

8A, 100V Schottky Barrier Rectifier

FEATURES

- AEC-Q101 qualified
- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- On-board DC/DC converter

MECHANICAL DATA

- Case: TO-277A (SMPC)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Color band denotes cathode end
- Weight: 95 mg

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	8	A
V_{RRM}	100	V
I_{FSM}	150	A
T_{JMAX}	150	°C
Package	TO-277A(SMPC)	



TO-277A (SMPC)



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	SSP8H100S	UNIT
Marking code on the device		P8H100	
Repetitive peak reverse voltage	V_{RRM}	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	70	V
Forward current at $T_L = 85^\circ\text{C}$	I_F	8	A
Surge peak forward current single half sine-wave superimposed on rated load per diode	8.3 ms at $T_A = 25^\circ\text{C}$	150	A
	1.0 ms at $T_A = 25^\circ\text{C}$	270	A
	1.0 ms at $T_A = 70^\circ\text{C}$	250	A
Junction temperature	T_J	-55 to 150	°C
Storage temperature	T_{STG}	-55 to 150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP.	UNIT
Junction-to-lead thermal resistance per diode	$R_{\theta JL}$	13	°C/W
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	58	°C/W
Junction-to-case thermal resistance per diode	$R_{\theta JC}$	18	°C/W

Thermal Performance Note: Units mounted on PCB (16mm x 16mm Cu pad test board)

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 4\text{A}, T_J = 25^\circ\text{C}$	V_F	0.67	-	V
	$I_F = 8\text{A}, T_J = 25^\circ\text{C}$		0.78	0.92	V
	$I_F = 4\text{A}, T_J = 125^\circ\text{C}$		0.57	-	V
	$I_F = 8\text{A}, T_J = 125^\circ\text{C}$		0.66	0.75	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	20	mA
Junction capacitance per diode	1 MHz, $V_R = 4.0\text{V}$	C_J	204	-	pF

Notes:

1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
SSP8H100SHS1G	TO-277A(SMPC)	1,500/ 7" Plastic reel
SSP8H100SHS2G	TO-277A(SMPC)	6,000/ 13" Plastic reel

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

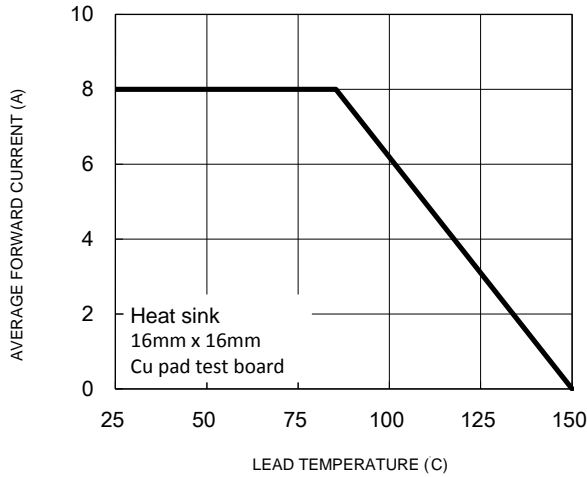


Fig.2 Typical Junction Capacitance

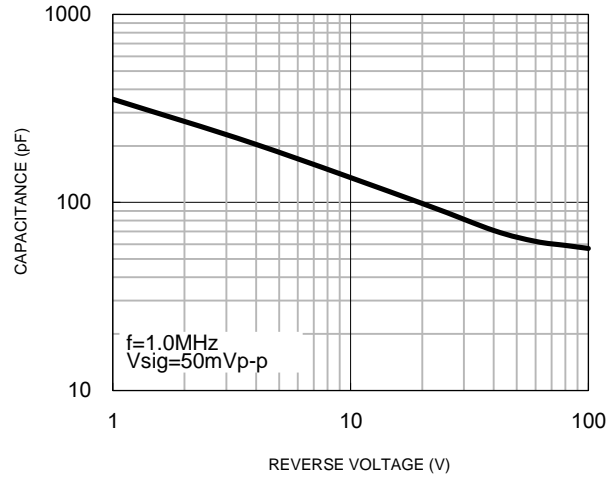


Fig.3 Typical Reverse Characteristics

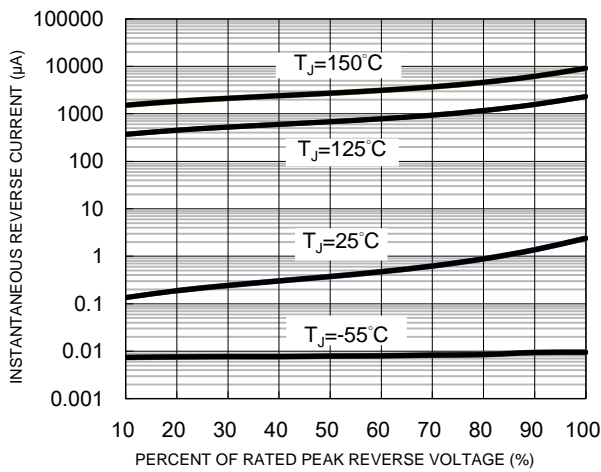


Fig.4 Typical Forward Characteristics

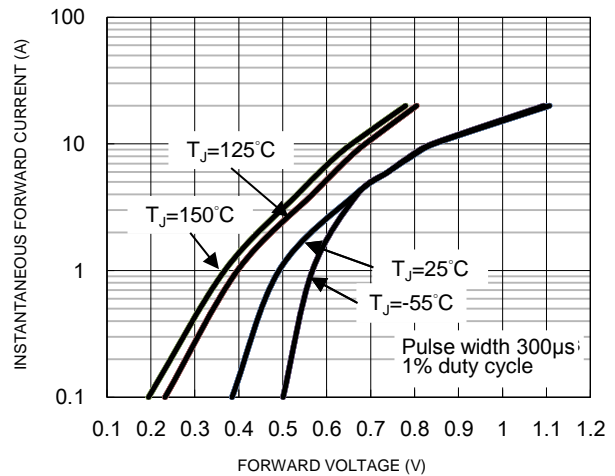
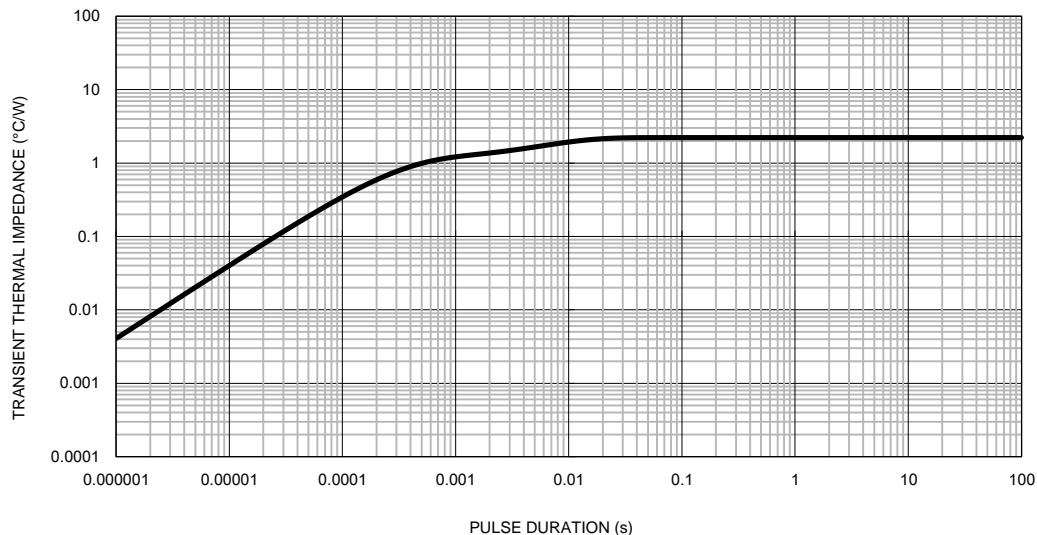
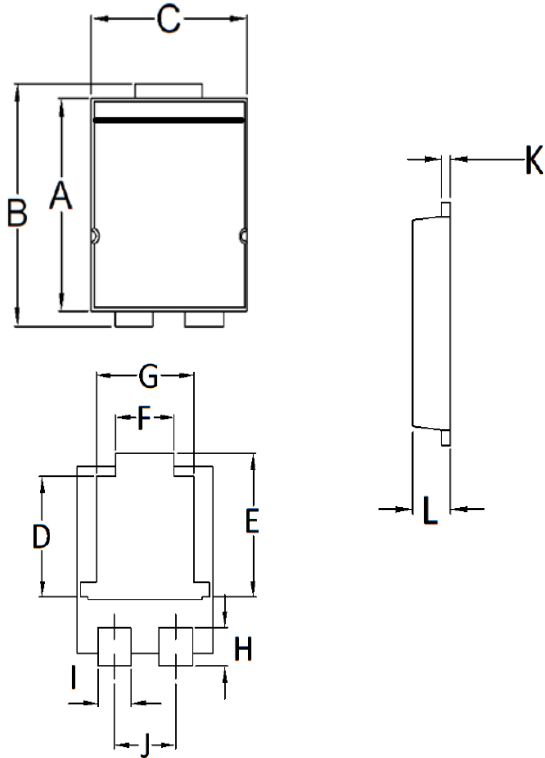


Fig.5 Typical Transient Thermal Impedance



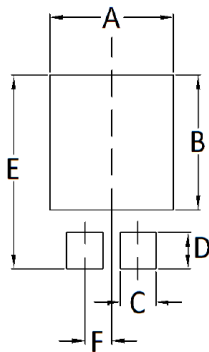
PACKAGE OUTLINE DIMENSIONS

TO-277A(SMPC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	5.650	5.750	0.222	0.226
B	6.350	6.650	0.250	0.262
C	4.550	4.650	0.179	0.183
D	3.540	3.840	0.139	0.151
E	4.235	4.535	0.167	0.179
F	1.850	2.150	0.073	0.085
G	3.170	3.470	0.125	0.137
H	1.043	1.343	0.041	0.053
I	1.000	1.300	0.039	0.051
J	1.930	2.230	0.076	0.088
K	0.175	0.325	0.007	0.013
L	1.000	1.200	0.039	0.047

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	4.80	0.189
B	4.72	0.186
C	1.40	0.055
D	1.27	0.050
E	6.80	0.268
F	1.04	0.041

MARKING DIAGRAM



P/N = Marking Code
 YW = Date Code
 F = Factory Code

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