



**SURFACE MOUNT SUPERFAST RECOVERY RECTIFIER**

**REVERSE VOLTAGE:** 50 to 600 VOLTS

**FORWARD CURRENT:** 5.0 AMPERE

**FEATURES**

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Superfast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals

**MECHANICAL DATA**

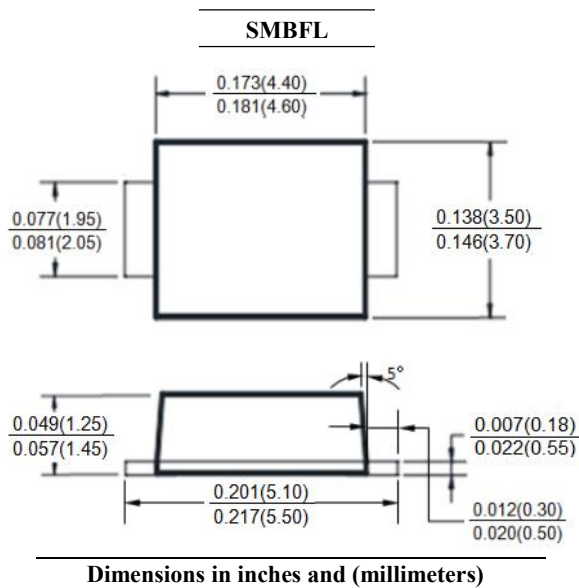
Case: Molded plastic, SMBFL

Terminals: Pure tin plated, lead free

Polarity: Indicated by cathode band

Packaging: 12mm tape per EIA STD RS-481

Weight: 0.060 gram



**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%.

|   | Symbols           | ES5A        | ES5B | ES5C | ES5D | ES5E | ES5G | ES5J | Units |
|---|-------------------|-------------|------|------|------|------|------|------|-------|
| Maximum Recurrent Peak Reverse Voltage  | V <sub>RRM</sub>  | 50          | 100  | 150  | 200  | 300  | 400  | 600  | Volts |
| Maximum RMS Voltage   | V <sub>RMS</sub>  | 35          | 70   | 105  | 140  | 210  | 280  | 420  | Volts |
| Maximum DC Blocking Voltage   | V <sub>DC</sub>   | 50          | 100  | 150  | 200  | 300  | 400  | 600  | Volts |
| Maximum Average Forward Rectified Current<br>at T <sub>L</sub> =75℃   | I <sub>(AV)</sub> | 5.0         |      |      |      |      |      |      | Amp   |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method)             | I <sub>FSM</sub>  | 125         |      |      |      |      |      |      | Amp   |
| Maximum Forward Voltage at 5.0A   | V <sub>F</sub>    | 0.95        |      |      |      | 1.30 |      | 1.70 | Volts |
| Maximum Reverse Current           at T <sub>A</sub> =25℃<br>at Rated DC Blocking Voltage       T <sub>A</sub> =100℃ | I <sub>R</sub>    | 10<br>500   |      |      |      |      |      |      | μAmp  |
| Typical Junction Capacitance (Note 1)   | C <sub>J</sub>    | 58          |      |      |      |      |      |      | pF    |
| Typical Thermal Resistance (Note 2)   | R <sub>θJA</sub>  | 47          |      |      |      |      |      |      | ℃/W   |
| Maximum Reverse Recovery Time (Note 3)  | T <sub>RR</sub>   | 35          |      |      |      |      |      |      | nS    |
| Operating Junction Temperature Range  | T <sub>J</sub>    | -55 to +150 |      |      |      |      |      |      | ℃     |
| Storage Temperature Range   | T <sub>stg</sub>  | -55 to +150 |      |      |      |      |      |      | ℃     |

**NOTES:**

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to lead mounted on P.C.B. with 0.4 x 0.4" (10.0 x 10.0mm) copper pad areas

3- Reverse Recovery Test Conditions: I<sub>F</sub>=.5A, I<sub>R</sub>=1A, I<sub>RR</sub>=.25A.



**RATINGS AND CHARACTERISTIC CURVES**

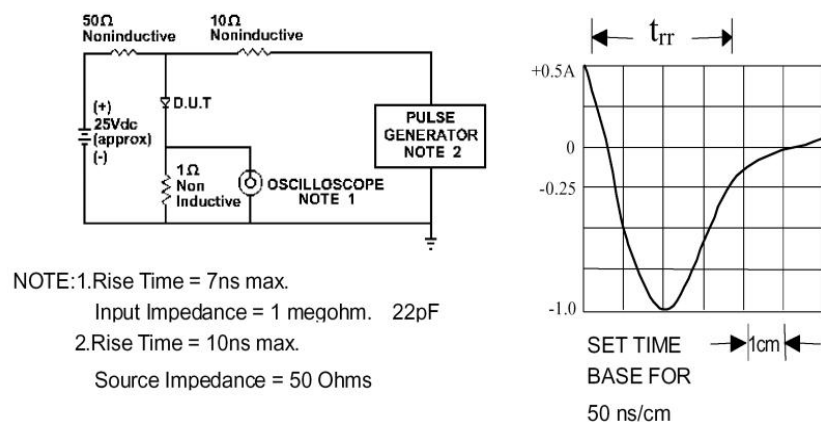


Fig. 1-REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

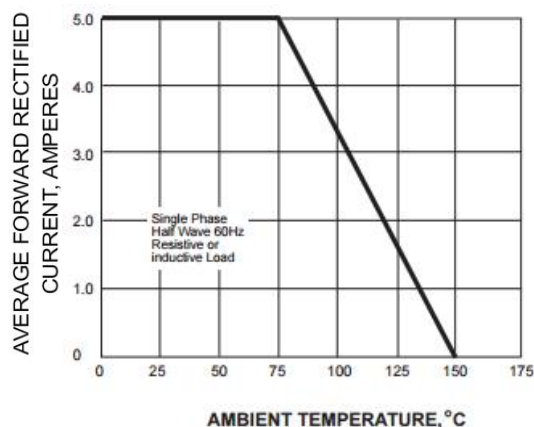


Fig. 2-MAXIMUM AVERAGE FORWARD CURRENT RATING

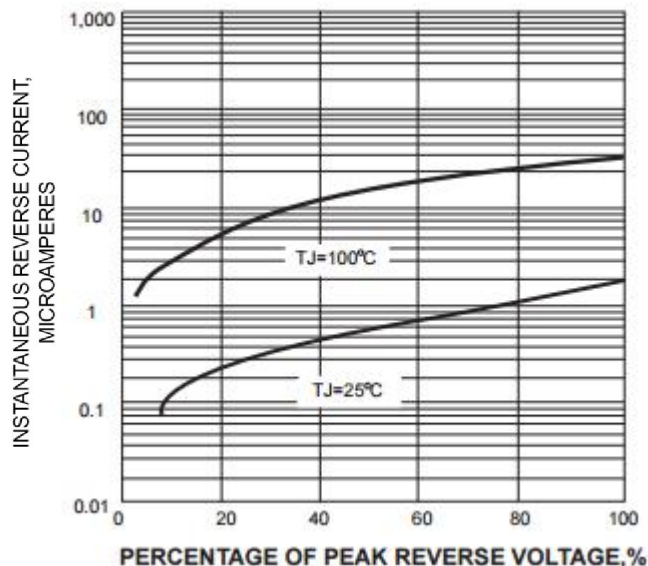


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

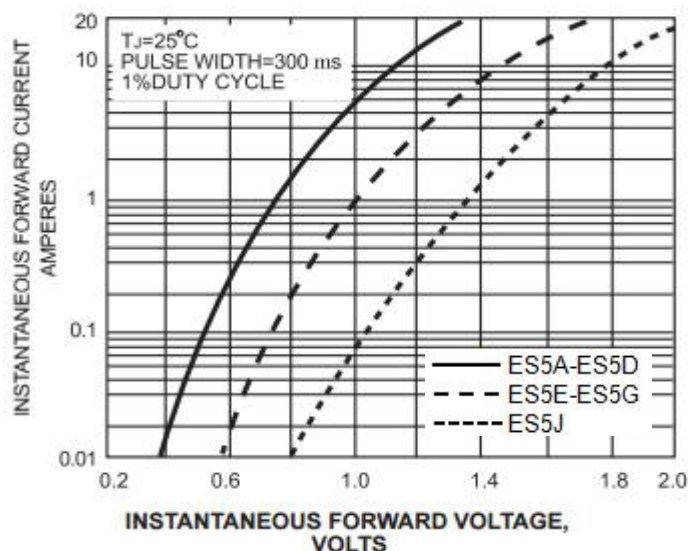


Fig. 4-TYPICAL FORWARD CHARACTERISTICS

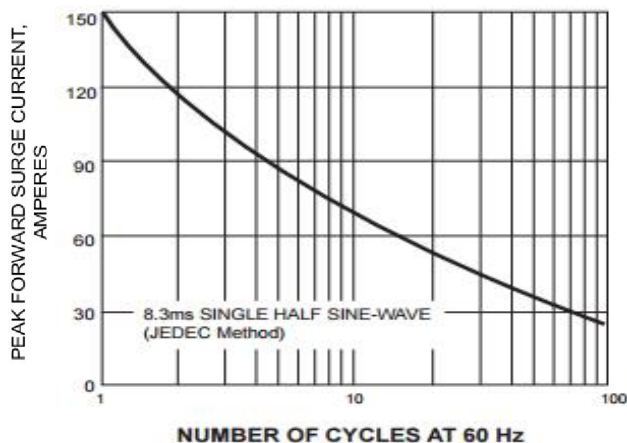


Fig. 5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

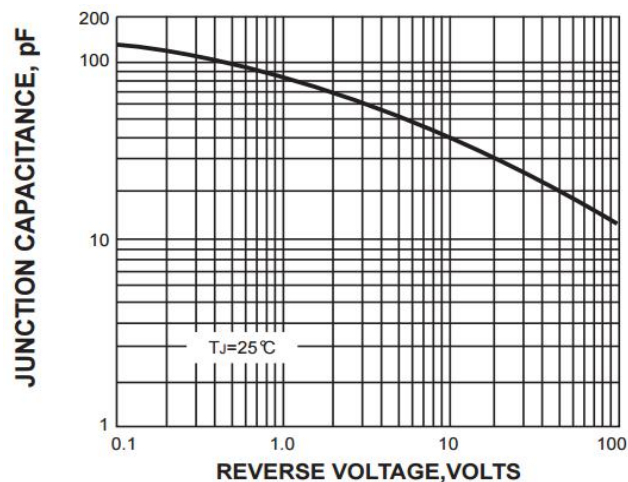


Fig. 6-TYPICAL JUNCTION CAPACITANCE