

## PLASTIC SILICON RECTIFIER

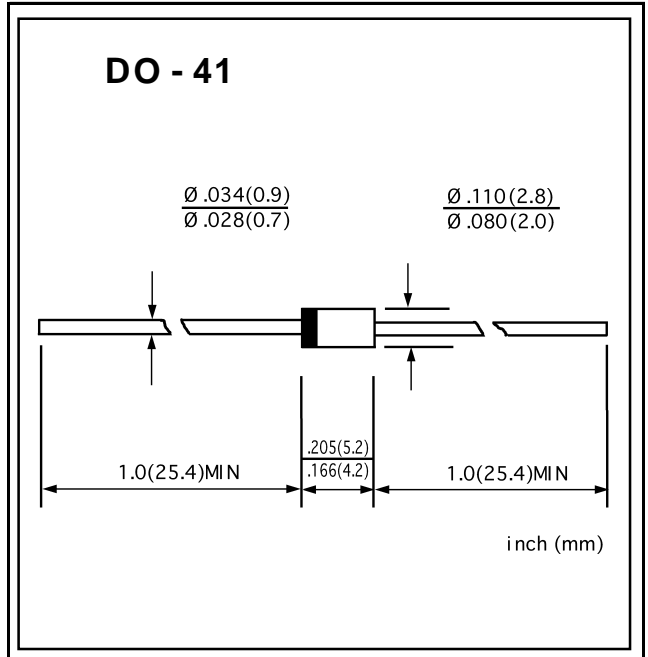
VOLTAGE RANGE: 50 --- 1000 V  
CURRENT: 1.0 A

### 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



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

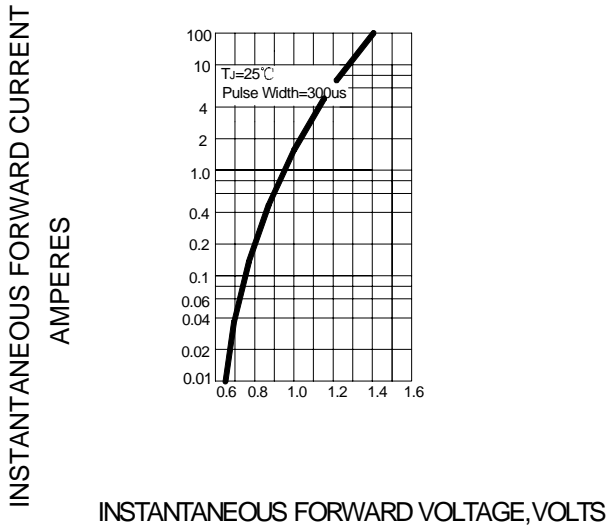
Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

|   |                 | 1N<br>4001      | 1N<br>4002 | 1N<br>4003 | 1N<br>4004 | 1N<br>4005 | 1N<br>4006 | 1N<br>4007 | UNITS              |
|---|-----------------|-----------------|------------|------------|------------|------------|------------|------------|--------------------|
| Maximum recurrent peak reverse voltage  | $V_{RRM}$       | 50              | 100        | 200        | 400        | 600        | 800        | 1000       | V                  |
| Maximum RMS voltage   | $V_{RMS}$       | 35              | 70         | 140        | 280        | 420        | 560        | 700        | V                  |
| Maximum DC blocking voltage   | $V_{DC}$        | 50              | 100        | 200        | 400        | 600        | 800        | 1000       | V                  |
| Maximum average forward rectified current<br>9.5mm lead lengths, @ $T_A=75^\circ\text{C}$                         | $I_{F(AV)}$     | 1.0             |            |            |            |            |            |            | A                  |
| Peak forward surge current<br>8.3ms single half-sine-wave<br>superimposed on rated load @ $T_J=125^\circ\text{C}$ | $I_{FSM}$       | 40.0            |            |            |            |            |            |            | A                  |
| Maximum instantaneous forward voltage<br>@ 1.0 A  | $V_F$           | 1.0             |            |            |            |            |            |            | V                  |
| Maximum reverse current @ $T_A=25^\circ\text{C}$<br>at rated DC blocking voltage @ $T_A=100^\circ\text{C}$        | $I_R$           | 5.0<br>50.0     |            |            |            |            |            |            | $\mu\text{A}$      |
| Typical junction capacitance (Note1)  | $C_J$           | 15              |            |            |            |            |            |            | pF                 |
| Typical thermal resistance (Note2)  | $R_{\theta JA}$ | 50              |            |            |            |            |            |            | $^\circ\text{C/W}$ |
| Operating junction temperature range  | $T_J$           | - 55 ---- + 150 |            |            |            |            |            |            | $^\circ\text{C}$   |
| Storage temperature range   | $T_{STG}$       | - 55 ---- + 150 |            |            |            |            |            |            | $^\circ\text{C}$   |

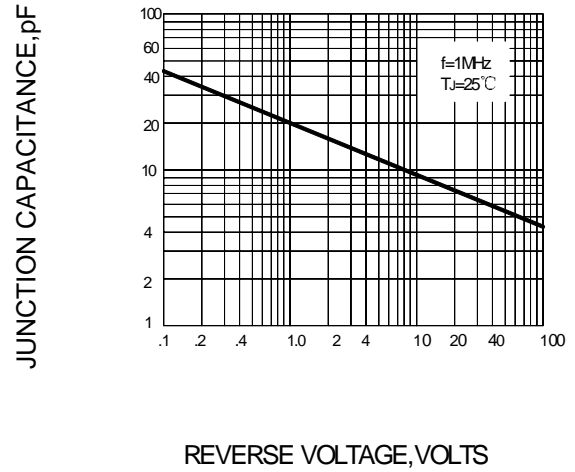
NOTE: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
2. Thermal resistance from junction to ambient.

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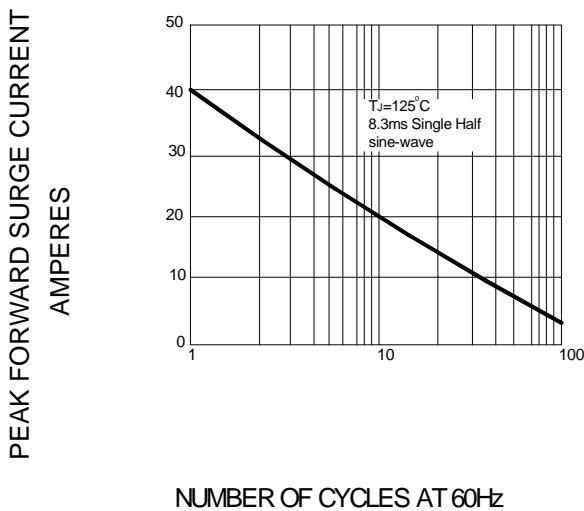
**FIG.1 – TYPICAL FORWARD CHARACTERISTIC**



**FIG.2 – TYPICAL JUNCTION CAPACITANCE**



**FIG.3 – PEAK FORWARD SURGE CURRENT**



**FIG.4 – FORWARD DERATING CURVE**

