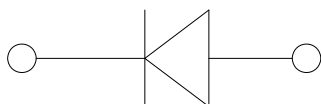


## Ultra-Fast Recovery Diodes 3A FRED



### Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

### Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

### Mechanical Data

- **Package:** SMBF  
Molding compound meets UL 94 V-0 flammability rating, -compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                                                                     | SYMBOL           | UNIT             | MURF365BF  |
|-----------------------------------------------------------------------------------------------|------------------|------------------|------------|
| Device marking code                                                                           |                  |                  | MURF365BF  |
| Maximum Repetitive Peak Reverse Voltage                                                       | V <sub>RRM</sub> | V                | 650        |
| Maximum RMS Voltage                                                                           | V <sub>RMS</sub> | V                | 455        |
| Maximum DC blocking Voltage                                                                   | V <sub>DC</sub>  | V                | 650        |
| Average rectified output current<br>@60Hz sine wave, resistance load, TL (Fig.1)              | I <sub>O</sub>   | A                | 3.0        |
| Forward Surge Current (Non-repetitive)<br>@60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C | I <sub>FSM</sub> | A                | 100        |
| Forward Surge Current (Non-repetitive)<br>@1ms, square wave, 1 cycle, T <sub>j</sub> =25°C    |                  |                  | 200        |
| Current squared time<br>@1ms≤t≤8.3ms T <sub>j</sub> =25°C                                     | I <sup>2</sup> t | A <sup>2</sup> s | 41.5       |
| Storage temperature                                                                           | T <sub>stg</sub> | °C               | -55 ~ +175 |
| Junction temperature                                                                          | T <sub>j</sub>   | °C               | -55 ~ +175 |

# MURF365BF

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                               | SYMBOL          | UNIT | TEST CONDITIONS                                                    | MURF365BF |
|---------------------------------------------------------|-----------------|------|--------------------------------------------------------------------|-----------|
| Maximum instantaneous forward voltage                   | V <sub>F</sub>  | V    | I <sub>FM</sub> =3.0A                                              | 1.0       |
| Maximum reverse recovery time                           | t <sub>rr</sub> | ns   | I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A | 500       |
| Maximum DC reverse current at rated DC blocking voltage | I <sub>R</sub>  | μA   | T <sub>j</sub> =25°C                                               | 10        |
|                                                         |                 |      | T <sub>j</sub> =125°C                                              | 100       |
| Typical junction capacitance                            | C <sub>j</sub>  | pF   | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C          | 30        |

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                  | SYMBOL            | UNIT | MURF365BF |
|----------------------------|-------------------|------|-----------|
| Typical Thermal resistance | R <sub>θJ-A</sub> | °C/W | 70        |
|                            | R <sub>θJ-C</sub> |      | 10        |

## ■ Characteristics (Typical)

FIG.1: I<sub>o</sub>-T<sub>c</sub> Curve

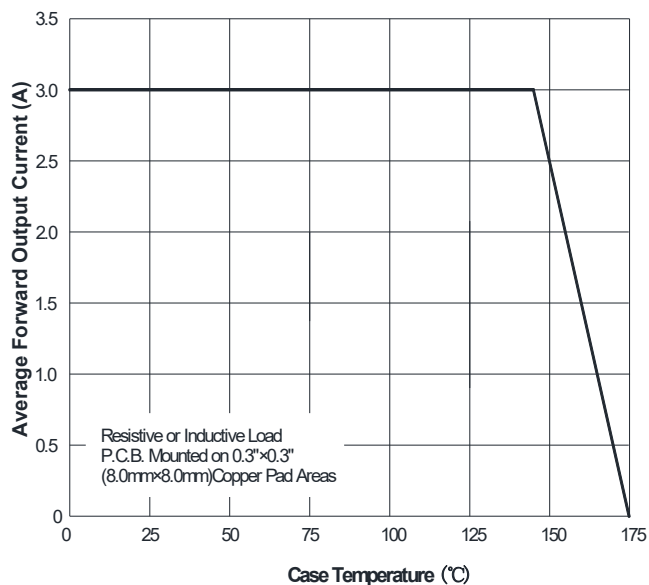


FIG.2: Forward Surge Current Capability

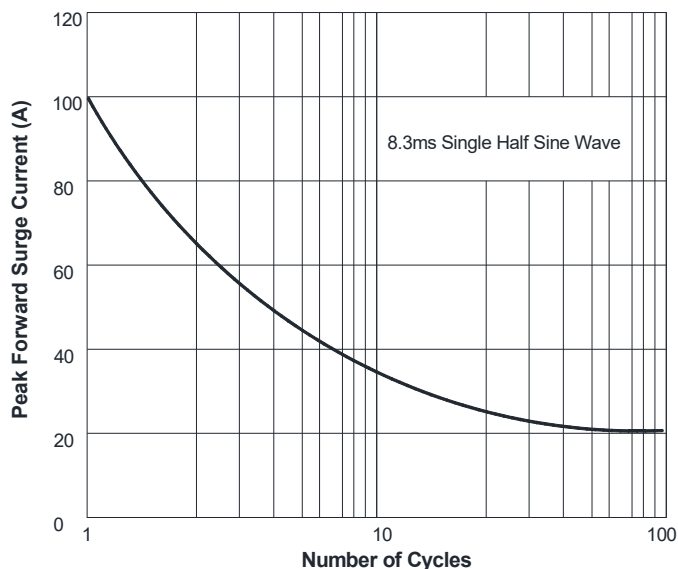


FIG.3: Typical Forward Voltage

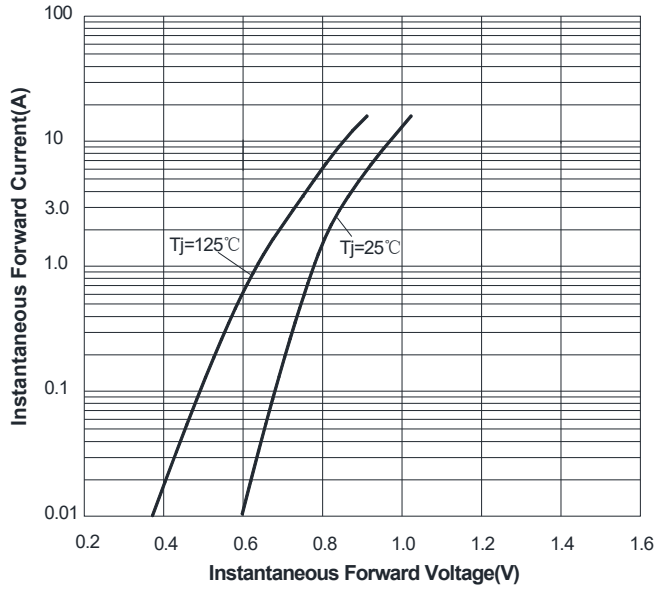


FIG.4: Typical Reverse Characteristics

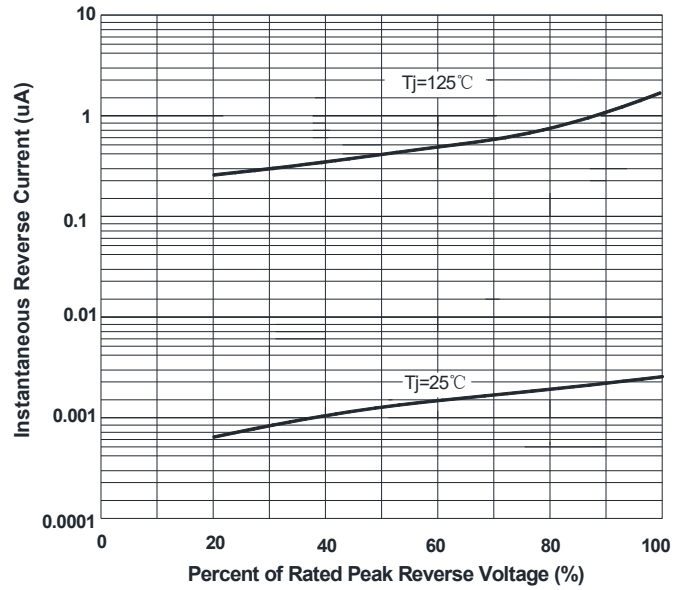
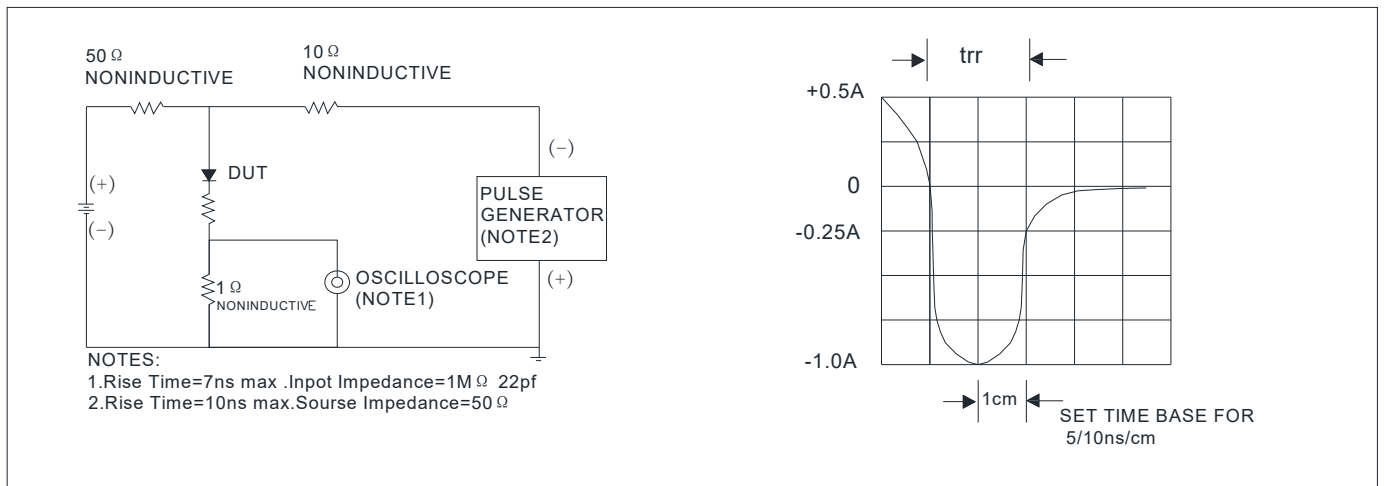


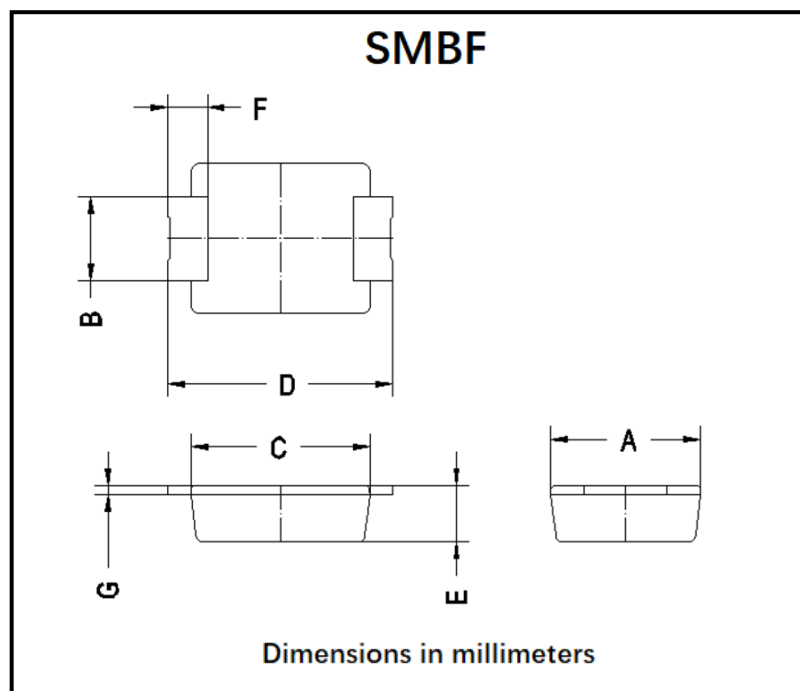
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## Ordering Information (Example)

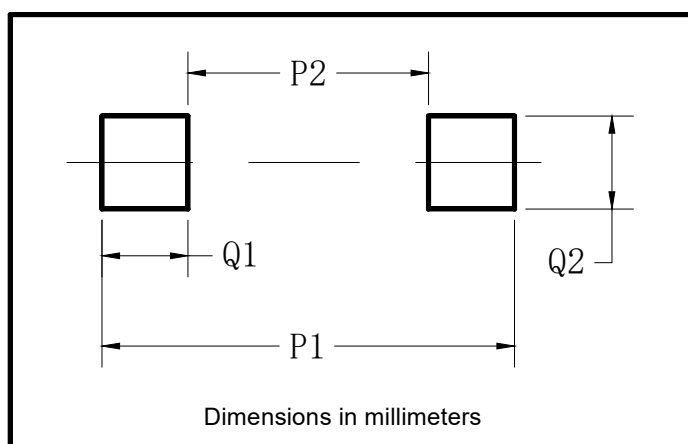
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g)    | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| MURF365BF     | F1           | Approximate 0.065 | 5000                 | /                       | 80000                      | 13" reel      |

■ Outline Dimensions



| SMBF |      |      |
|------|------|------|
| Dim  | Min  | Max  |
| A    | 3.40 | 3.80 |
| B    | 1.90 | 2.10 |
| C    | 4.15 | 4.45 |
| D    | 5.10 | 5.60 |
| E    | 1.05 | 1.55 |
| F    | 0.70 | 1.35 |
| G    | 0.15 | 0.25 |

■ Suggested pad layout



| Dim | Milimeters |
|-----|------------|
| P1  | 6.20       |
| P2  | 2.40       |
| Q1  | 1.90       |
| Q2  | 2.20       |

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