

**SURFACE MOUNT  
SCHOTTKY BARRIER RECTIFIERS**

**REVERSE VOLTAGE - 50 to 1000 Volts**  
**FORWARD CURRENT - 1.0 Ampere**

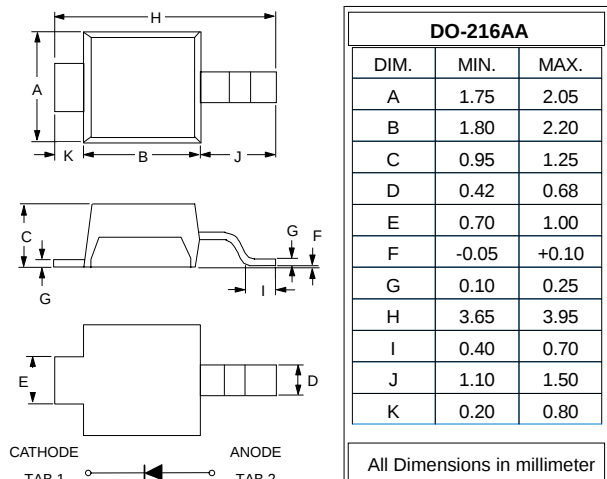
**FEATURES**

- For surface mounted applications
- Metal-Semiconductor junction with guardring
- Epitaxial construction
- Low VF provides higher efficiency and extends battery life
- Plastic material has UL flammability classification 94V-0
- For use in portable and battery powered product
- Typical applications are ac/ac and dc/dc converters, reverse battery protection, and "Oring" of multiple supply voltage

**MECHANICAL DATA**

- Case : JEDEC DO-216AA Molded plastic
- Polarity : Cathode designated by TAB 1
- Approx Weight : 0.016grams
- Mounting position : Any

**DO-216AA**



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

| Characteristics                                                                                                                          | Symbol            | MB140                  |                        | Units |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------|------------------------|------------------------|-------|
| Maximum recurrent peak reverse voltage                                                                                                   | V <sub>rrm</sub>  | 40                     |                        | V     |
| Maximum RMS voltage                                                                                                                      | V <sub>rms</sub>  | 28                     |                        | V     |
| Maximum DC blocking voltage                                                                                                              | V <sub>dc</sub>   | 40                     |                        | V     |
| Maximum average forward rectified current @ T <sub>L</sub> =110℃                                                                         | I <sub>(AV)</sub> | 1.0                    |                        | A     |
| Peak forward surge current 8.3 ms single half-sine-wave superimposed on rated load (JEDEC Method)                                        | I <sub>FSM</sub>  | 40                     |                        | A     |
| Maximum instantaneous forward voltage (Note 1)<br>( @ I <sub>F</sub> =0.1A )<br>( @ I <sub>F</sub> =1.0A )<br>( @ I <sub>F</sub> =3.0A ) | V <sub>F</sub>    | @ T <sub>J</sub> = 25℃ | @ T <sub>J</sub> = 85℃ | V     |
|                                                                                                                                          |                   | 0.36                   | 0.30                   |       |
|                                                                                                                                          |                   | 0.55                   | 0.515                  |       |
|                                                                                                                                          |                   | 0.85                   | 0.88                   |       |
| Maximum instantaneous reverse current<br>( @ V <sub>R</sub> =40V )<br>( @ V <sub>R</sub> =20V )                                          | I <sub>R</sub>    | @ T <sub>J</sub> = 25℃ | @ T <sub>J</sub> = 85℃ | mA    |
|                                                                                                                                          |                   | 0.5                    | 25                     |       |
|                                                                                                                                          |                   | 0.15                   | 18                     |       |
| Thermal resistance - Junction to Lead (Anode)                                                                                            | R <sub>θjL</sub>  | 35                     |                        | ℃/W   |
| Thermal resistance - Junction to Tab (Cathode)                                                                                           | R <sub>θtab</sub> | 20                     |                        |       |
| Thermal resistance - Junction to Ambient                                                                                                 | R <sub>θja</sub>  | 250                    |                        |       |
| Operating Temperature Range                                                                                                              | T <sub>J</sub>    | -55 to +125            |                        | ℃     |
| Storage Temperature Range                                                                                                                | T <sub>STG</sub>  | -55 to +150            |                        | ℃     |

NOTE: 1.Pulse Test: Pulse Width = 300us , Duty Cycle = 2%

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Fig.1 - Forward Current Derating Curve

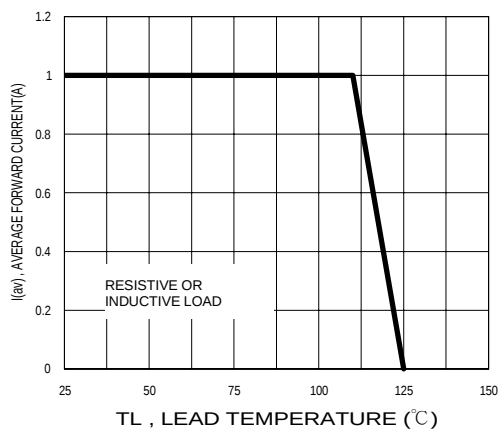


Fig.2 - Typical Reverse Characteristics

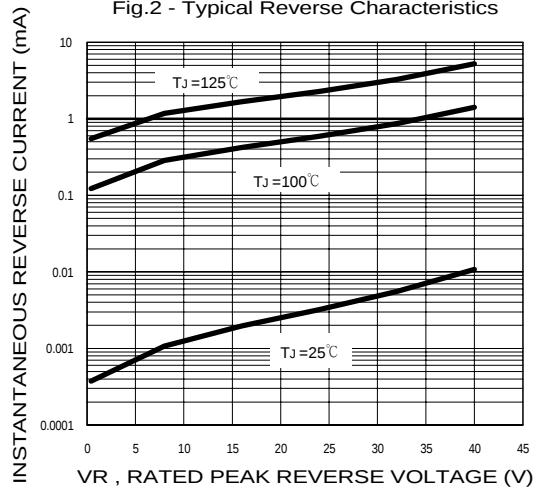


Fig.3 - Maxmun Non-Repetitive Peak Forward Surge Current

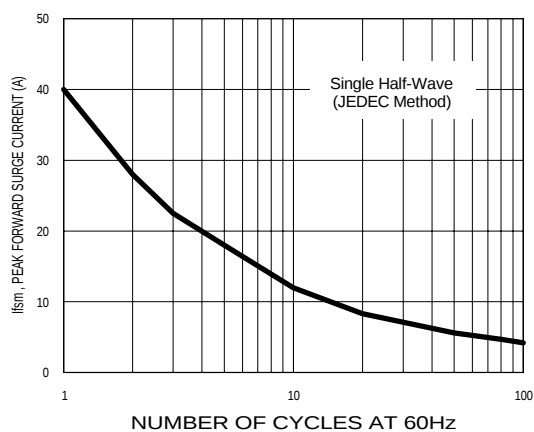


Fig.4 - Typical Junction Capacitance

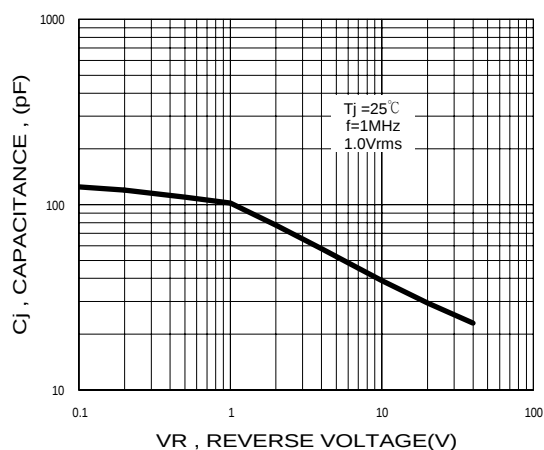
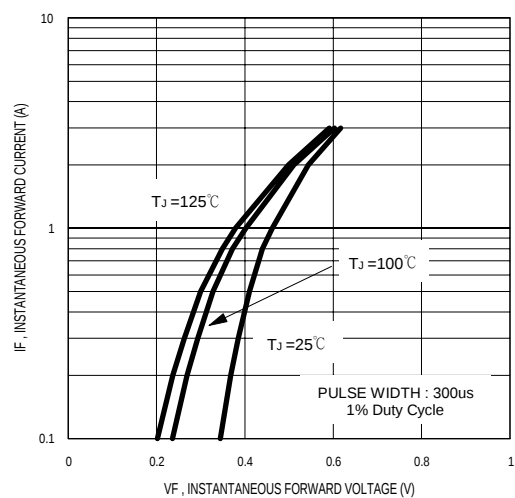
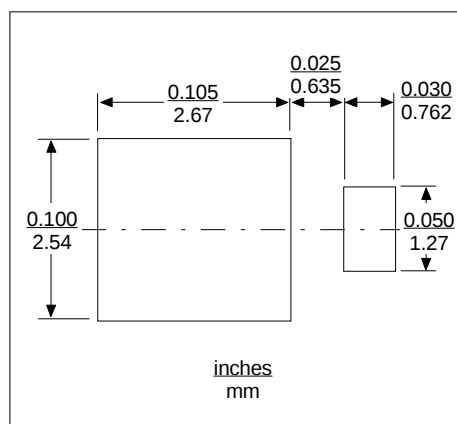


Fig.5 - Typical Forward Characteristics



FOOTPRINTS FOR SOLDERING



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