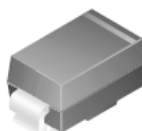


# ES1F - ES1J

## Fast Rectifiers

### Features

- For surface mount applications.
- Glass passivated junction.
- Low profile package.
- Easy pick and place.
- Built-in strain relief.
- Superfast recovery times for high efficiency.



**SMA(DO-214AC)**  
Color Band Denotes Cathode

### Absolute Maximum Ratings \* T<sub>a</sub> = 25°C unless otherwise noted

| Symbol             | Parameter                                                                                | Value      |      |      |      | Units |
|--------------------|------------------------------------------------------------------------------------------|------------|------|------|------|-------|
|                    |                                                                                          | ES1F       | ES1G | ES1H | ES1J |       |
| V <sub>RRM</sub>   | Maximum Repetitive Reverse Voltage                                                       | 300        | 400  | 500  | 600  | V     |
| I <sub>F(AV)</sub> | Average Rectified Forward Current                                                        | 1.0        |      |      |      | A     |
| I <sub>FSM</sub>   | Non-repetitive Peak Forward Surge Current<br>8.3 ms Single Half-Sine-Wave (JEDEC method) | 30         |      |      |      | A     |
| T <sub>J</sub>     | Junction Temperature                                                                     | 150        |      |      |      | °C    |
| T <sub>STG</sub>   | Storage Temperature Range                                                                | -55 to 150 |      |      |      | °C    |
| P <sub>D</sub>     | Power Dissipation                                                                        | 1.47       |      |      |      | W     |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

### Thermal Characteristics

| Symbol           | Parameter                                 | Value | Units |
|------------------|-------------------------------------------|-------|-------|
| R <sub>θJA</sub> | Thermal Resistance, Junction to Ambient * | 85    | °C/W  |
| R <sub>θJL</sub> | Thermal Resistance, Junction to Lead *    | 35    | °C/W  |

\* P, C, B mounted on 0.2" x 0.2" (5 x 5 mm) copper Pad Area.

### Electrical Characteristics T<sub>C</sub> = 25°C unless otherwise noted

| Symbol          | Parameter                                                                                                    | Value      |     | Units |
|-----------------|--------------------------------------------------------------------------------------------------------------|------------|-----|-------|
| V <sub>F</sub>  | Maximum Forward Voltage @ I <sub>F</sub> = 1.0 A                                                             | 1.3        | 1.7 | V     |
| T <sub>rr</sub> | Maximum Reverse Recovery Time<br>I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1.0 A, I <sub>RR</sub> = 0.25 A    | 35         |     | ns    |
| I <sub>R</sub>  | Maximum Reverse Current @ rated V <sub>R</sub> <small>T<sub>A</sub> = 25°C<br/>T<sub>A</sub> = 100°C</small> | 5.0<br>100 |     | uA    |
| C <sub>j</sub>  | Typical Junction Capacitance<br>V <sub>R</sub> = 4.0 V, f = 1.0 MHz                                          | 10.0       | 8.0 | pF    |

## Typical Performance Characteristics

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

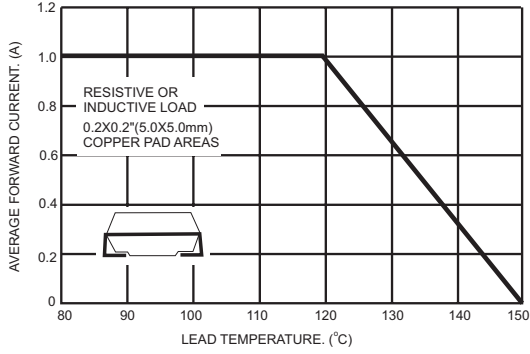


FIG.2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

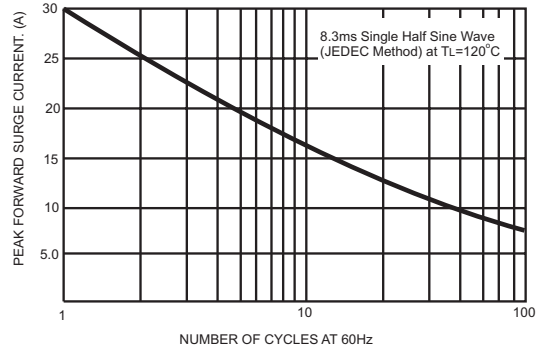


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

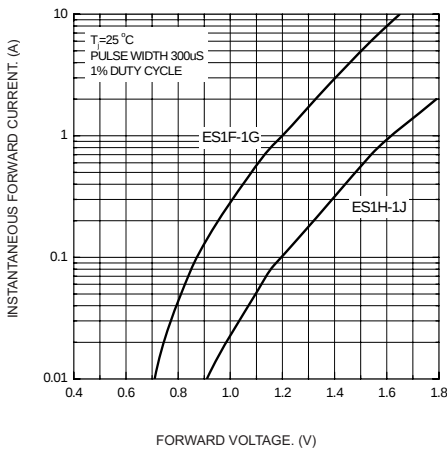


FIG.4- TYPICAL REVERSE CHARACTERISTICS

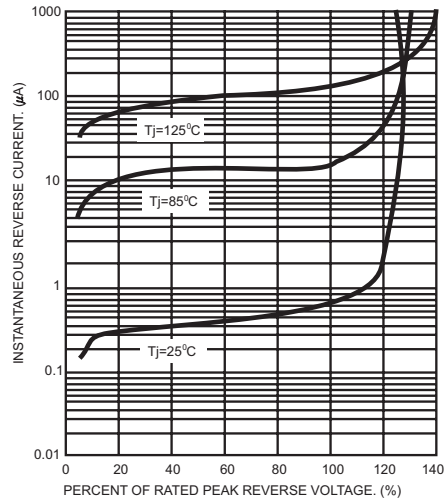
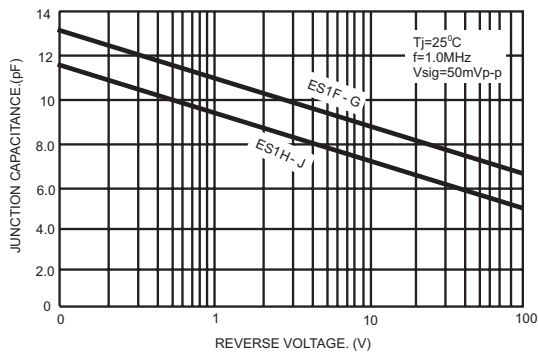
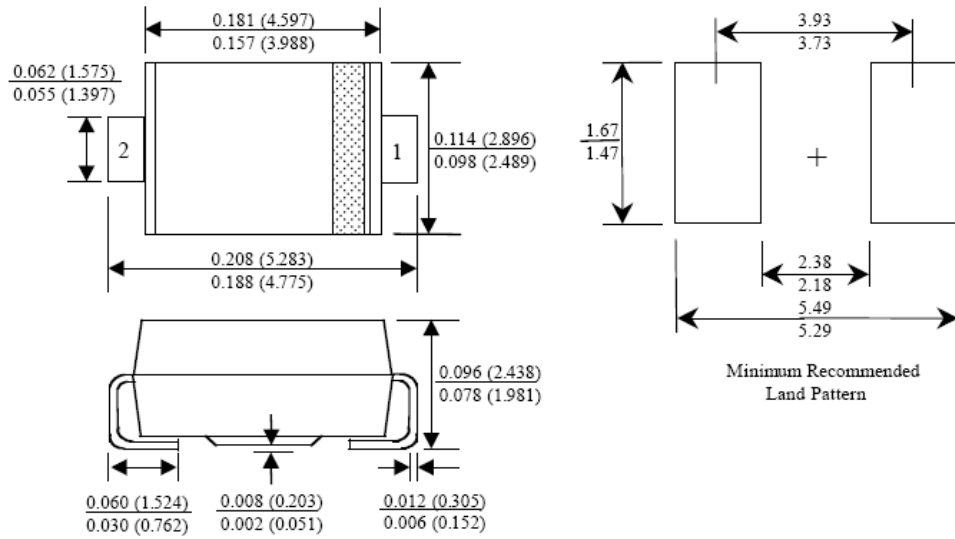


FIG.5- TYPICAL JUNCTION CAPACITANCE



# Package Dimensions

## SMA / DO - 214AC



Dimensions in Millimeters



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| FRFET <sup>®</sup>                   | Power220 <sup>®</sup>                                                               | SuperSOT <sup>TM</sup> -6               |                                  |
| Global Power Resource <sup>SM</sup>  |                                                                                     |                                         |                                  |

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