

### FAST RECOVERY RECTIFIER

VOLTAGE RANGE: 50 --- 1000 V

CURRENT: 1.0 A

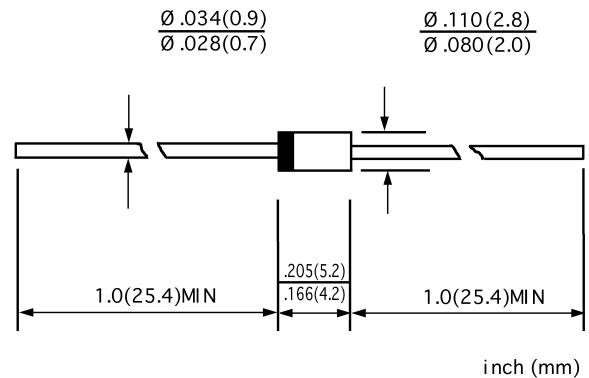
#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC DO-41, molded plastic
- ◇ Terminals: Axial lead, solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.012 ounces, 0.34 grams
- ◇ Mounting position: Any

#### DO - 41



#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|                                                                                                                |                    | PR<br>1001    | PR<br>1002 | PR<br>1003 | PR<br>1004 | PR<br>1005 | PR<br>1006 | PR<br>1007 | UNITS |
|----------------------------------------------------------------------------------------------------------------|--------------------|---------------|------------|------------|------------|------------|------------|------------|-------|
| Maximum recurrent peak reverse voltage                                                                         | V <sub>RRM</sub>   | 50            | 100        | 200        | 400        | 600        | 800        | 1000       | V     |
| Maximum RMS voltage                                                                                            | V <sub>RMS</sub>   | 35            | 70         | 140        | 280        | 420        | 560        | 700        | V     |
| Maximum DC blocking voltage                                                                                    | V <sub>DC</sub>    | 50            | 100        | 200        | 400        | 600        | 800        | 1000       | V     |
| Maximum average forward rectified current<br>9.5mm lead length, @T <sub>A</sub> =75°C                          | I <sub>F(AV)</sub> | 1.0           |            |            |            |            |            |            | A     |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @T <sub>J</sub> =125°C | I <sub>FSM</sub>   | 30.0          |            |            |            |            |            |            | A     |
| Maximum instantaneous forward voltage<br>@ 1.0 A                                                               | V <sub>F</sub>     | 1.2           |            |            |            |            |            |            | V     |
| Maximum reverse current @T <sub>A</sub> =25°C<br>at rated DC blocking voltage @T <sub>A</sub> =100°C           | I <sub>R</sub>     | 5.0<br>100.0  |            |            |            |            |            |            | μ A   |
| Maximum reverse recovery time (Note1)                                                                          | t <sub>rr</sub>    | 150           |            |            |            | 250        | 500        |            | ns    |
| Typical junction capacitance (Note2)                                                                           | C <sub>J</sub>     | 18            |            |            |            |            |            |            | pF    |
| Typical thermal resistance (Note3)                                                                             | R <sub>θJA</sub>   | 55            |            |            |            |            |            |            | °C/W  |
| Operating junction temperature range                                                                           | T <sub>J</sub>     | - 55---- +150 |            |            |            |            |            |            | °C    |
| Storage temperature range                                                                                      | T <sub>STG</sub>   | - 55---- +150 |            |            |            |            |            |            | °C    |

NOTE:1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $t_{rr}=0.25\text{A}$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

3. Thermal resistance from junction to ambient.

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FIG.1 – FORWARD CURRENT DERATING CURVE

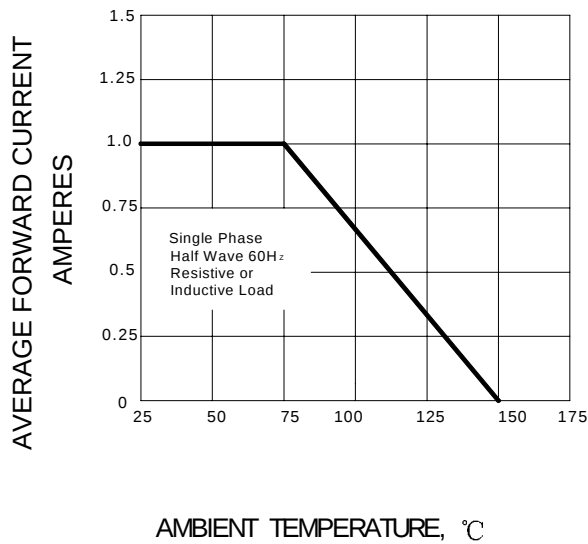


FIG.2 – PEAK FORWARD SURGE CURRENT

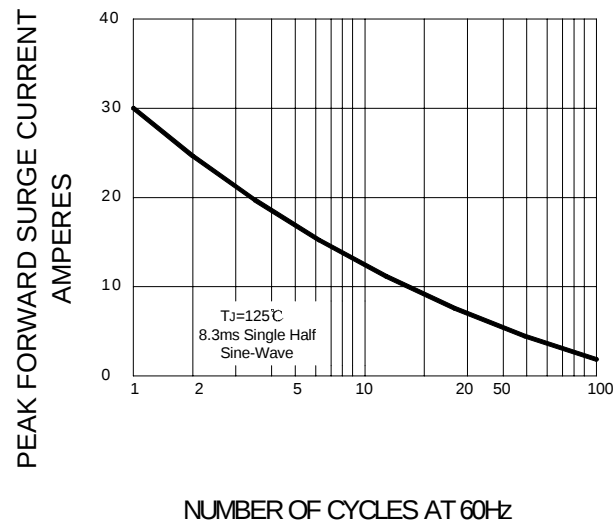


FIG.3 – TYPICAL JUNCTION CAPACITANCE

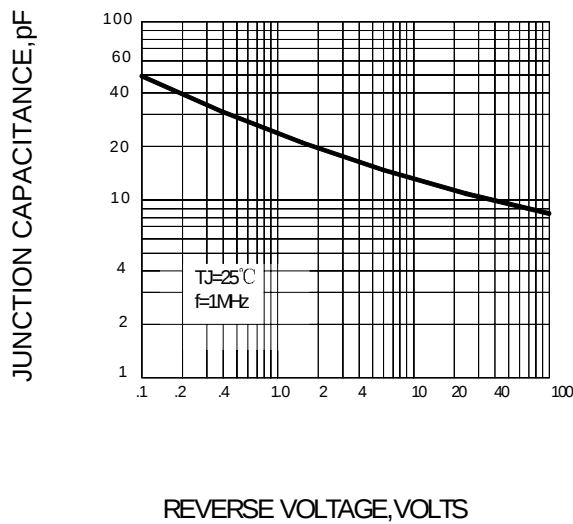


FIG.4 – TYPICAL FORWARD CHARACTERISTICS

