

## 25A, 1000V Standard Rectifier

### FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- High current capability, Low  $V_F$
- High reliability
- High surge current capability
- Low power loss
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

### APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

### MECHANICAL DATA

- Case: P2500
- 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: As marked
- Weight: 1.90g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	25	A
$V_{RRM}$	1000	V
$I_{FSM}$	650	A
$T_{JMAX}$	175	°C
Package	P2500	
Configuration	Single die	



**P2500**



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	P2500M	UNIT
Marking code on the device		P2500M	
Repetitive peak reverse voltage	$V_{RRM}$	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	700	V
Forward current	$I_F$	25	A
Surge peak forward current 10ms single half sine wave superimposed on rated load	$I_{FSM}$	650	A
Rating for fusing, $t < 10\text{ms}$	$I^2t$	2100	$\text{A}^2\text{s}$
Junction temperature	$T_J$	-55 to +175	°C
Storage temperature	$T_{STG}$	-55 to +175	°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	R <sub>θJL</sub>	0.8 <sup>(1)</sup>	°C/W
		6.0 <sup>(2)</sup>	°C/W

**Notes:**

1. Thermal resistance from junction to lead/terminal at a distance 0 mm from case.
2. Mount on Heat sink size of 4in x 6in x 0.25in Al-Plate

<b>ELECTRICAL SPECIFICATIONS</b> (T <sub>A</sub> = 25°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 <sub>F</sub> = 5A, T <sub>J</sub> = 25°C	V <sub>F</sub>	-	0.87	V
Reverse current @ rated V <sub>R</sub> <sup>(2)</sup>	T <sub>J</sub> = 25°C	I <sub>R</sub>	-	5	μA

**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>
P2500M	P2500	800 / Tape & Reel
P2500M A0G	P2500	500 / Ammo box
P2500MH	P2500	800 / Tape & Reel
P2500MHA0G	P2500	500 / Ammo box

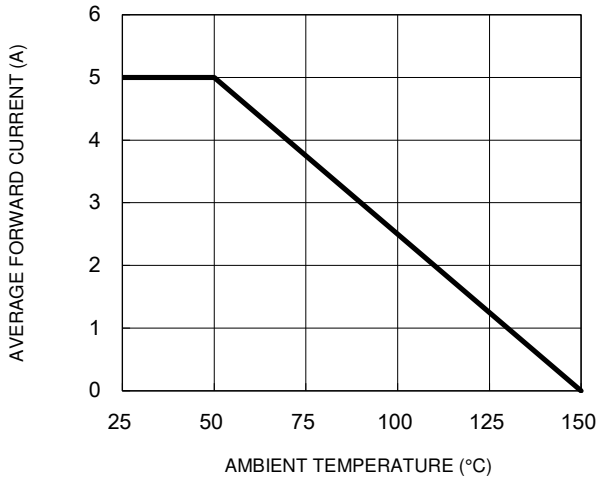
**Notes:**

1. "H" means ACE-Q101 qualified

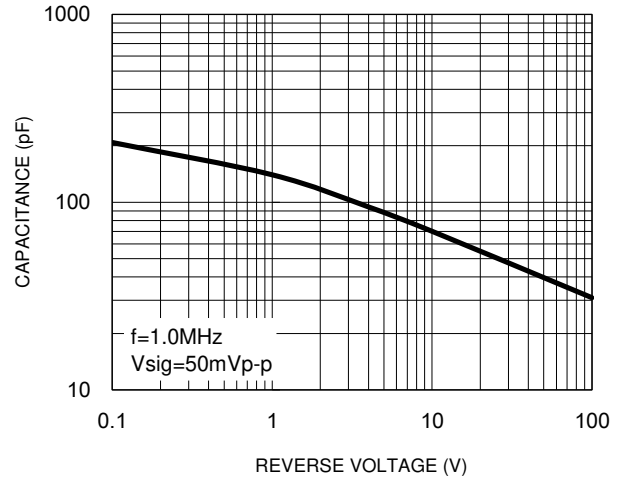
**CHARACTERISTICS CURVES**

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

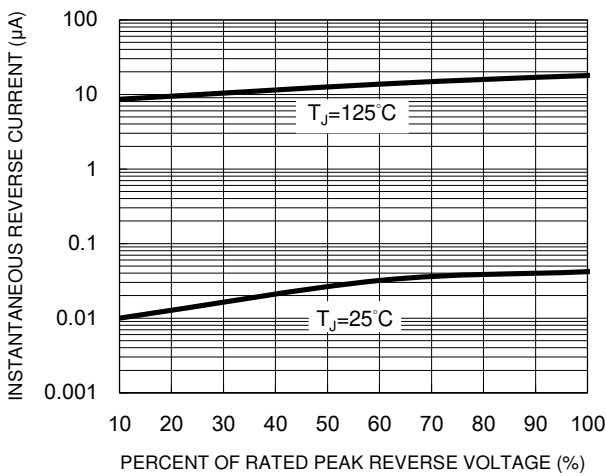
**Fig.1 Forward Current Derating Curve**



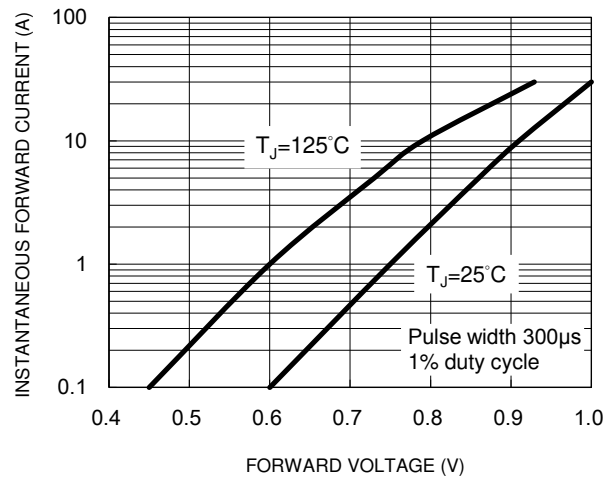
**Fig.2 Typical Junction Capacitance**



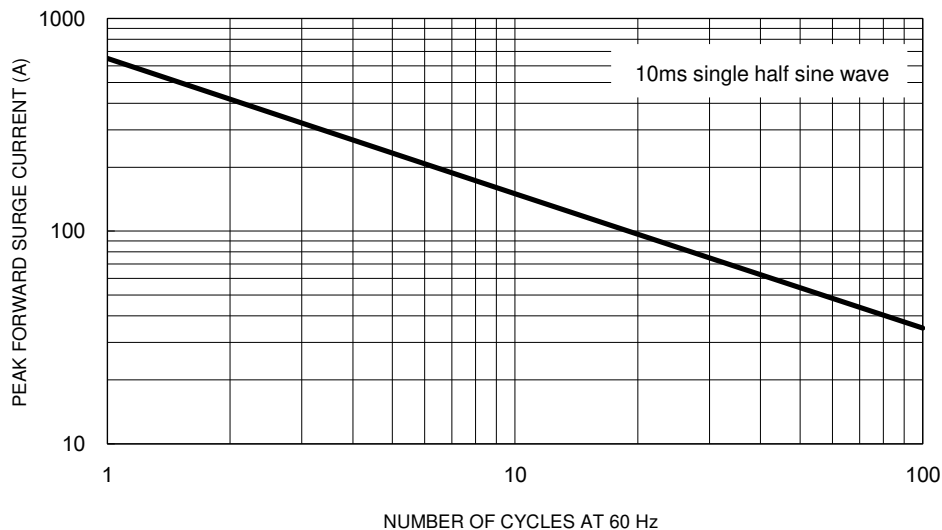
**Fig.3 Typical Reverse Characteristics**



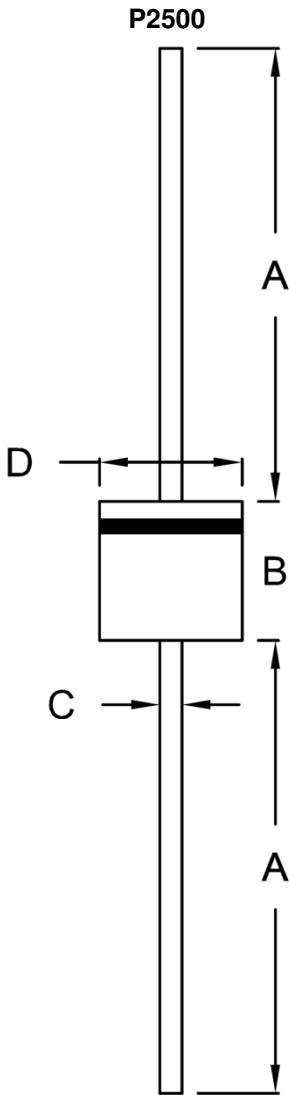
**Fig.4 Typical Forward Characteristics**



**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**PACKAGE OUTLINE DIMENSIONS**



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	7.55	8.05	0.297	0.317
C	1.20	1.30	0.047	0.051
D	7.80	8.20	0.307	0.323

**MARKING DIAGRAM**



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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