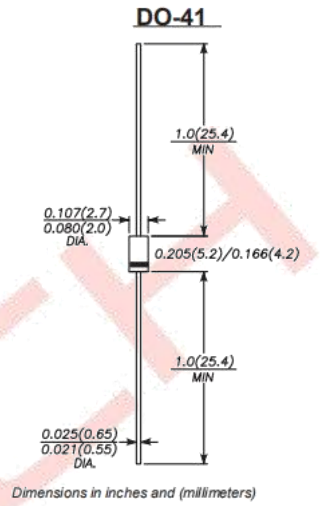
# FR101AT THRU FR107AT

## Fast Recovery Rectifiers

**Reverse Voltage:50-1000V  Forward Current:1.0A**

## Features

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:260 C/10 seconds,0.375” (9.5mm) lead length,5 lbs. (2.3kg) tension




## Mechanical Data

- Case:A-405 molded plastic body
- Terminals:Plated axial leads, solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight:0.008 ounce, 0.23 grams

## 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 current derate by 20%.

| | Symbol | 101 | 102 | 103 | 104 | 105 | 106 | 107 | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive 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 0.375”(9.5mm) lead length at TA=75 C | $I_{(AV)}$ | 1.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 30.0 | | | | | | | A |
| Maximum instantaneous forward voltage at 1.0A | $V_F$ | 1.3 | | | | | | | V |
| Maximum DC reverse current TA=25℃ at rated DC blocking voltage TA=100℃ | $I_R$ | 5.0<br>50.0 | | | | | | | uA |
| Maximum reverse recovery time [1] | $t_{rr}$ | 150 | | | | 250 | 400 | | ns |
| Typical junction capacitance [2] | $C_J$ | 15.0 | | | | | | | pF |
| Typical thermal resistance [3] | $R_{\theta JA}$ | 50.0 | | | | | | | ℃/W |
| Operating junction and storage temperature range | $T_J$,$T_{STG}$ | -55 to +150 | | | | | | | ℃ |

Note: 1.Reverse recovery condition IF=0.5A,IR=1.0A,Irr=0.25A

2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3.Thermal resistance from junction to ambient at 0.375”(9.5mm)lead length,P.C.B. mounted

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## Ratings and Characteristic Curve

FIG. 1- FORWARD CURRENT DERATING CURVE

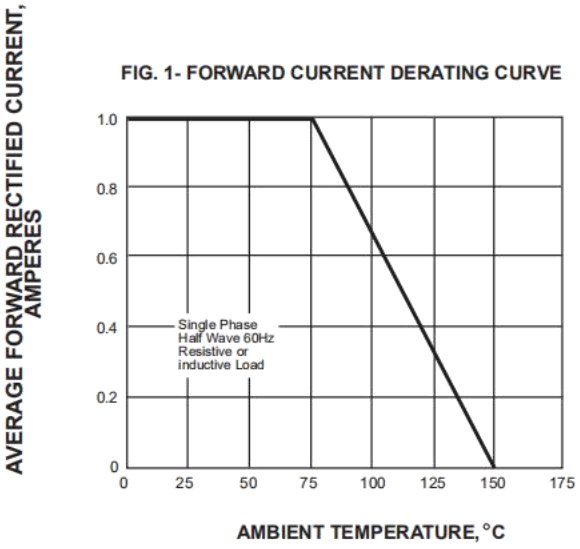


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

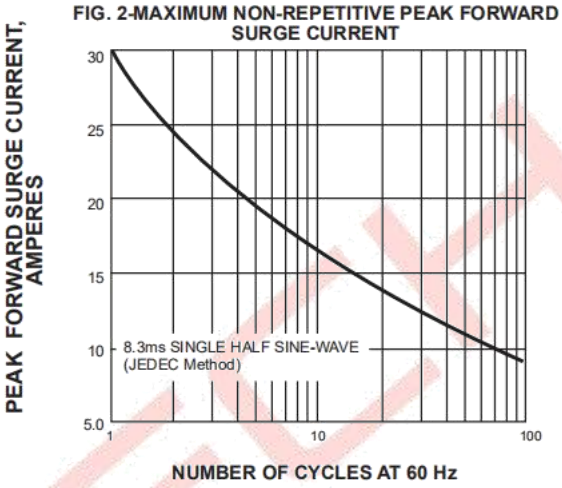


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

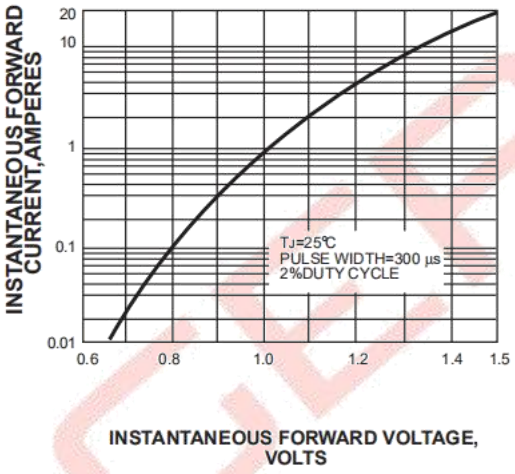


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

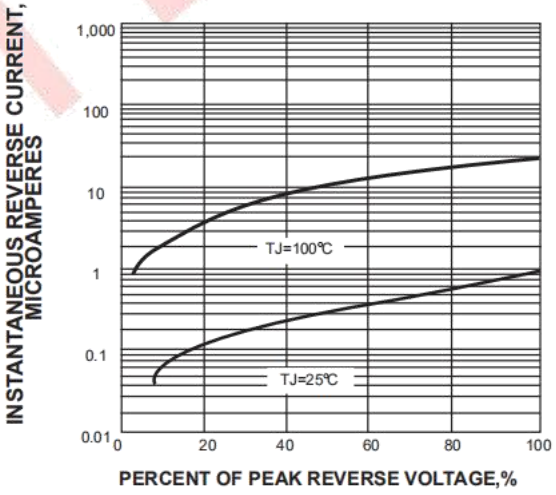


FIG. 5-TYPICAL JUNCTION CAPACITANCE

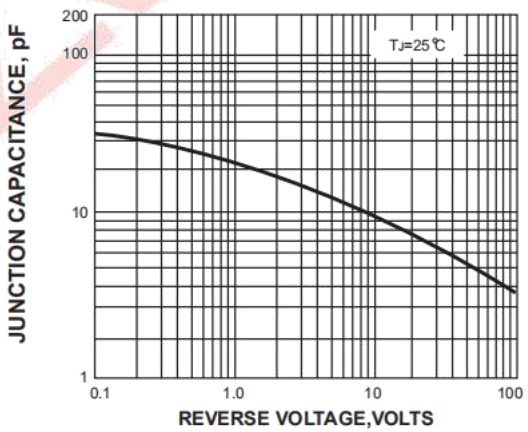


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE