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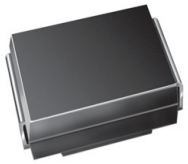
BHE1A~BHE1M

High Efficiency Recovery rectifiers

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junctions
- Ultrafast reverse recovery time
- Low switching losses, high efficiency
- High forward surge capability
- High temperature soldering:
  260℃/10 seconds at terminals

RoHS COMPLIANT



DO-214AA (SMB)

Mechanical Date

- **Case:** JEDEC DO-214AA molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	**1.0 A**
V_{RRM}	**50 V to 1000 V**
I_{FSM}	**30 A**
t_{rr}	**50 nS , 75 nS**
V_F	**1.0 V , 1.3 V , 1.7 V**
T_j **max.**	**150 °C**

Maximum Ratings & Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Items	Symbol	BHE1A	BHE1B	BHE1D	BHE1G	BHE1J	BHE1K	BHE1M	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Thermal resistance from junction to lead (1)	$R_{\theta JL}$	25							℃/ W
Operating junction and storage temperature range	T_J ,T_{STG}	–55 to +150							℃

Note 1: Mounted on P.C.B. with 0.28 x 0.28" (7.0 x 7.0mm) copper pad areas.

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Items	Test conditions		Symbol	BHE1A~D	BHE1G	BHE1J~1M	UNIT
Instantaneous forward voltage	I_F=1.0 A(2)		V_F	1.0	1.3	1.7	V
Reverse current	V_R=V_{DC}	T_A=25℃	I_R	5			μA
		T_A=100℃		50			
Reverse recovery time	I_F = 0.5 A , I_R = 1.0 A , I_{rr} = 0.25 A		t_{rr}	50		75	nS
Typical junction capacitance	4.0 V ,1MHz		C_J	15		10	pF

Note 2: Pulse test:300μs pulse width,1% duty cycle.

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Characteristic Curves (T_A=25 ℃ unless otherwise noted)

Fig.1 Forward Current Derating Curve

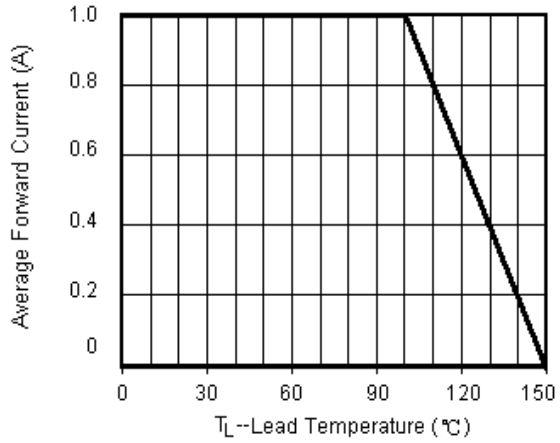


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

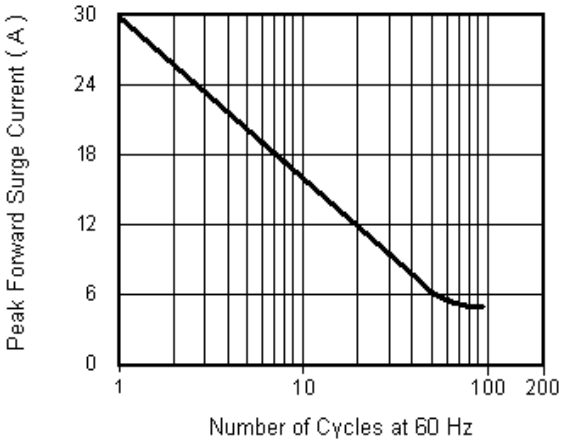


Fig.3 Typical Instantaneous Forward Characteristics

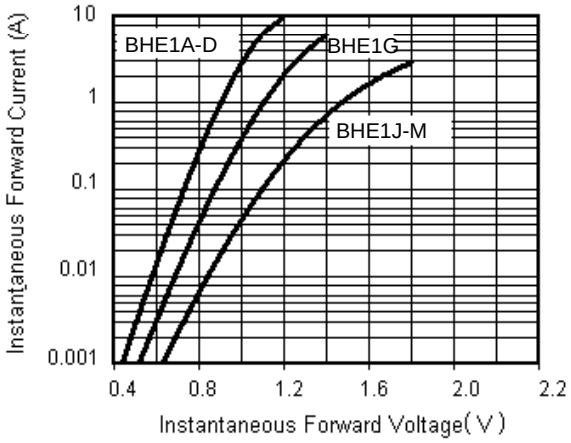
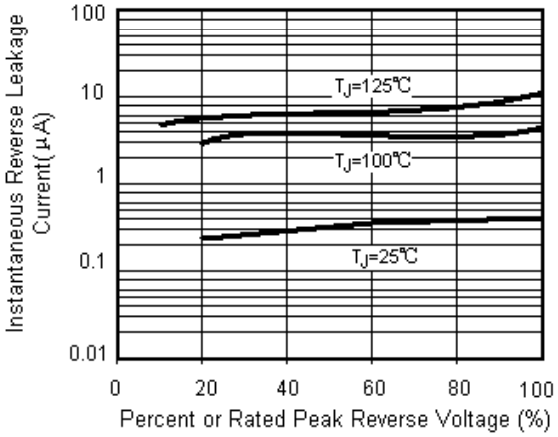


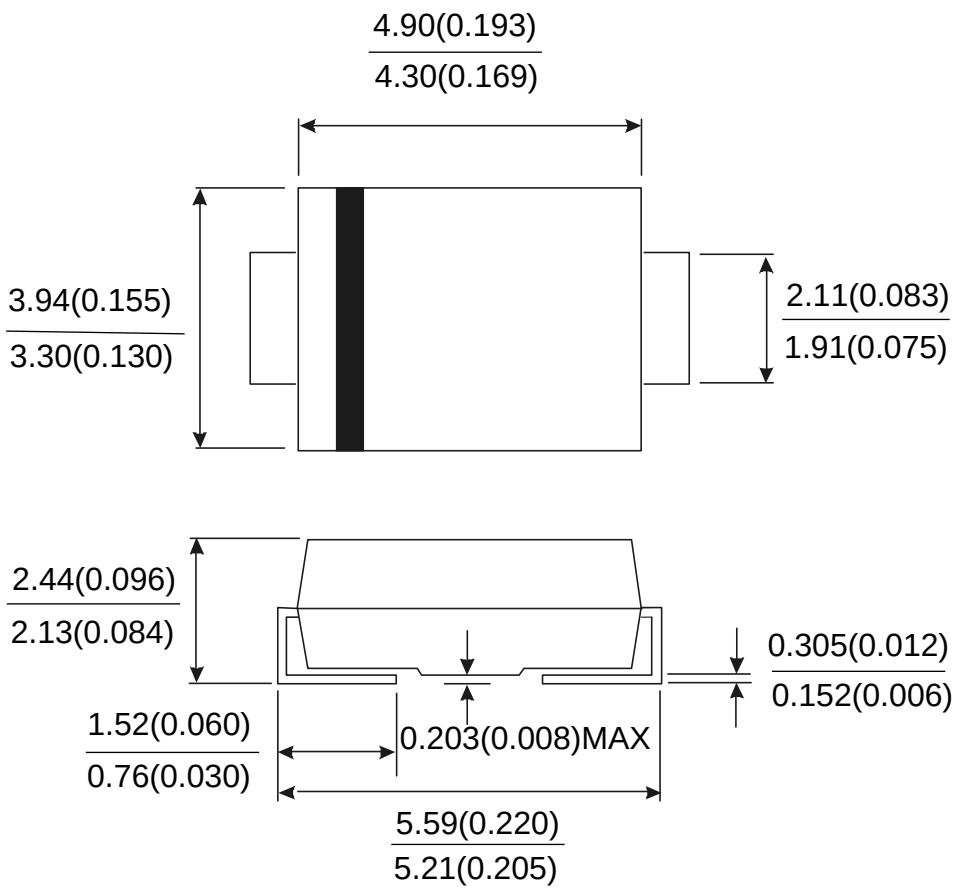
Fig.4 Typical Reverse Leakage Characteristics



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Package Outline

SMB



Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage. or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

  $I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

  T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.

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