

SUPER FAST RECTIFIER

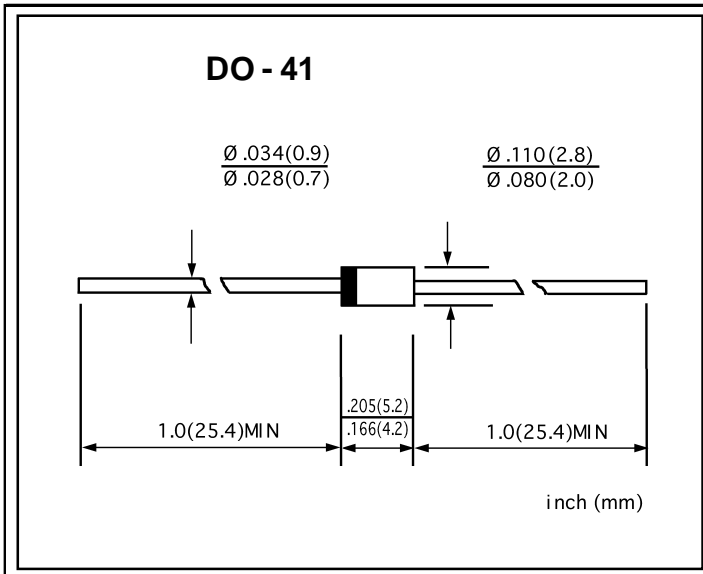
VOLTAGE RANGE: 600 --- 1000 V
CURRENT: 1.0A

FEATURES

- ◇ Low cost
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with 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, 60Hz, resistive or inductive load. For capacitive load, derate by 20%.

| | | SF17 | SF18 | SF19 | UNITS |
|---|-----------------|------------------|------|------|--------------------|
| Maximum recurrent peak reverse voltage | V_{RRM} | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | V_{DC} | 600 | 800 | 1000 | V |
| Maximum average forward rectified current 9.5mm lead length, @ $T_A=55^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | | | A |
| Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$ | I_{FSM} | 30.0 | | | A |
| Maximum instantaneous forward voltage @ 1.0A | V_F | 1.7 | 2.5 | | V |
| Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$ | I_R | 5.0 | 10.0 | | μA |
| Maximum reverse recovery time (Note1) | t_{rr} | 35 | | | ns |
| Typical junction capacitance (Note2) | C_J | 50 | | | pF |
| Typical thermal resistance (Note3) | $R_{\theta JA}$ | 50 | | | $^\circ\text{C/W}$ |
| Operating junction temperature range | T_J | - 65 ----- + 150 | | | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | - 65 ----- + 150 | | | $^\circ\text{C}$ |

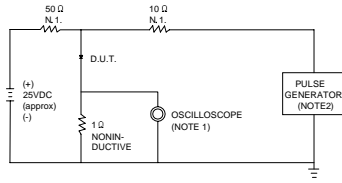
NOTE: 1. Measured with $I_F=0.5\text{A}$, $I_R=1\text{A}$, $t_{rr}=0.25\mu\text{s}$.

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

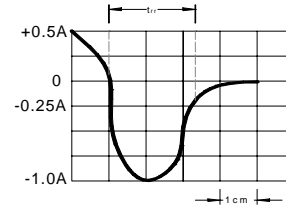
3. Thermal resistance from junction to ambient.

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FIG.1 – TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1MΩ, 22pF.
2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50 Ω.



SET TIME BASE FOR 10/20 ns/cm

FIG.2 – TYPICAL FORWARD CHARACTERISTIC

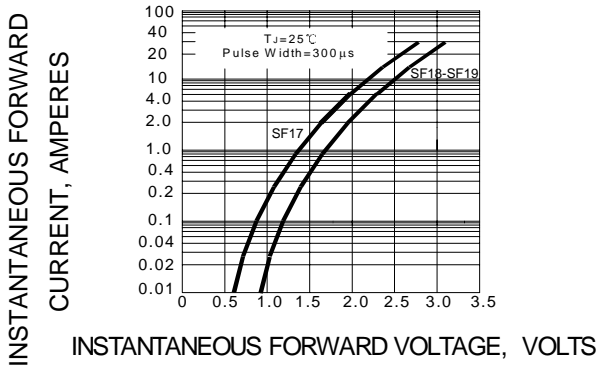


FIG.3 – FORWARD DERATING CURVE

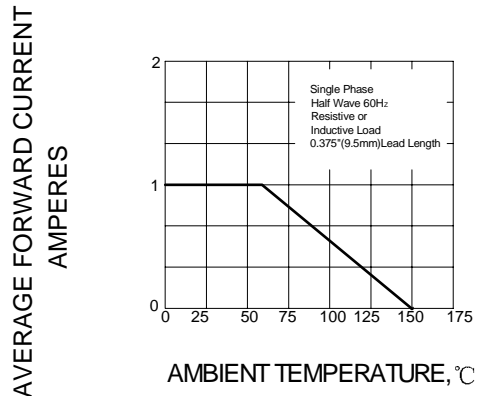


FIG.4 – TYPICAL JUNCTION CAPACITANCE

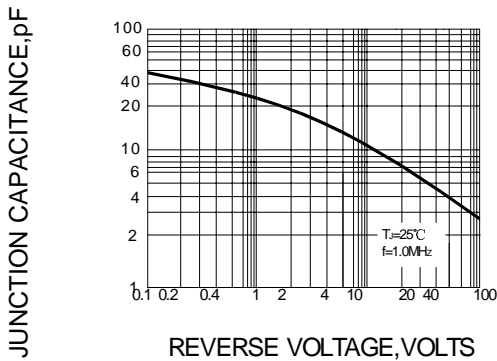


FIG.5 – PEAK FORWARD SURGE CURRENT

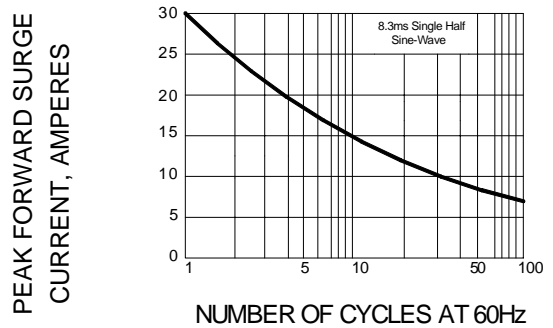


FIG.6 – TYPICAL REVERSE CHARACTERISTIC

