

# Surface Mount Super Fast Glass Passivated Rectifier



## Features

- Super fast switching time for high efficiency
- Low forward voltage drop and high current capability
- Low reverse leakage current
- Plastic material has UL flammability classification 94V-0

## Mechanical Data

|                   |                               |
|-------------------|-------------------------------|
| Case              | : Molded Plastic              |
| Polarity          | : Colour band denotes cathode |
| Weight            | : 0.007 ounces, 0.21 grams    |
| Mounting Position | : Any                         |
| Reverse Voltage   | : 50 to 600 Volts             |
| Forward Current   | : 3 Amperes                   |

## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave ,60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Characteristics                                                                                                   | Symbol          | ES3B        | ES3D | ES3G | ES3J | Unit               |
|-------------------------------------------------------------------------------------------------------------------|-----------------|-------------|------|------|------|--------------------|
| Max. Recurrent Peak Reverse Voltage                                                                               | $V_{RRM}$       | 50          | 200  | 400  | 600  | V                  |
| Max. RMS Voltage                                                                                                  | $V_{RMS}$       | 35          | 140  | 280  | 420  | V                  |
| Max. DC Blocking Voltage                                                                                          | $V_{DC}$        | 50          | 200  | 400  | 600  | V                  |
| Max. Average Forward Rectified Current @ $T_A = 50^\circ\text{C}$                                                 | $I_{(AV)}$      | 3           |      |      |      | A                  |
| Peak Forward Surge Current<br>8.3ms Single Half Sine-Wave<br>Super Imposed on Rated Load(JEDEC Method)            | $I_{FSM}$       | 100         |      |      |      | A                  |
| Peak Forward Voltage at 3A DC                                                                                     | $V_F$           | 0.95        |      | 1.3  | 1.7  | V                  |
| Maximum DC Reverse Current @ $T_J = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage @ $T_J = 100^\circ\text{C}$ | $I_R$           | 5<br>100    |      |      |      | $\mu\text{A}$      |
| Maximum Reverse Recovery Time (Note 1)                                                                            | $T_{RR}$        | 35          |      |      |      | nS                 |
| Typical Junction Capacitance (Note 2)                                                                             | $C_J$           | 70          |      | 45   |      | pF                 |
| Typical Thermal Resistance (Note 3)                                                                               | $R_{\theta JL}$ | 20          |      |      |      | $^\circ\text{C/W}$ |
| Operating Temperature Range                                                                                       | $T_J$           | -55 to +150 |      |      |      | $^\circ\text{C}$   |
| Storage Temperature Range                                                                                         | $T_{STG}$       | -55 to +150 |      |      |      | $^\circ\text{C}$   |

- Notes :**
1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{RR} = 0.25\text{A}$
  2. Measured at 1MHz and applied reverse voltage of 4V DC
  3. Thermal resistance junction to lead
  4. The typical data above is for reference only

# Surface Mount Super Fast Glass Passivated Rectifier



## Rating and Characteristic Curves

FIG. 1 – FORWARD CURRENT DERATING CURVE

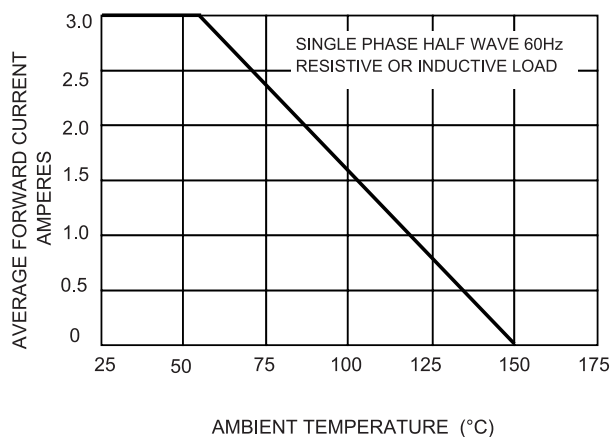


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

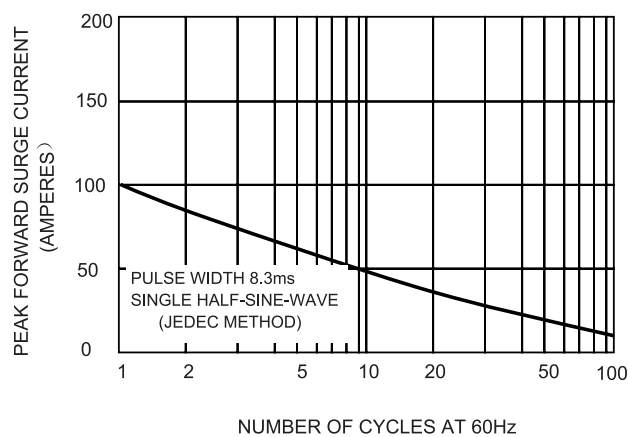


FIG. 3 – TYPICAL JUNCTION CAPACITANCE

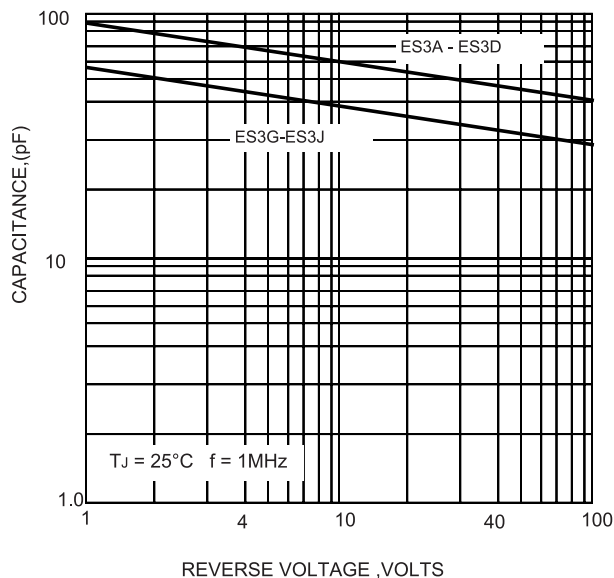
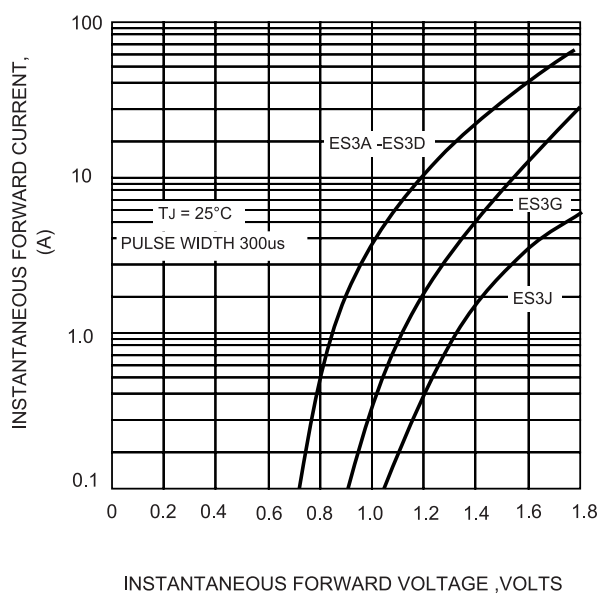


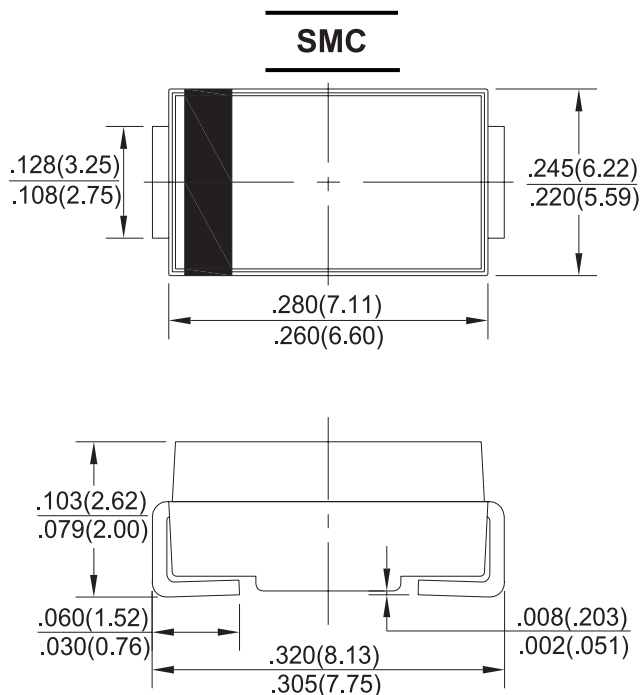
FIG.4-TYPICAL FORWARD CHARACTERISTICS



# Surface Mount Super Fast Glass Passivated Rectifier



## Dimensions:



Dimensions : Inches (Millimetres)

## Part Number Table

| Description                                             | Part Number |
|---------------------------------------------------------|-------------|
| Surface Mount Super Fast<br>Glass Passivated Rectifiers | ES2A        |
|                                                         | ES2B        |
|                                                         | ES2D        |
|                                                         | ES2G        |
|                                                         | ES2J        |

**Important Notice :** This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.