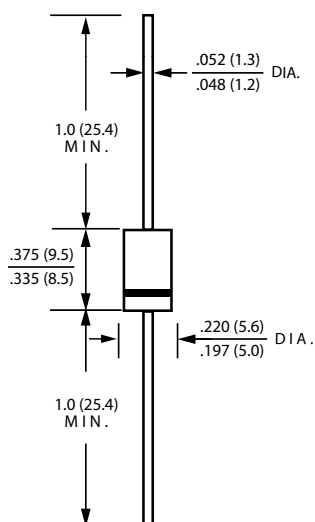


Fast Recovery Rectifiers Plastic Passivation Junction



DO-201AD

Dimensions in inches and (millimeters)



Ordering Information

| Part Number | Remark |
|-------------|--------------|
| FR30x | General |
| FR30x-H | Halogen Free |

PRIMARY CHARACTERISTICS

| | |
|-----------|----------|
| I_F | 3A |
| V_{RRM} | 50~1000V |
| I_{FSM} | 80A |
| V_F | 1.3 V |
| T_J max | 125°C |

Features

- Ideal for surface mount applications
- Easy pick and place
- Built-in strain relief
- Fast switching speed

Mechanical Data

- Cases: DO-201AD
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.066 grams (approximate)

MAXIMUM RATINGS (TA=25°C unless otherwise noted)

| PARAMETER | SYMBOL | FR301 | FR302 | FR303 | FR304 | FR305 | FR306 | FR307 | 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 | I_F | 3.0 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 80.0 | | | | | | | A |
| Maximum Instantaneous Forward Voltage IF=3A @ 25°C | V_F | 1.3 | | | | | | | V |
| Maximum DC Reverse Current @ Tc=25°C at Rated DC Blocking Voltage @ Tc=100°C | I_R | 10 100 | | | | | | | uA |
| Maximum Reverse Recovery Time(NOTE2) | t_{rr} | 150 | | | 250 | | 500 | | ns |
| Typical Junction Capacitance(NOTE1) | C_j | 50 | | | | | | | pF |
| Typical Thermal Resistance | $R_{\theta JA}$ | 70 | | | | | | | °C/W |
| Operating Temperature Range | T_J | -55 to +125 | | | | | | | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | | | | | °C |

NOTES:1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC

2.Measured with IF=0.5A,IR=1A,IRR=0.25A

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FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

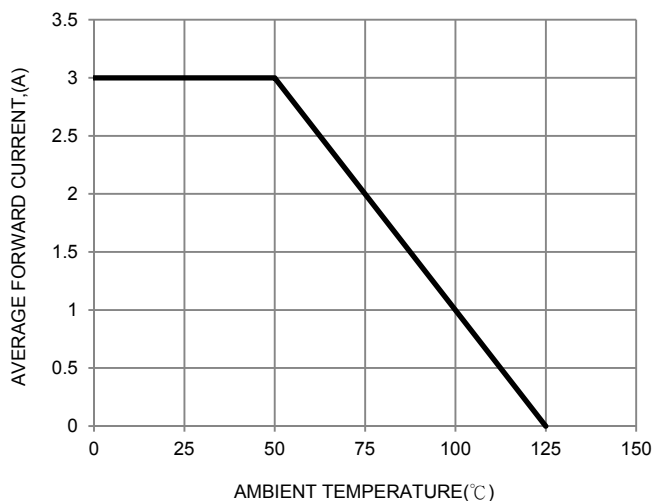


FIG. 2-TYPICAL FORWARD CHARACTERISTICS

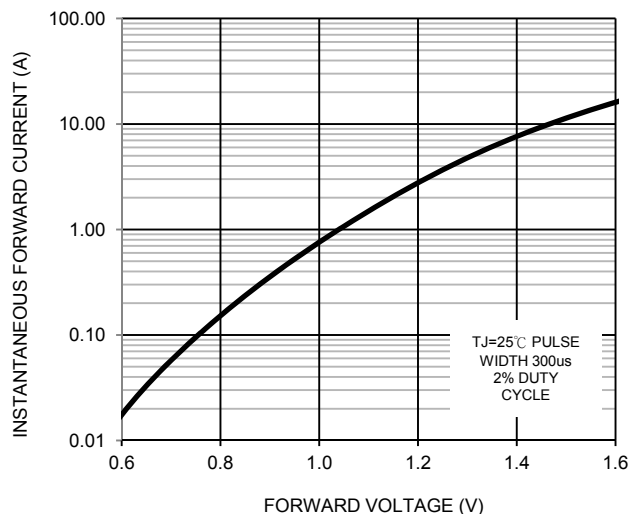


FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

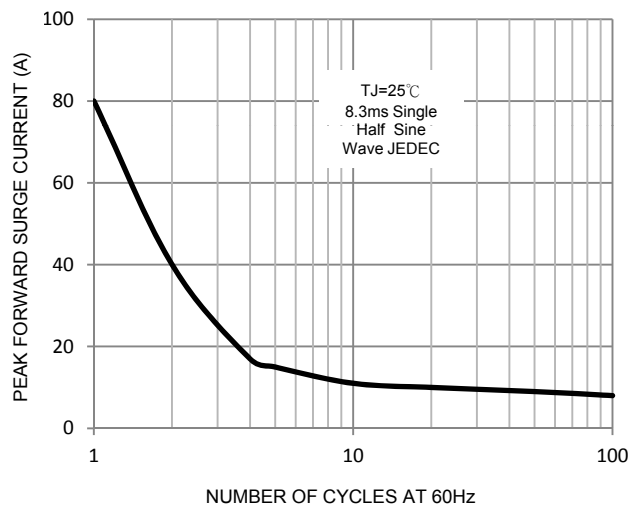


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

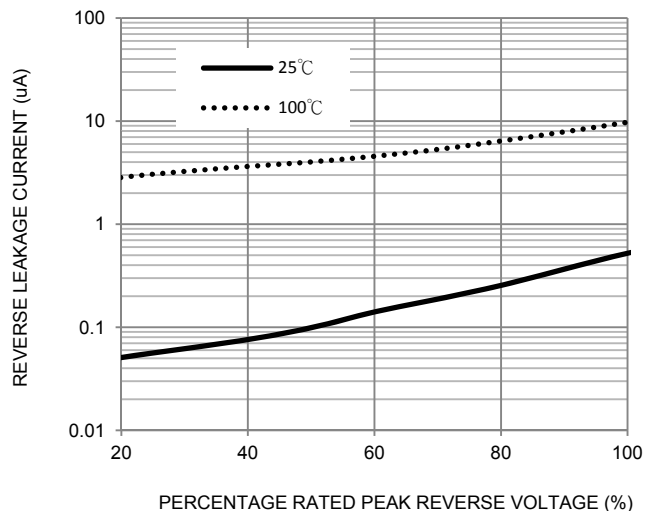


FIG. 5-TYPICAL JUNCTION CAPACITANCE

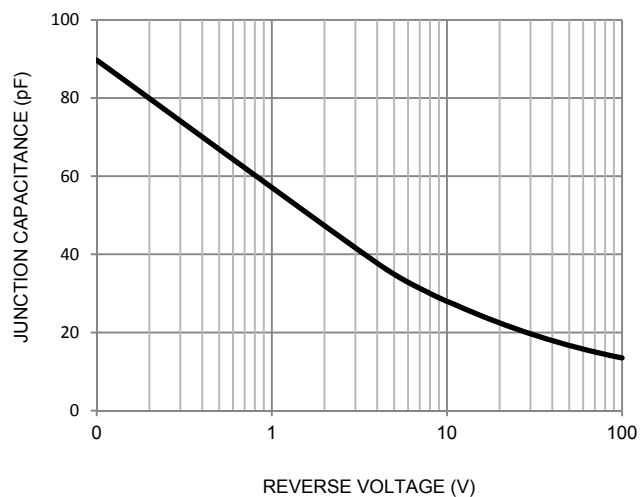


FIG. 6-Reverse Recovery Time Characteristic and Test Circuit

