

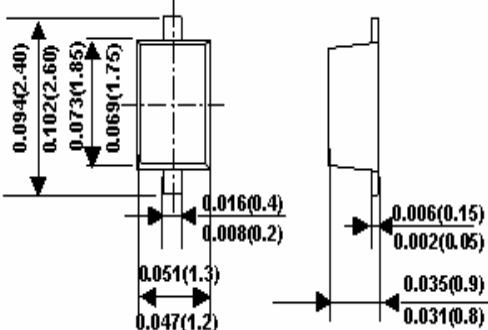


|    | <h1>AES1A THRU AES1J</h1> <h2>175mA. Super Fast Surface Mount Rectifiers</h2>  |              |        |        |        |        |        |        |        |       |
|---|--|--------------|--------|--------|--------|--------|--------|--------|--------|-------|
|    | Voltage Range<br>50 to 600 Volts<br>Current<br>175 mAmpere   |              |        |        |        |        |        |        |        |       |
| <b>Features</b> <ul style="list-style-type: none"> <li>✧ Glass passivated junction chip</li> <li>✧ For surface mounted application</li> <li>✧ Low profile package</li> <li>✧ Built-in strain relief,</li> <li>✧ Ideal for automated placement</li> <li>✧ Easy pick and place</li> <li>✧ Superfast recovery time for high efficiency</li> <li>✧ Glass passivated chip junction</li> <li>✧ High temperature soldering:<br/>260°C/10 seconds at terminals</li> <li>✧ Plastic material used carries Underwriters<br/>Laboratory Classification 94V-O</li> </ul> | <b>SOD-323F</b>  <p style="text-align: center;">Dimensions in inches and (millimeters)</p> |              |        |        |        |        |        |        |        |       |
| <b>Mechanical Data</b> <ul style="list-style-type: none"> <li>✧ Cases: Molded plastic</li> <li>✧ Terminals: Solder plated</li> <li>✧ Polarity: Indicated by cathode band</li> <li>✧ Packing: tape per E1A STD RS-481</li> <li>✧ Weight: 0.01 gram</li> </ul>  |  |              |        |        |        |        |        |        |        |       |
| <b>Maximum Ratings and Electrical Characteristics</b><br>Rating at 25°C ambient temperature unless otherwise specified.<br>Single phase, half wave, 60 Hz, resistive or inductive load.<br>For capacitive load, derate current by 20%   |  |              |        |        |        |        |        |        |        |       |
| Type Number   | Symbol   | AES 1A       | AES 1B | AES 1C | AES 1D | AES 1F | AES 1G | AES 1H | AES 1J | Units |
| Maximum Recurrent Peak Reverse Voltage  | $V_{RRM}$  | 50           | 100    | 150    | 200    | 300    | 400    | 500    | 600    | V     |
| Maximum RMS Voltage   | $V_{RMS}$  | 35           | 70     | 105    | 140    | 210    | 280    | 350    | 420    | V     |
| Maximum DC Blocking Voltage   | $V_{DC}$   | 50           | 100    | 150    | 200    | 300    | 400    | 500    | 600    | V     |
| Marking Code  |  | EA           | EB     | EC     | ED     | EF     | EG     | EH     | EJ     |       |
| Maximum Average Forward Rectified Current<br>@85°C<br>@ 25°C  | $I_{(AV)}$<br>$I_{(PEAK)}$   | 175<br>625   |        |        |        |        |        |        |        | mA    |
| Peak Forward Surge Current, 8.3 ms Single<br>Half Sine-wave Superimposed on Rated<br>Load (JEDEC method )   | $I_{FSM}$  | 20           |        |        |        |        |        |        |        | A     |
| Maximum Instantaneous Forward Voltage<br>$I_F=175mA$<br>@ 85°C<br>@ 25°C  |  | 1.25<br>1.45 |        |        |        |        |        |        |        | V     |
| Maximum DC Reverse Current @ $T_A=25°C$<br>at Rated DC Blocking Voltage   | $I_R$  | 0.1          |        |        |        |        |        |        |        | uA    |
| Maximum Reverse Recovery Time ( Note 1 )  | $T_{rr}$   | 50           |        |        |        |        |        |        |        | nS    |
| Typical Junction Capacitance ( Note 2 )   | $C_j$  | 5            |        |        |        |        |        |        |        | pF    |
| Maximum Thermal Resistance (Note 3)   | $R_{\theta JA}$<br>$R_{\theta JL}$   | 85<br>35     |        |        |        |        |        |        |        | °C/W  |
| Operating Temperature Range   | $T_J$  | -40 to +85   |        |        |        |        |        |        |        | °C    |
| Storage Temperature Range   | $T_{STG}$  | -40 to + 85  |        |        |        |        |        |        |        | °C    |

Notes: 1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

2. Measured at 1 MHz and Applied  $V_R=4.0$  Volts

3. P.C.B. Mounted on 0.2 x 0.2" (5.0 x 5.0mm) Copper Pad Area.