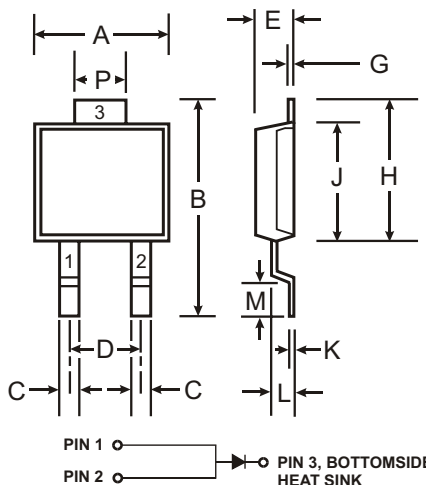


**UNDER DEVELOPMENT**
**Features**

- Guard Ring Die Construction for Transient Protection
- Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications
- Plastic Material: UL Flammability Classification Rating 94V-0

**Mechanical Data**

- Case: POWERMITE®3 Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: Type Number, See also Sheet 2
- Weight: 0.072 grams (approx.)



Note: Pins 1 & 2 must be electrically connected at the printed circuit board.

| POWERMITE®3          |          |      |
|----------------------|----------|------|
| Dim                  | Min      | Max  |
| A                    | 4.03     | 4.09 |
| B                    | 6.40     | 6.61 |
| C                    | .889 NOM |      |
| D                    | 1.83 NOM |      |
| E                    | 1.10     | 1.14 |
| G                    | .178 NOM |      |
| H                    | 5.01     | 5.17 |
| J                    | 4.37     | 4.43 |
| K                    | .178 NOM |      |
| L                    | .71      | .77  |
| M                    | .36      | .46  |
| P                    | 1.73     | 1.83 |
| All Dimensions in mm |          |      |

**Maximum Ratings** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

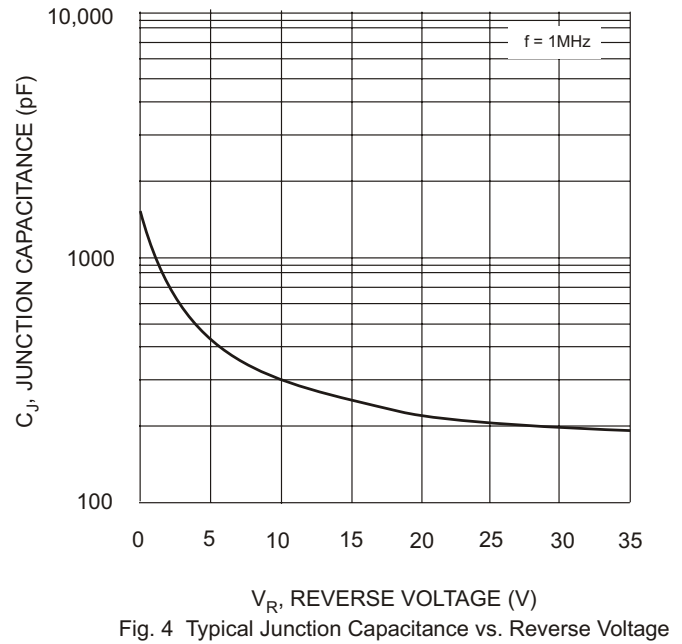
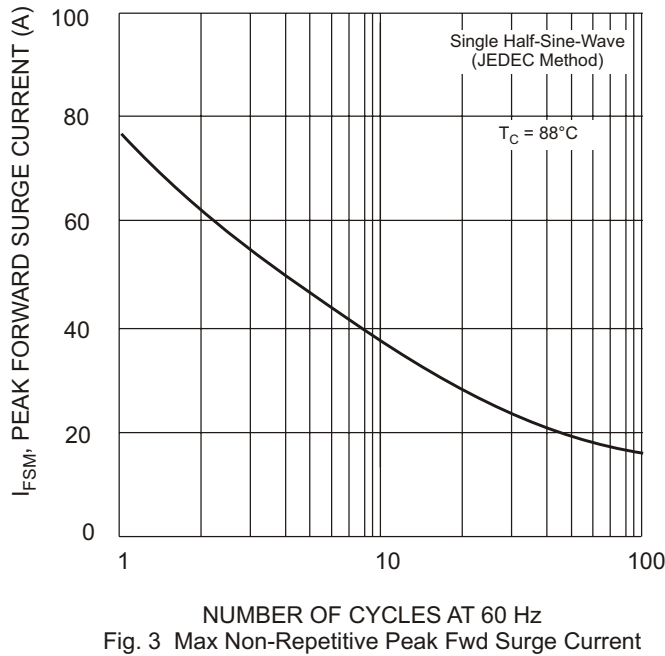
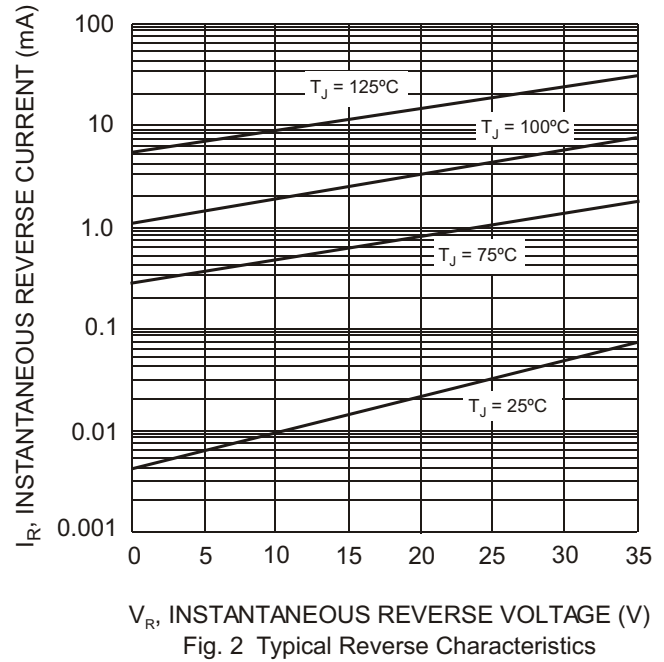
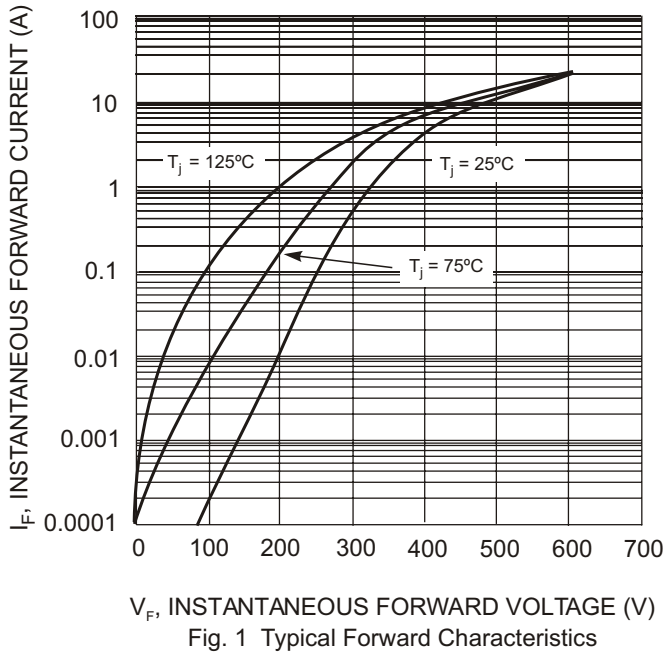
Single phase, half wave, 60Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

| Characteristic                                                                                                                                   | Symbol                          | Value       | Unit               |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                                                           | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 35          | V                  |
| RMS Reverse Voltage                                                                                                                              | $V_{R(RMS)}$                    | 25          | V                  |
| Average Rectified Output Current @ $T_S = 88^\circ\text{C}$                                                                                      | $I_O$                           | 8           | A                  |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave Superimposed on Rated Load<br>(JEDEC Method) @ $T_C = 88^\circ\text{C}$ | $I_{FSM}$                       | 75          | A                  |
| Typical Thermal Resistance Junction to Case                                                                                                      | $R_{\theta JC}$                 | 0.9         | $^\circ\text{C/W}$ |
| Typical Thermal Resistance Junction to Soldering Point                                                                                           | $R_{\theta JS}$                 | 3.2         | $^\circ\text{C/W}$ |
| Operating Temperature Range                                                                                                                      | $T_J$                           | -65 to +125 | $^\circ\text{C}$   |
| Storage Temperature Range                                                                                                                        | $T_{STG}$                       | -65 to +150 | $^\circ\text{C}$   |

**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

| Characteristic                     | Symbol      | Min | Typ          | Max          | Unit | Test Condition                                                                                  |
|------------------------------------|-------------|-----|--------------|--------------|------|-------------------------------------------------------------------------------------------------|
| Reverse Breakdown Voltage (Note 1) | $V_{(BR)R}$ | 35  | —            | —            | V    | $I_R = 1\text{mA}$                                                                              |
| Forward Voltage (Note 1)           | $V_{FM}$    | —   | 0.47<br>0.38 | 0.51<br>0.41 | V    | $I_F = 8\text{A}$ , $T_S = 25^\circ\text{C}$<br>$I_F = 8\text{A}$ , $T_S = 125^\circ\text{C}$   |
| Peak Reverse Current (Note 1)      | $I_{RM}$    | —   | 0.07<br>7.5  | 1.4<br>35    | mA   | $T_S = 25^\circ\text{C}$ , $V_R = 35\text{V}$<br>$T_S = 100^\circ\text{C}$ , $V_R = 35\text{V}$ |

Notes: 1. Short duration test pulse used to minimize self-heating effect.

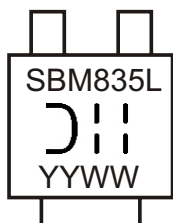


## Ordering Information (Note 2)

| Device     | Packaging   | Shipping         |
|------------|-------------|------------------|
| SBM835L-13 | POWERMITE®3 | 5000/Tape & Reel |

Notes: 2. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



SBM835L = Product type marking code  
 D||| = Manufacturers' code marking  
 YYWW = Date code marking  
 YY = Last digit of year ex: 2 for 2002  
 WW = Week code 01 to 52

UNDER DEVELOPMENT

POWERMITE is a registered trademark of Microsemi Corporation.