



# THE DATASHEET OF EABS1D



## 1A, 200V - 600V Super Fast Bridge Rectifier

### FEATURES

- AEC-Q101 qualified available
- Ideal for automated placement, for compact PCB design
- High surge current capability
- Super fast reverse recovery time for high frequency
- Negligible leakage current
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

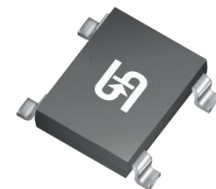
### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

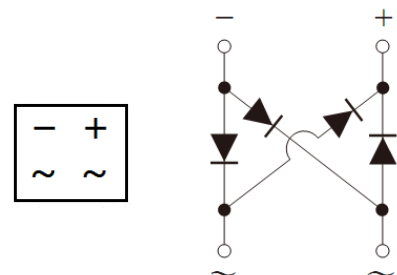
### MECHANICAL DATA

- Case: ABS
- 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: 0.090g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	1	A
$V_{RRM}$	200 - 600	V
$I_{FSM}$	40	A
$T_{J\ MAX}$	150	°C
Package	ABS	
Configuration	Quad	



ABS



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	EABS1D	EABS1G	EABS1J	UNIT
Marking code on the device		EABS1D	EABS1G	EABS1J	
Repetitive peak reverse voltage	$V_{RRM}$	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
Forward current	$I_F$	1			A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	40			A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	6.64			$\text{A}^2\text{s}$
Junction temperature	$T_J$	- 55 to +150			°C
Storage temperature	$T_{STG}$	- 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	$R_{\theta JL}$	25	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	80	°C/W

<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 per diode <sup>(1)</sup>	EABS1D	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.95	V
	EABS1G			-	1.20	V
	EABS1J			-	1.70	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$		$I_R$	-	1	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$			-	200	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{rr} = 0.25\text{A}$		$t_{rr}$	-	35	ns

**Notes:**

1. Pulse test with  $PW = 0.3\text{ms}$
2. Pulse test with  $PW = 30\text{ms}$

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> <sup>(1)(2)</sup>	<b>PACKAGE</b>	<b>PACKING</b>
EABS1x	ABS	5,000 / Tape & Reel
EABS1xH	ABS	5,000 / Tape & Reel

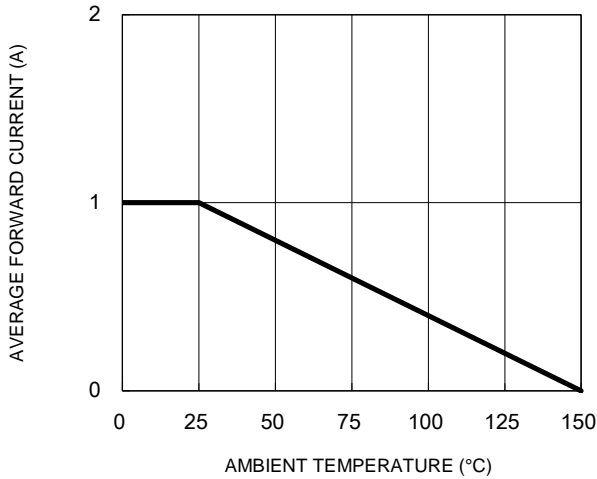
**Notes:**

1. "x" defines voltage from 200V(EABS1D) to 600V(EABS1J)
2. "H" means AEC-Q101 qualified

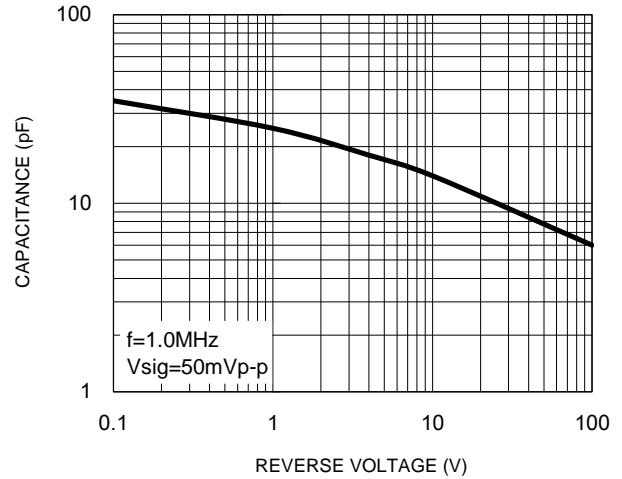
**CHARACTERISTICS CURVES**

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

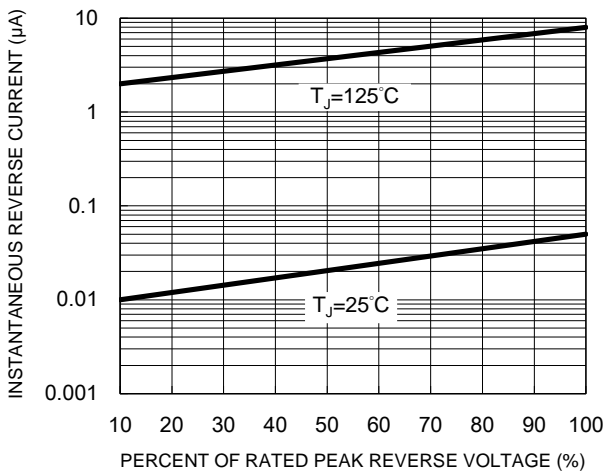
**Fig.1 Forward Current Derating Curve**



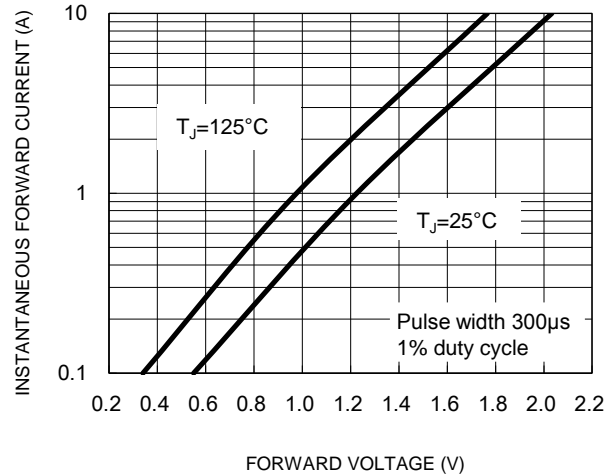
**Fig.2 Typical Junction Capacitance**



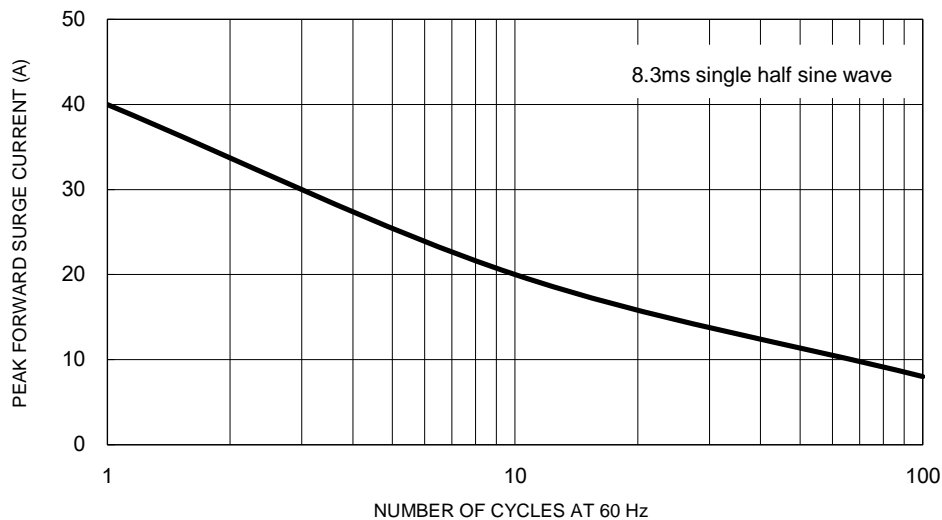
**Fig.3 Typical Reverse Characteristics**



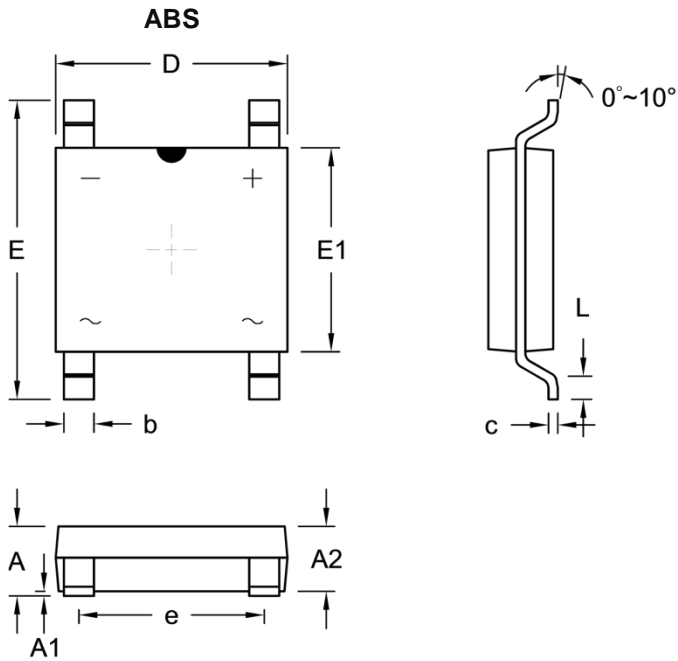
**Fig.4 Typical Forward Characteristics**



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

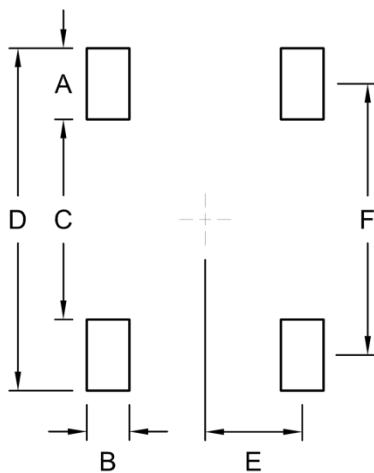


**PACKAGE OUTLINE DIMENSIONS**



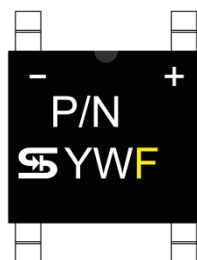
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
A1	0.05	0.15	0.002	0.006
A2	1.35	1.45	0.053	0.057
b	0.60	0.70	0.024	0.028
c	0.15	0.25	0.006	0.010
D	4.90	5.10	0.193	0.201
E	6.25	6.65	0.246	0.262
E1	4.30	4.50	0.169	0.177
e	3.90	4.10	0.154	0.161
L	0.30	0.70	0.012	0.028

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	1.50	0.059
B	0.90	0.035
C	4.22	0.166
D	7.22	0.284
E	2.05	0.081
F	5.72	0.225

**MARKING DIAGRAM**



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

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