

## 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
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

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)	

### APPLICATIONS

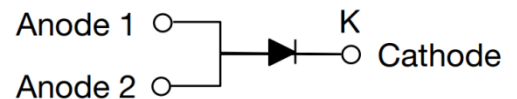
- DC to DC converter
- Automotive application
- Car lighting
- Snubber
- Freewheeling application



**TO-277A (SMPC)**

### 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: Indicated by cathode band
- Weight: 0.095g (approximately)



### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	SSP8H100SH	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 <sub>L</sub> = 85 °C	$I_F$	8	A
Surge peak forward current, single half sine-wave superimposed on rated load per diode	8.3ms at T <sub>A</sub> = 25°C	150	A
	1.0ms at T <sub>A</sub> = 25°C	270	A
	1.0ms at T <sub>A</sub> = 70°C	250	A
Junction temperature	T <sub>J</sub>	-55 to 150	°C
Storage temperature	T <sub>STG</sub>	-55 to 150	°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	13	$^{\circ}\text{C/W}$
Junction-to-ambient thermal resistance	$R_{\theta JA}$	58	$^{\circ}\text{C/W}$
Junction-to-case thermal resistance	$R_{\theta JC}$	18	$^{\circ}\text{C/W}$

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

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^{\circ}\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage <sup>(1)</sup>	$I_F = 4\text{A}, T_J = 25^{\circ}\text{C}$	$V_F$	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 $V_R$ <sup>(2)</sup>	$T_J = 25^{\circ}\text{C}$	$I_R$	-	10	$\mu\text{A}$
	$T_J = 125^{\circ}\text{C}$		-	20	mA
Junction capacitance	1MHz, $V_R = 4.0\text{V}$	$C_J$	204	-	pF

**Notes:**

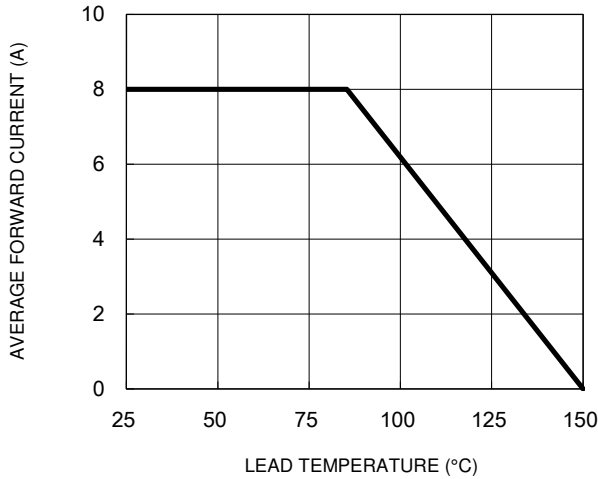
1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b>	<b>PACKAGE</b>	<b>PACKING</b>
SSP8H100SH	TO-277A (SMPC)	6,000 / Tape & Reel

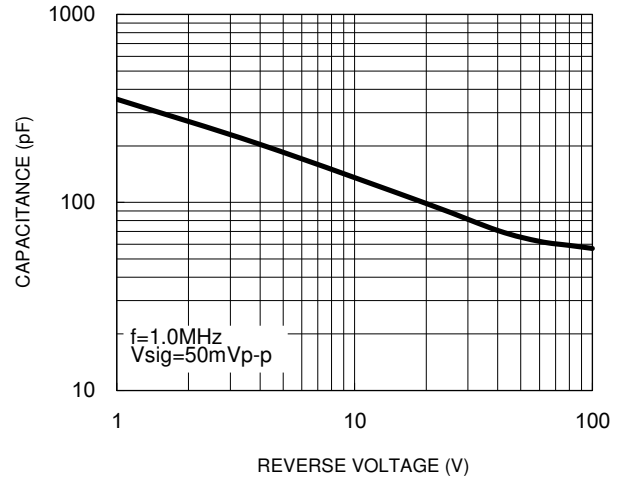
**CHARACTERISTICS CURVES**

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

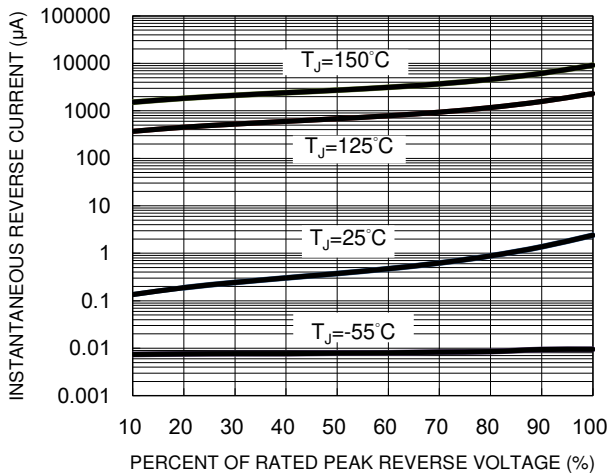
**Fig.1 Forward Current Derating Curve**



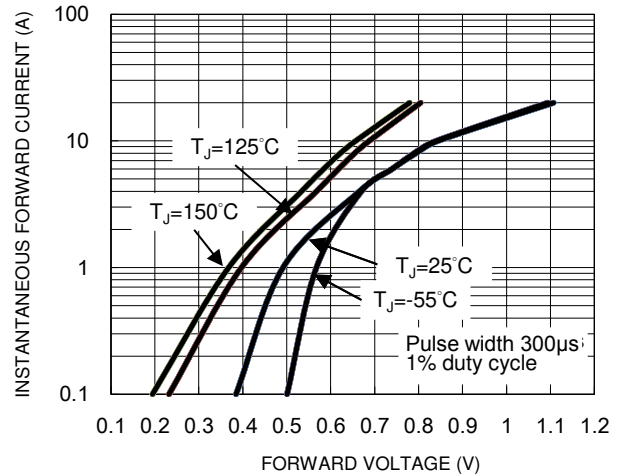
**Fig.2 Typical Junction Capacitance**



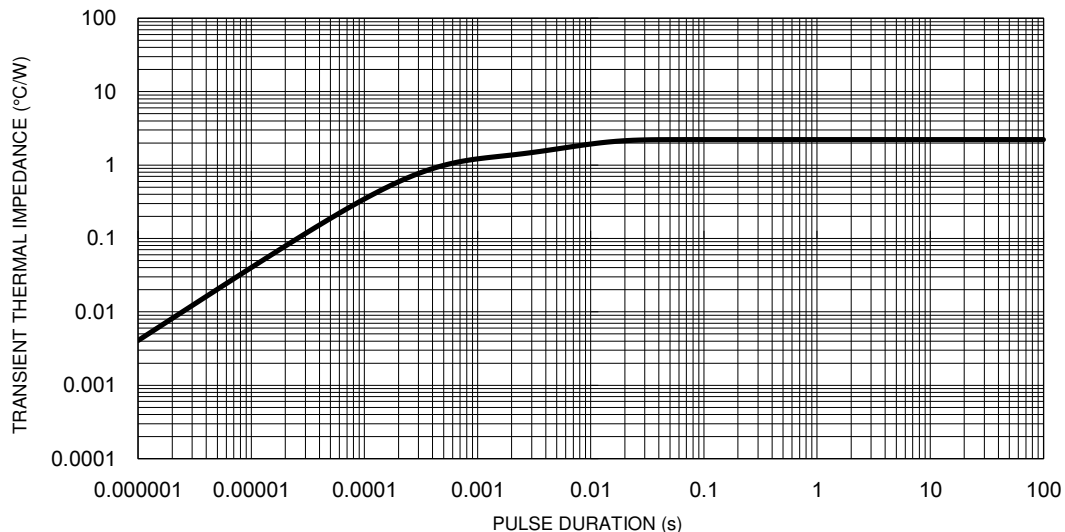
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**

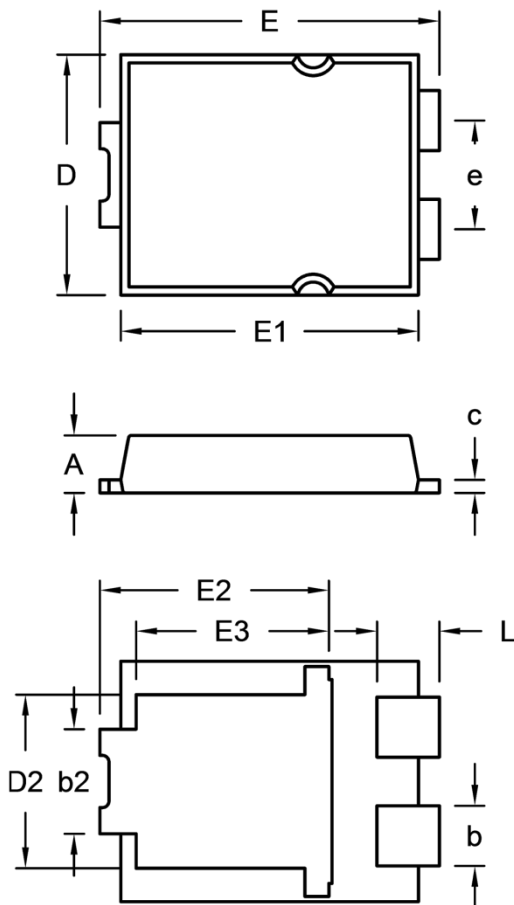


**Fig.5 Typical Transient Thermal Impedance**



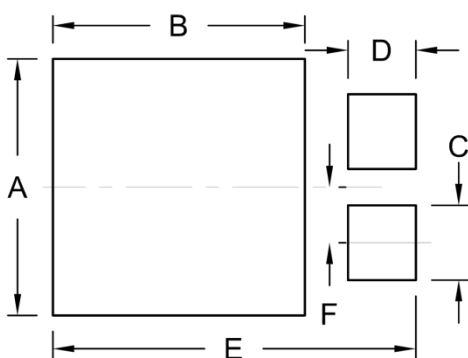
**PACKAGE OUTLINE DIMENSIONS**

TO-277A (SMPC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.000	1.200	0.039	0.047
b	1.000	1.300	0.039	0.051
b2	1.850	2.150	0.073	0.085
c	0.175	0.325	0.007	0.013
D	4.550	4.650	0.179	0.183
D2	3.170	3.470	0.125	0.137
E	6.350	6.650	0.250	0.262
E1	5.650	5.750	0.222	0.226
E2	4.235	4.535	0.167	0.179
E3	3.540	3.840	0.139	0.151
e	1.930	2.230	0.076	0.088
L	1.043	1.343	0.041	0.053

**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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