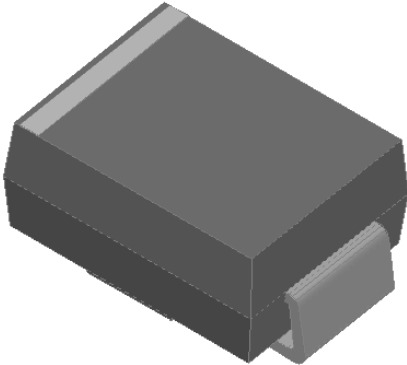


Surface Mount Super Fast Recovery Rectifier



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:** DO-214AA (SMB)
Molding compound meets UL 94 V-0 flammability rating, RoHS-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_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MURF360B |
|---|------------------|------------------|------------|
| Device marking code | | | MURF360B |
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | V | 600 |
| Maximum RMS Voltage | V _{RMS} | V | 420 |
| Maximum DC blocking Voltage | V _{DC} | V | 600 |
| Average rectified output current @60Hz sine wave, resistance load, TL (Fig.1) | I _O | A | 3.0 |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C | I _{FSM} | A | 110 |
| Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C | | | 220 |
| Current squared time @1ms≤t≤8.3ms T _j =25°C | I ² t | A ² s | 50.2 |
| Storage temperature | T _{stg} | °C | -55 ~ +175 |
| Junction temperature | T _j | °C | -55 ~ +175 |



MURF360B

■Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | MURF360B |
|---|-----------------|------|---|----------|
| Maximum instantaneous forward voltage | V _F | V | I _{FM} =3.0A | 1.30 |
| Maximum reverse recovery time | t _{rr} | ns | I _F =0.5A, I _R =1.0A, I _{rr} =0.25A | 50 |
| Maximum DC reverse current at rated DC blocking voltage | I _R | μA | T _j =25°C | 3 |
| | | mA | T _j =150°C | 1 |
| Typical junction capacitance | C _j | pF | Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C | 50 |

■Dynamic Characteristics

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | Min | Typ | Max | |
|-------------------------|------------------|------|-----------------------|---|-----|-----|---|
| Reverse Recovery Time | T _{RR} | nS | T _j =25°C | I _F =3A di/dt=-200A/us V _{RM} =400V | - | 48 | - |
| | | | T _j =125°C | | - | 61 | - |
| Peak recovery current | I _{RPM} | A | T _j =25°C | | - | 3.0 | - |
| | | | T _j =125°C | | - | 5.2 | - |
| Reverse recovery charge | Q _{rr} | nC | T _j =25°C | | - | 71 | - |
| | | | T _j =125°C | | - | 158 | - |

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | MURF360B |
|----------------------------|----------------------------------|------|----------|
| Typical Thermal resistance | R _{θJ-A} ⁽¹⁾ | °C/W | 60 |
| | R _{θJ-L} ⁽¹⁾ | | 20 |
| | R _{θJ-C} ⁽¹⁾ | | 18 |

Note:
(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: I_o -TL Curve

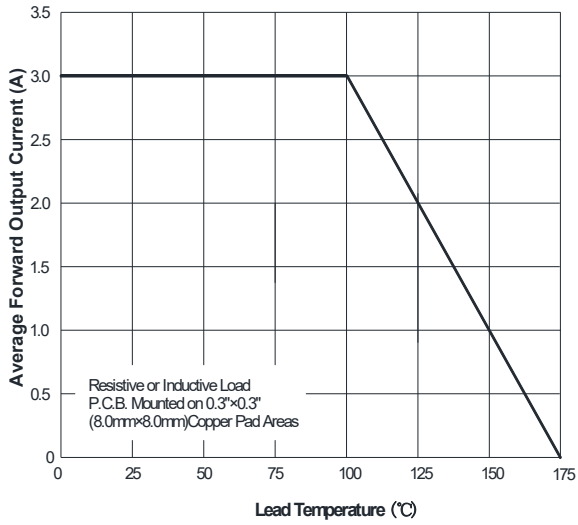


FIG.2: Forward Surge Current Capability

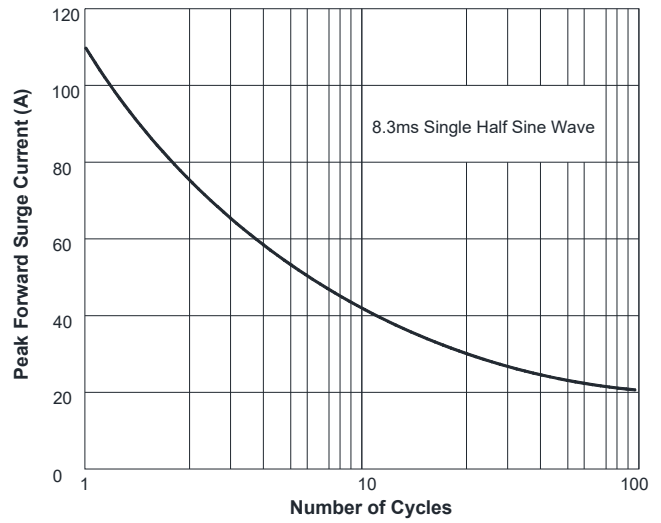


FIG.3: Typical Forward Voltage

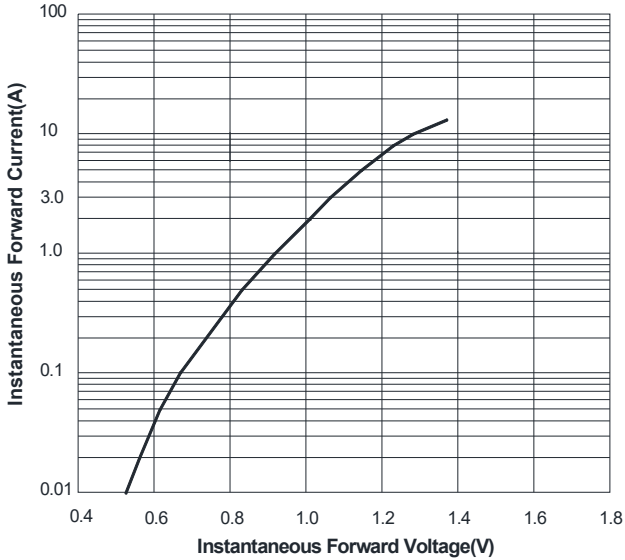


FIG.4: Typical Reverse Characteristics

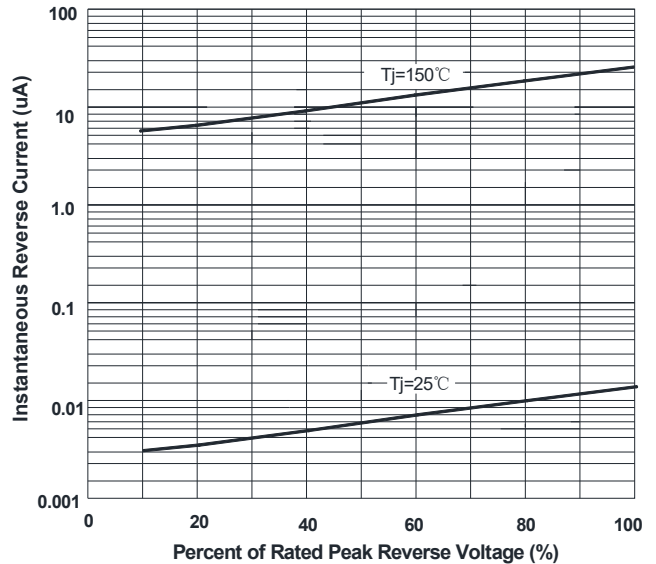
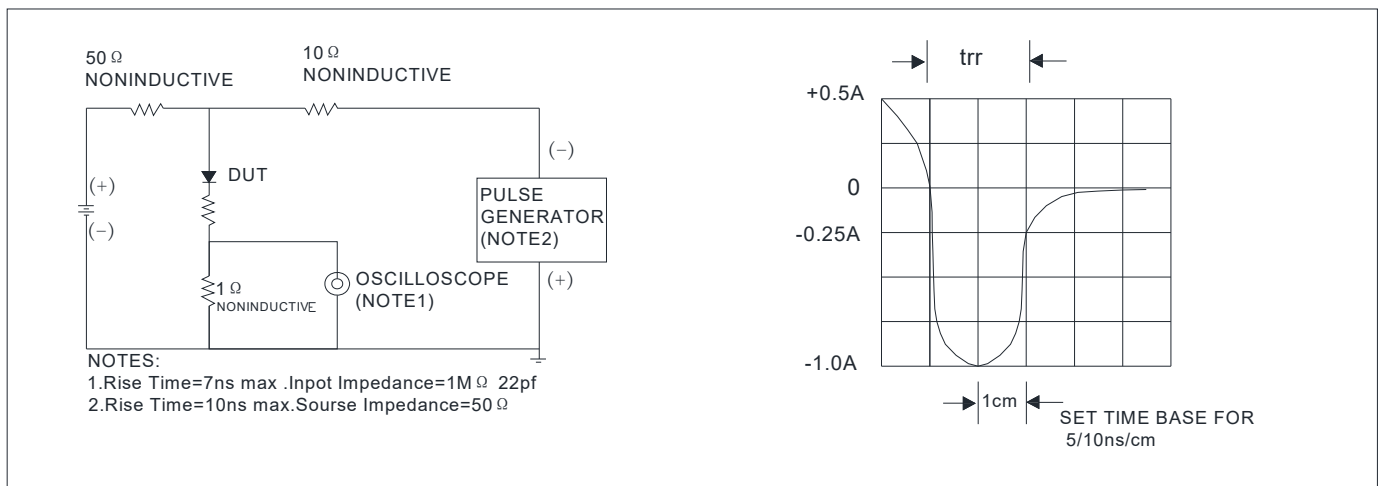


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



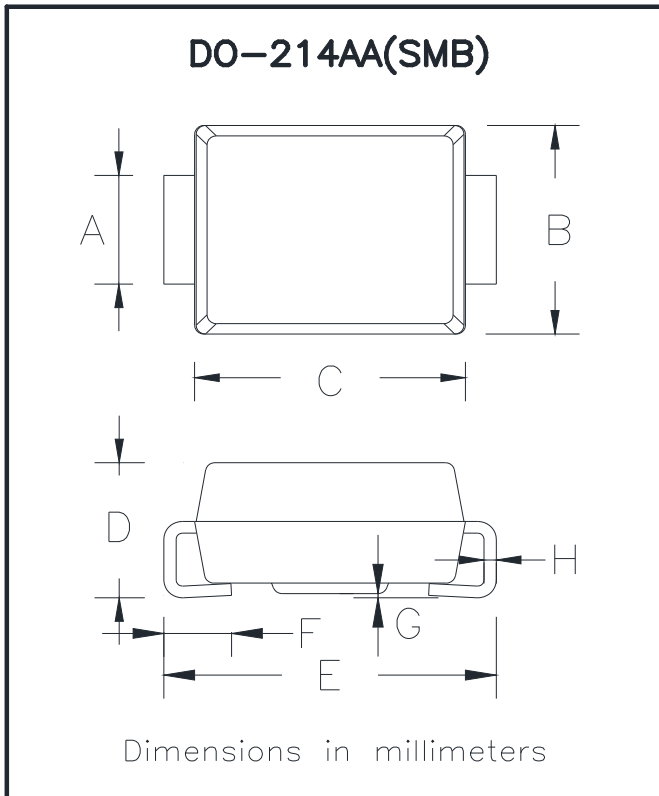


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Ordering Information (Example)

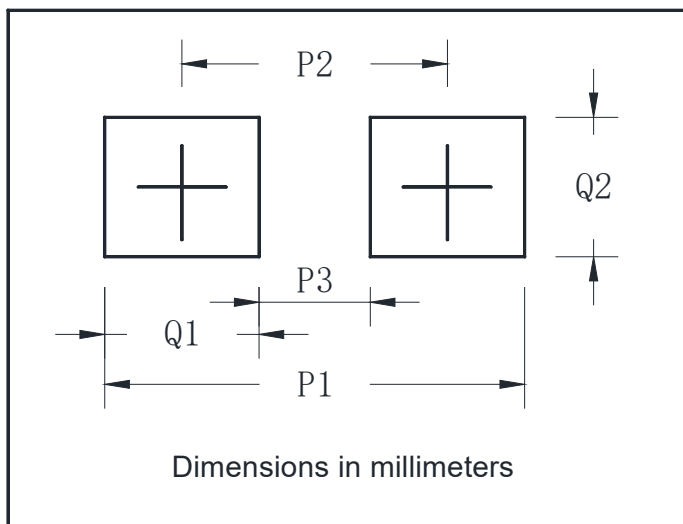
| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| MURF360B | F1 | Approximate 0.096 | 3000 | / | 48000 | 13" reel |
| MURF360B | F2 | Approximate 0.096 | 750 | 6000 | 24000 | 7" reel |
| MURF360B | F3 | Approximate 0.096 | 500 | 4000 | 16000 | 7" reel |

Outline Dimensions



| DO-214AA(SMB) | | |
|---------------|------|------|
| Dim | Min | Max |
| A | 1.85 | 2.15 |
| B | 3.30 | 3.94 |
| C | 4.05 | 4.75 |
| D | 1.99 | 2.61 |
| E | 5.21 | 5.59 |
| F | 0.90 | 1.41 |
| G | 0.05 | 0.20 |
| H | 0.15 | 0.31 |

Suggested pad layout



| DO-214AA(SMB) | |
|---------------|-------------|
| Dim | Millimeters |
| P1 | 6.8 |
| P2 | 4.3 |
| P3 | 1.8 |
| Q1 | 2.5 |
| Q2 | 2.3 |



MURF360B

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