



FES1A ..... FES1J

## 1 Amp. Surface Mounted Glass Passivated Ultrafast Recovery Rectifier

|   |  |
|---|--|
| <p>Dimensions in mm.</p> <p>CASE:<br/>SMA/DO-214AC</p> <p>Week code<br/>F4<br/>12<br/>Year code<br/>Type No. Cross<br/>Standard soldering pad</p> | <p>Voltage<br/>50 to 600 V</p> <p>Current<br/>1.0 A</p> <p><b>HYPERRECTIFIER</b>®</p> <ul style="list-style-type: none"> <li>• Glass passivated junction</li> <li>• High current capability</li> <li>• The plastic material carries U/L 94 V-0</li> <li>• Low profile package</li> <li>• Easy pick and place</li> <li>• High temperature soldering 260 °C 10 sec</li> </ul> <p><b>MECHANICAL DATA</b><br/>                 Terminals: Solder plated, solderable per IEC 68-2-20.<br/>                 Standard Packaging: 4 mm. tape (EIA-RS-481).<br/>                 Weight: 0.064 g.</p> |
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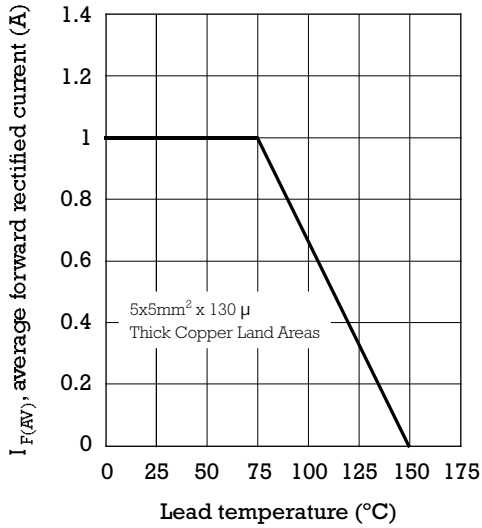
### Maximum Ratings and Electrical Characteristics at 25 °C

|                                |   | FES1A                    | FES1B     | FES1D     | FES1F     | FES1G     | FES1J     |
|--------------------------------|---|--------------------------|-----------|-----------|-----------|-----------|-----------|
| Marking Code                   |   | <b>U1</b>                | <b>U2</b> | <b>U3</b> | <b>U4</b> | <b>U5</b> | <b>U6</b> |
| $V_{RRM}$                      | Maximum Recurrent Peak Reverse Voltage  | 50                       | 100       | 200       | 300       | 400       | 600       |
| $V_{RMS}$                      | Maximum RMS Voltage   | 35                       | 70        | 140       | 210       | 280       | 420       |
| $V_{DC}$                       | Maximum DC Blocking Voltage   | 50                       | 100       | 200       | 300       | 400       | 600       |
| $I_{F(AV)}$                    | Forward current at $T_L = 75\text{ °C}$   | 1.0 A                    |           |           |           |           |           |
| $I_{FSM}$                      | 8.3 ms. peak forward surge current<br>(Jedec Method)  | 30 A                     |           |           |           |           |           |
| $V_F$                          | Maximum Instantaneous Forward Voltage at 1.0A   | 0.95 V                   |           |           | 1.25 V    |           |           |
| $I_R$                          | Maximum DC Reverse Current $T_a = 25\text{ °C}$<br>at Rated DC Blocking Voltage $T_a = 100\text{ °C}$ | 5 $\mu$ A<br>100 $\mu$ A |           |           |           |           |           |
| $T_{rr}$                       | Maximum Reverse Recovery Time (0.5/1/0.25A)   | 50 ns                    |           |           |           |           |           |
| $C_j$                          | Typical Junction Capacitance (1MHz; -4V)  | 8 pF                     |           |           |           |           |           |
| $R_{th(j-l)}$<br>$R_{th(j-a)}$ | Typical Thermal Resistance<br>(5x5 mm <sup>2</sup> x 130 $\mu$ Copper Area)                           | 27 °C/W<br>75 °C/W       |           |           |           |           |           |
| $T_j - T_{stg}$                | Operating Junction and Storage Temperature Range  | -55 to + 150 °C          |           |           |           |           |           |

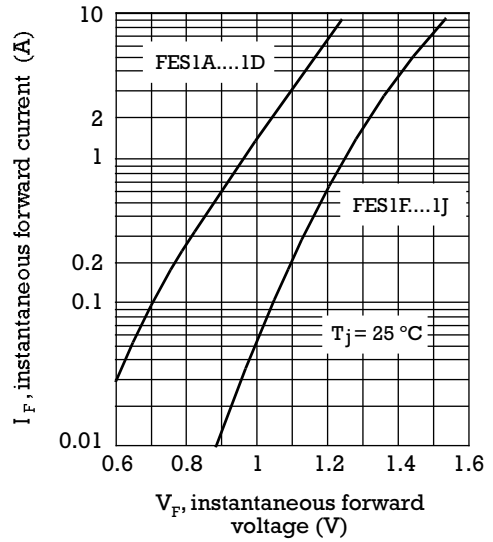


### Rating And Characteristic Curves

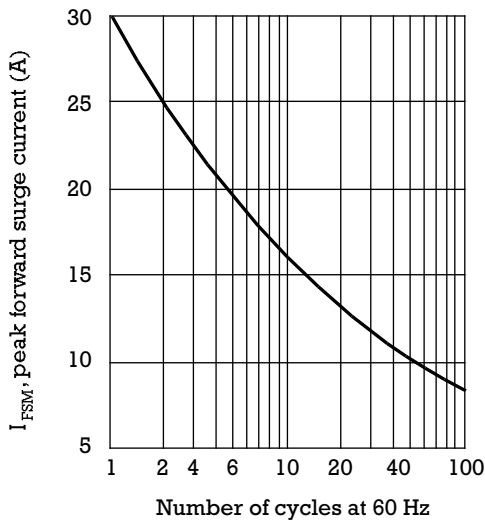
FORWARD CURRENT DERATING CURVE



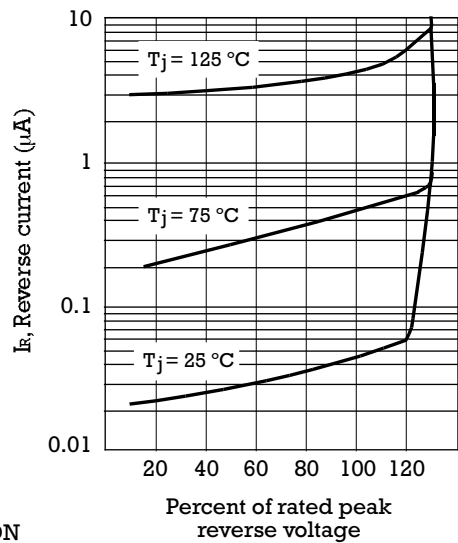
TYPICAL FORWARD CHARACTERISTIC



MAXIMUM NON REPETITIVE PEAK FORWARD SURGE CURRENT



TYPICAL REVERSE CHARACTERISTIC



TYPICAL JUNCTION CAPACITANCE

