

## Features

- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates Compliant. See Ordering Information)
- Low Profile Package
- Ideal for Automated Placement
- Glass Passivated Chip Junction
- High Forward Surge Capability
- Super Fast Reverse Recovery Time
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Operating Junction Temperature Range: -50°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance(Note 3): 18 °C/W Junction to Case
- Typical Thermal Resistance(Note 3): 22°C/W Junction to Lead
- Typical Thermal Resistance(Note 3): 70°C/W Junction to Ambient

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| US2DBFL         | US2D           | 200V                                   | 140V                | 200V                        |
| US2GBFL         | US2G           | 400V                                   | 280V                | 400V                        |
| US2MBFL         | US2M           | 1000V                                  | 700V                | 1000V                       |

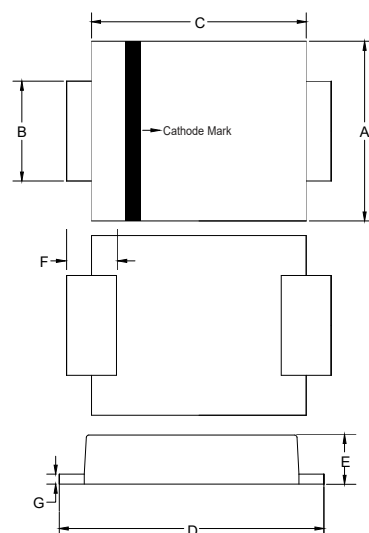
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|   |             |  |   |
|---|-------------|--|---|
| Average Forward Current                                 | $I_{F(AV)}$ | 2.0A   | $T_L=85^\circ\text{C}$                              |
| Peak Forward Surge Current                              | $I_{FSM}$   | 50A  | 8.3ms, Half Sine                                    |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | US2DBFL 1.0V<br>US2GBFL 1.3V<br>US2MBFL 1.7V | $I_{FM}=2.0A$ ;<br>$T_J=25^\circ\text{C}$           |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 5.0μA<br>100μA                               | $T_J=25^\circ\text{C}$ ;<br>$T_J=125^\circ\text{C}$ |
| Maximum Reverse Recovery Time                           | $t_{rr}$    | US2DBFL-US2GBFL 50ns<br>US2MBFL 75ns         | $I_F=0.5A$ ; $I_R=1.0A$ ;<br>$I_{RR}=0.25A$         |
| Typical Junction Capacitance                            | $C_J$       | US2DBFL 32pF<br>US2GBFL 17pF<br>US2MBFL 12pF | Measured at 1.0MHz, $V_R=4.0V$                      |

- Note : 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.  
2. High Temperature Solder Exemption Applied, See EU Directive Annex Notes 7a.  
3. Mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas.

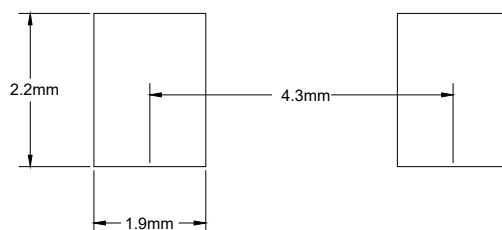
# 2 Amp High Efficient Rectifier 200 to 1000 Volts

## SMBF



| DIMENSIONS |        |       |      |      |      |
|------------|--------|-------|------|------|------|
| DIM        | INCHES |       | MM   |      | NOTE |
|            | MIN    | MAX   | MIN  | MAX  |      |
| A          | 0.134  | 0.150 | 3.40 | 3.80 |      |
| B          | 0.075  | 0.083 | 1.90 | 2.10 |      |
| C          | 0.163  | 0.175 | 4.15 | 4.45 |      |
| D          | 0.201  | 0.220 | 5.10 | 5.60 |      |
| E          | 0.041  | 0.061 | 1.05 | 1.55 |      |
| F          | 0.028  | 0.053 | 0.70 | 1.35 |      |
| G          | 0.006  | 0.010 | 0.15 | 0.25 |      |

## Suggested Solder Pad Layout



## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

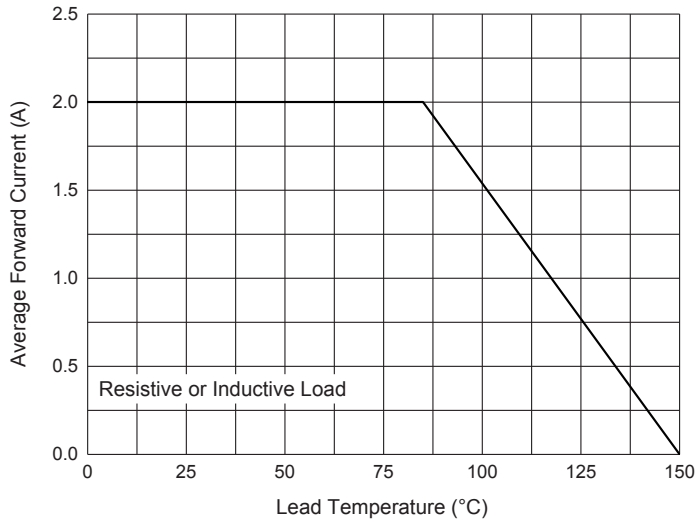


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

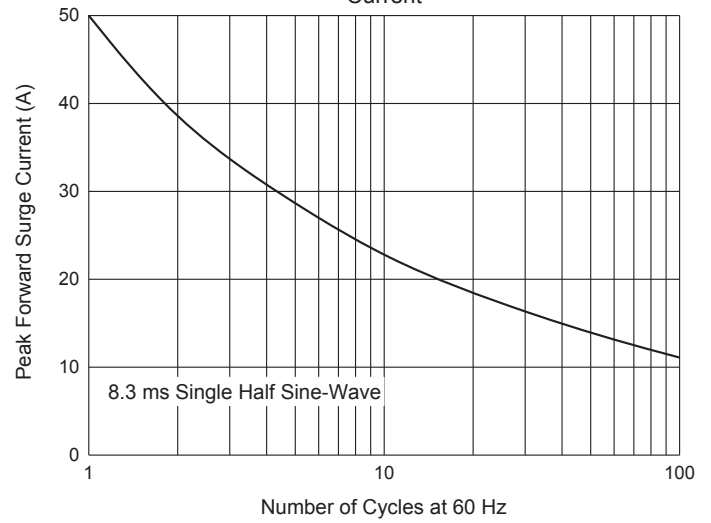


Fig. 3 - Typical Instantaneous Forward Characteristics

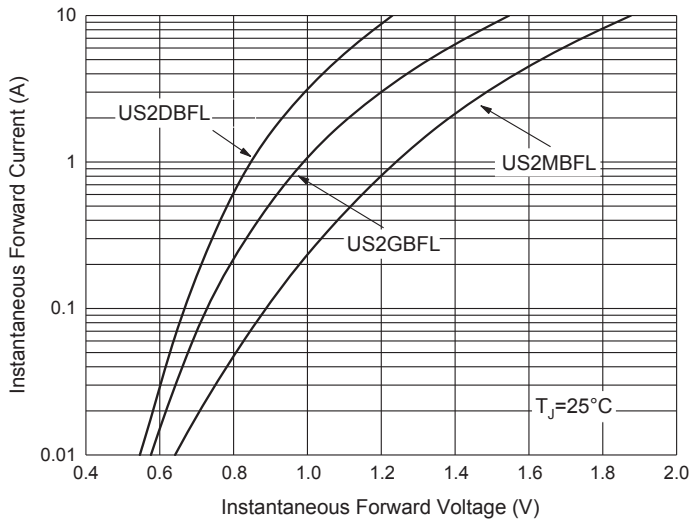
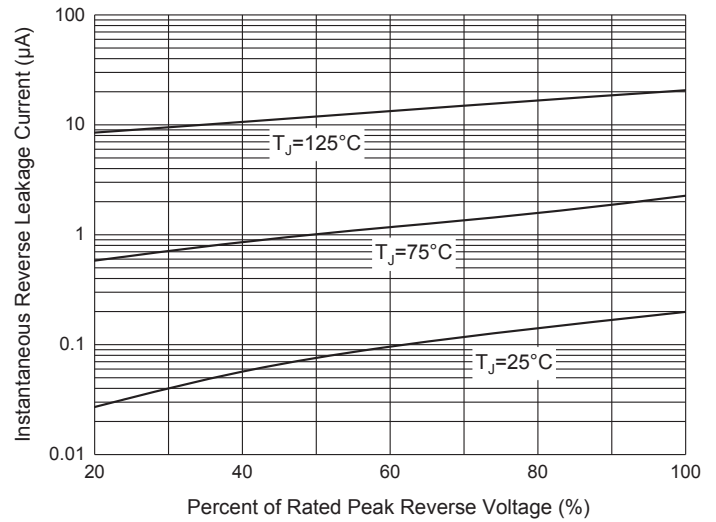


Fig. 4 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 5Kpcs/Reel |

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