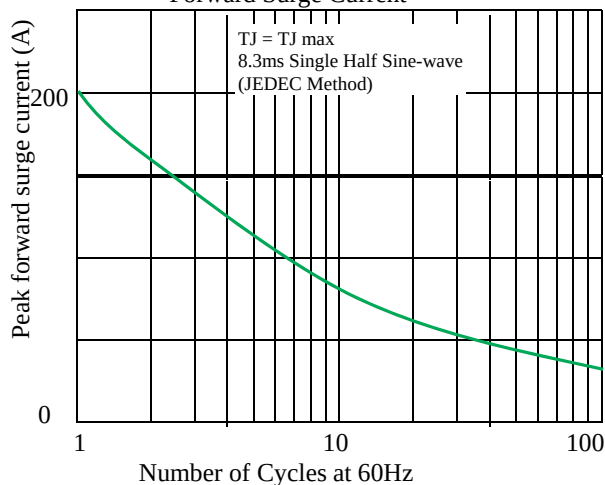


Fig. 3 - Typical Instantaneous Forward Characteristics

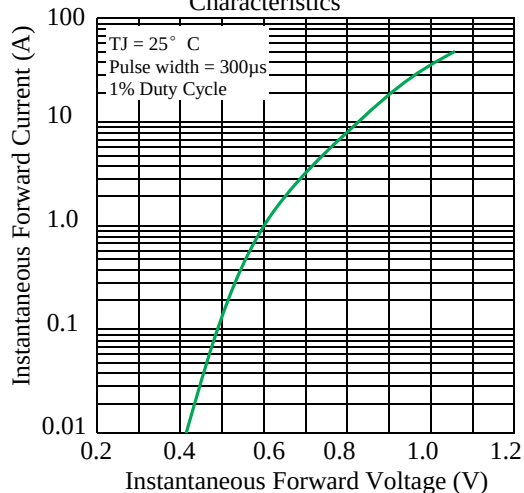


Fig. 4 - Typical Reverse Characteristics

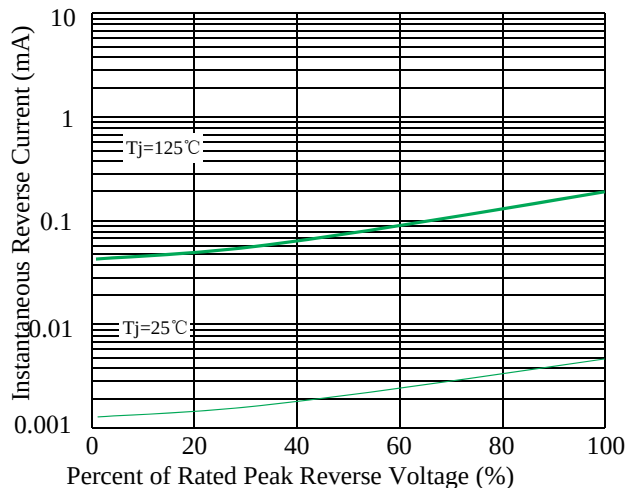


Fig. 5 - typical transient thermal impedance (Note 3)

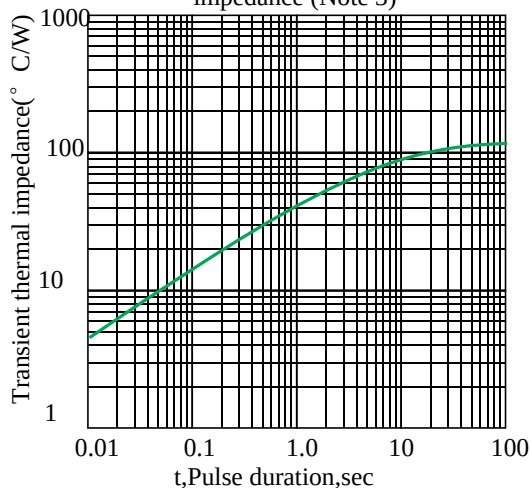
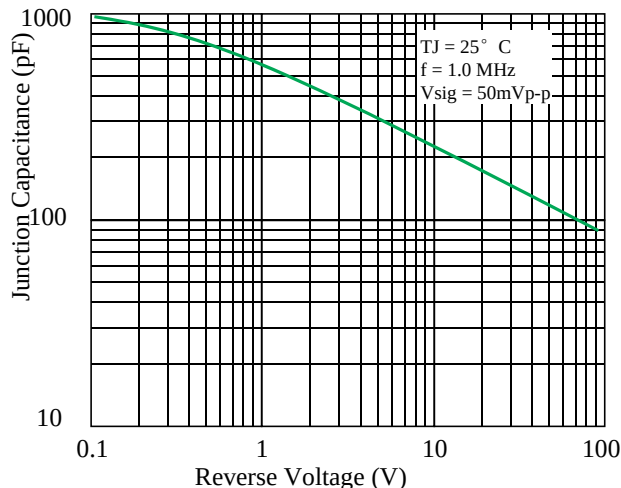
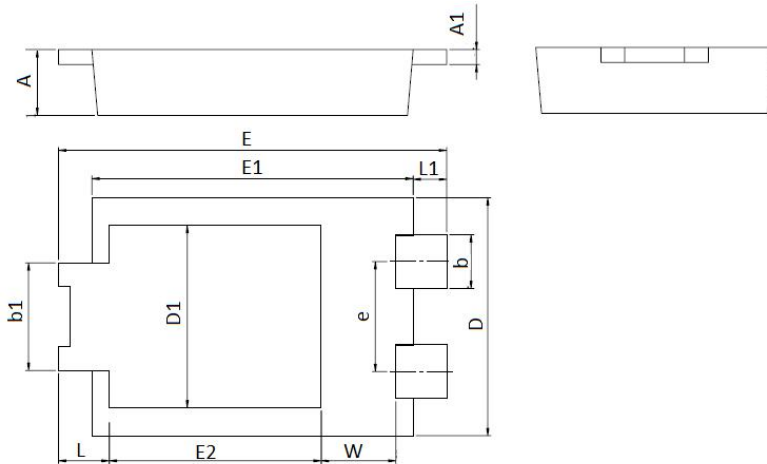


Fig. 6 - Typical Junction Capacitance

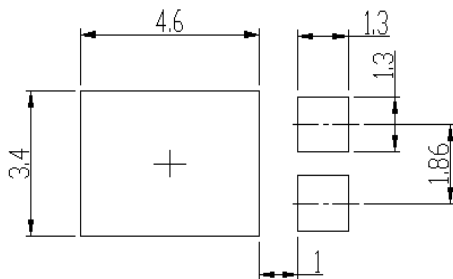


Mechanical Dimensions TO-277B



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.90	1.25	0.035	0.049
A1	0.20	0.35	0.008	0.014
b	0.85	0.95	0.033	0.037
b1	1.70	1.90	0.067	0.075
D	3.80	4.30	0.150	0.170
D1	2.90	3.40	0.114	0.134
e	1.50	2.10	0.059	0.076
E	6.30	6.70	0.248	0.264
E1	5.28	5.78	0.208	0.227
E2	3.20	3.90	0.126	0.154
L	0.50	1.10	0.020	0.043
L1	0.41	1.00	0.016	0.039
W	1.10	1.40	0.043	0.055

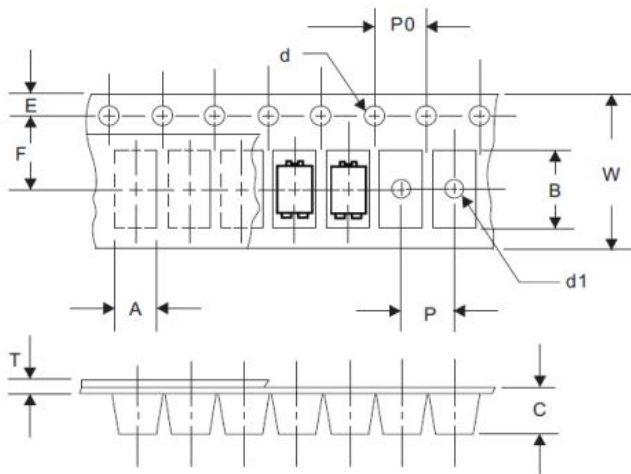
TO- 277B Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Carrier Tape Specification TO-277B



SYMBOL	Millimeters	
	Min.	Max.
A	4.28	4.48
B	6.80	7.10
C	1.30	1.50
d	1.40	1.60
d1	-	1.50
E	1.65	1.85
F	5.40	5.60
P	7.90	8.10
P0	3.90	4.10
T	0.24	0.44
W	11.70	12.30

Ordering Information

Device	Package	Shipping
EP8100T	TO-277 (Pb-Free)	5000pcs/ reel