

Silicon Bridge Rectifiers

F3SPB30K--F3SPB30M

Features

- Glass passivated junction
- High surge current capability
- Saves space on printed circuit boards
- High temperature soldering guaranteed:
260°C/10 seconds



- RoHS Compliant

Mechanical Data

- Case: 3SPB molded plastic
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Leads solderable per MIL-STD-750,
- Polarity: As marked on body

Maximum Ratings (@T_A = 25°C unless otherwise specified)

| Characteristic | Symbol | F3SPB30K | F3SPB30M | Units |
|--|---|----------|----------|-------|
| Peak repetitive reverse voltage | V _R RM | 800 | 1000 | V |
| RMS reverse voltage | V _R MS | 560 | 700 | V |
| DC blocking voltage | V _D C | 800 | 1000 | V |
| Maximum average forward output current | I _{F(AV)} | 3.0 | | A |
| Peak forward surge current, 8.3ms single half-sine-wave | @T _J = 25°C I _F SM | 100 | | A |

Thermal Characteristics

| Parameter | Symbol | F3SPB30K | F3SPB30M | Units |
|--|-------------------|-----------------|----------|-------|
| Typical thermal resistance per leg (Note 1) | R _θ JA | 37 | | °C /W |
| | R _θ JC | 10.4 | | |
| | R _θ JL | 7.5 | | |
| Operating junction temperature range | T _J | - 55 ---- + 150 | | °C |
| Storage temperature range | T _{STG} | - 55 ---- + 150 | | °C |

Note:

1. Device mounted on PCB with 10 mm x 20 mm x 0.1mm copper pad areas

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Electrical Characteristics (@T_A = 25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Typ. | Max. | Units | |
|---------------------------------------|----------------|---|------------------------|------|-------|-----|
| Maximum instantaneous forward voltage | V _F | I _F =3.0A Per Diode | -- | 1.3 | V | |
| Maximum Reverse current | I _R | Rated V _R Per Diode | @T _A =25°C | -- | 10 | μ A |
| | | | @T _A =125°C | -- | 200 | |
| Maximum Reverse Recovery Time | trr | I _F =0.5A, I _{RM} =1A, I _{R(REC)} =0.25A | -- | 250 | ns | |

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Ratings and Characteristic Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Fig.1-Forward Current Derating Curve

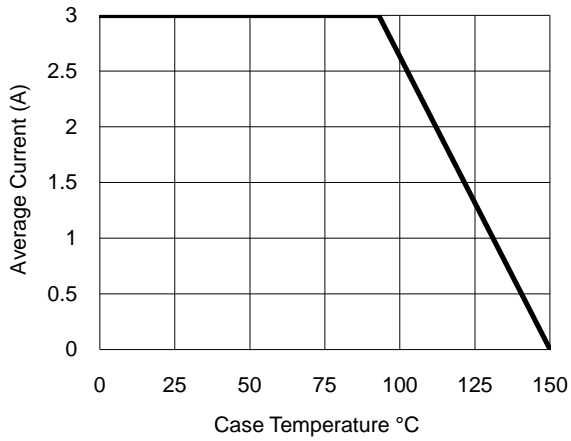


Fig.2- Surge Current Derating Curve

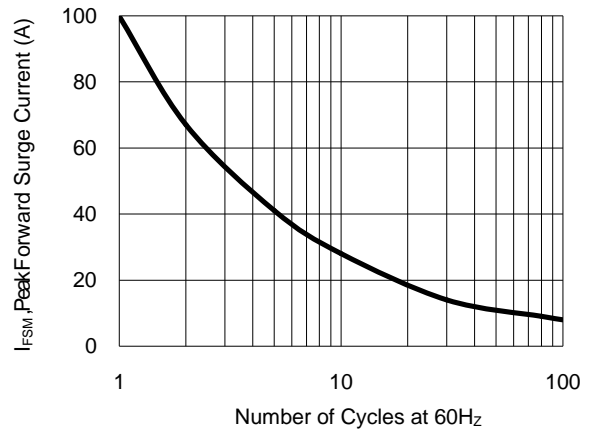


Fig.3- Typical Forward Voltage Characteristic

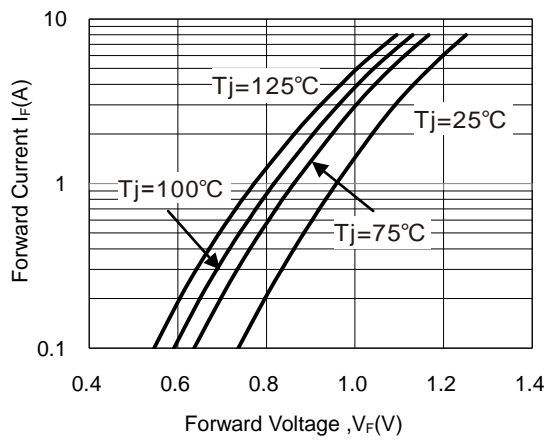
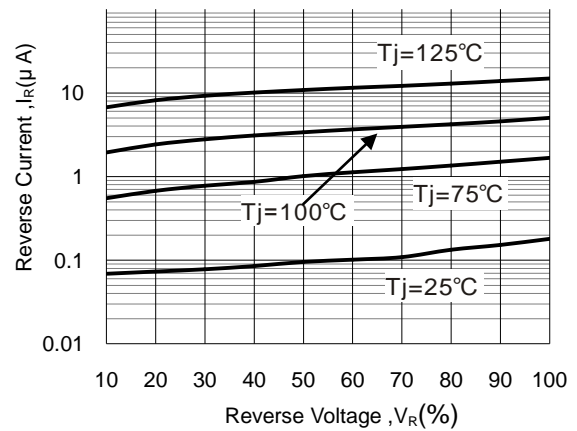


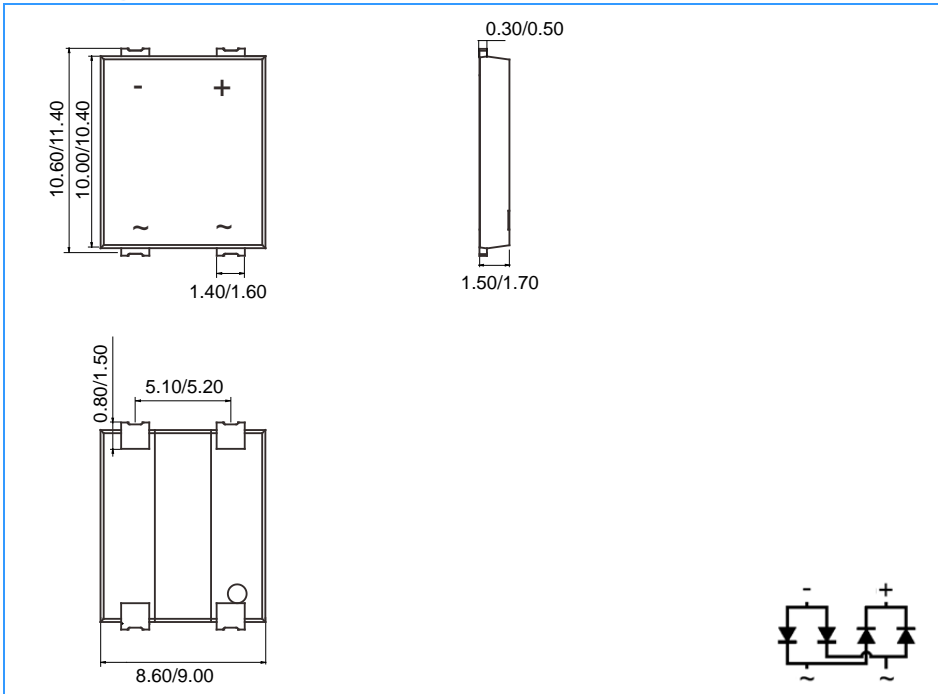
Fig.4- Typical Reverse Characteristic



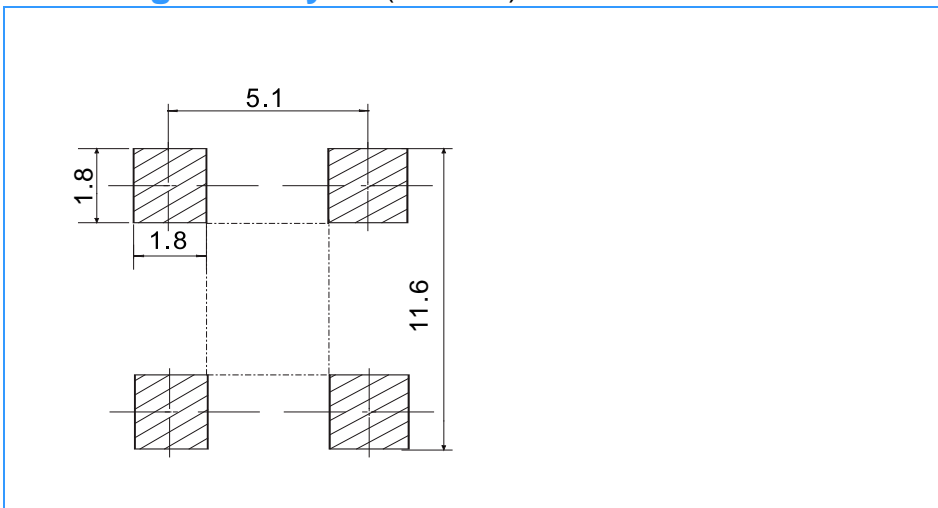
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Package Outline Dimensions(unit:mm)



Mounting Pad Layout(unit:mm)



Ordering Information

| Part No. | Marking | Package | Shipping |
|----------|----------|---------|----------------|
| F3SPB30K | F3SPB30K | 3SPB | 1500/Tape&Reel |
| F3SPB30M | F3SPB30M | 3SPB | 1500/Tape&Reel |