

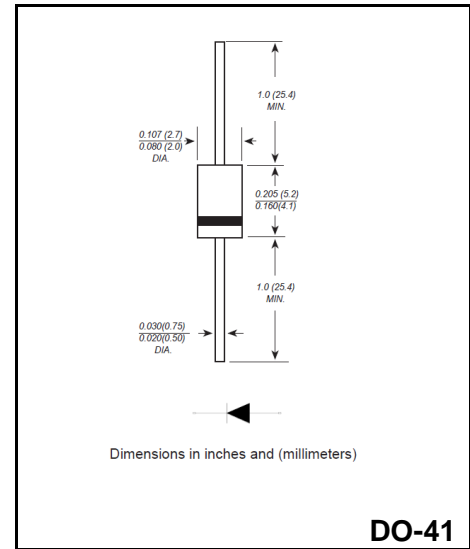
Fast Recovery Silicon Rectifiers

Reverse Voltage - 100 to 1000 V

Forward Current - 1 A

FEATURES

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Open Junction chip
- ◆ Ideal for automated placement
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives



MECHANICAL DATA

- ◆ Case: DO-41
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.25g / 0.0088oz

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 current derate by 20 %.

| Parameter | Symbols | FR102 | FR103 | FR104 | FR105 | FR106 | FR107 | Units |
|--|-----------------|------------|-------|-------|-------|-------|-------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current at $T_c = 100\text{ }^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load | I_{FSM} | 30.0 | | | | | | A |
| Maximum Instantaneous Forward Voltage at 1.0A | V_F | 1.28 | | | | | | V |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | I_R | 10 500 | | | | | | μA |
| Maximum reverse recovery time ^(Note 1) | T_{rr} | 150 | | 250 | | 500 | | nS |
| Typical Junction Capacitance ^(Note 2) | C_j | 21.0 | | | | | | pF |
| Typical Thermal Resistance | $R_{\theta JA}$ | 65 | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | $^\circ\text{C}$ |

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Reverse recovery time test condition: $I_F=0.5\text{A}$ $I_R=1.0\text{A}$ $I_{rr}=0.25\text{A}$

Ratings And Characteristic Curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

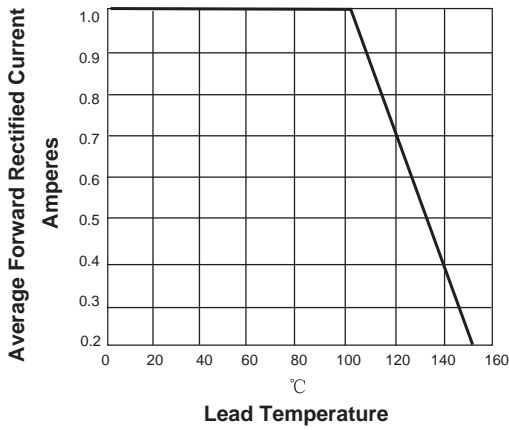


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

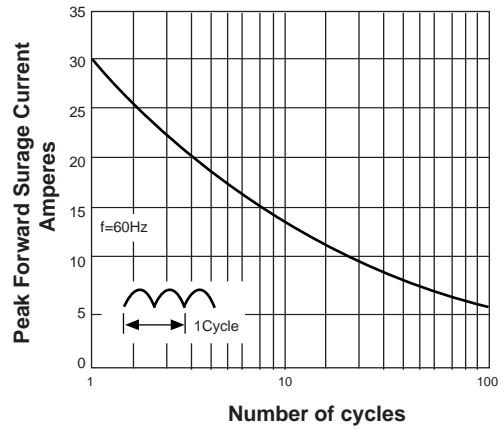


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

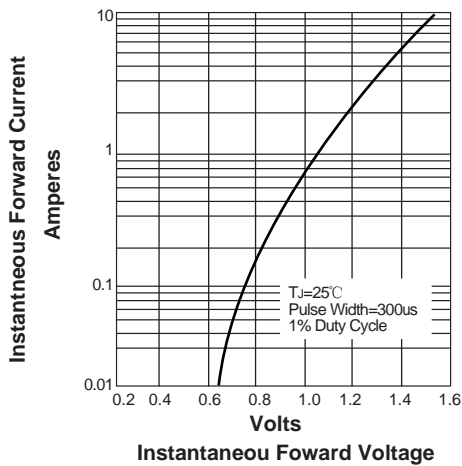
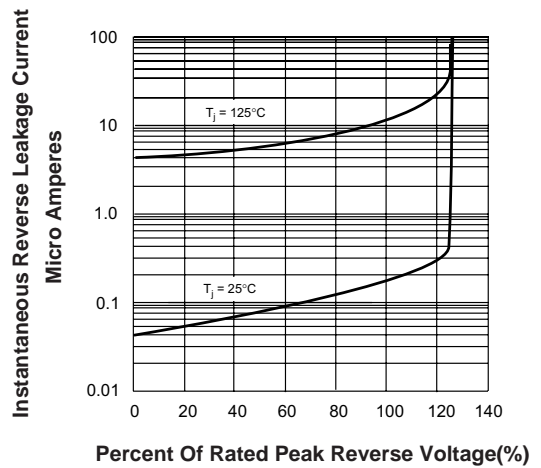


FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



Package Outline DO-41



| DIMENSIONS | | | | | |
|------------|--------|------|-------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | .166 | .205 | 4.10 | 5.20 | |
| B | .080 | .107 | 2.00 | 2.70 | |
| C | .028 | .034 | .70 | .90 | |
| D | 1.000 | --- | 25.40 | --- | |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| DO-41 | BOX | 1000/5000 | EIA-481-1 |