

FR301 - FR307-STR

FAST RECOVERY RECTIFIER DIODES

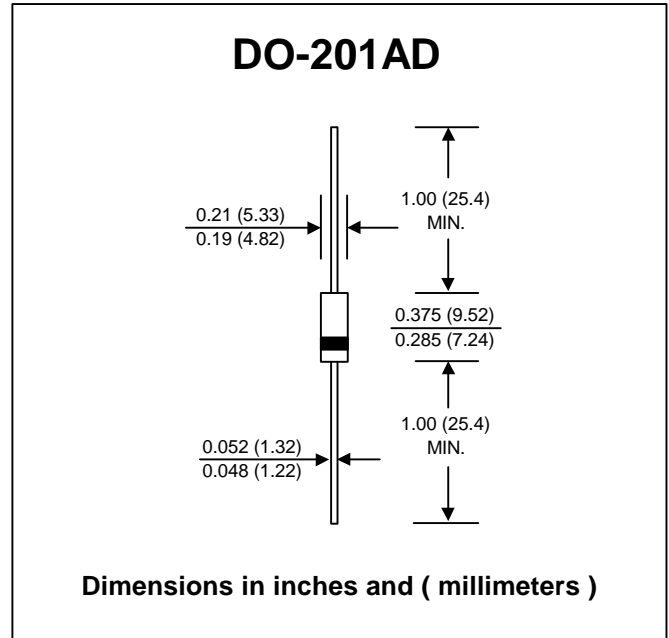
PRV : 50 - 1000 Volts
Io : 3.0 Amperes

FEATURES :

- * High current capability
- * High surge current capability
- * High reliability
- * Low reverse current
- * Low forward voltage drop
- * Fast switching for high efficiency
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : DO-201AD Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 1.16 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%.

| RATING | SYMBOL | FR301 | FR302 | FR303 | FR304 | FR305 | FR306 | FR307 | FR307-STR | UNIT |
|--|--------------------|---------------|-------|-------|-------|-------|-------|-------|-----------|------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1000 | V |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | 700 | V |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 1000 | V |
| Maximum Average Forward Current 0.375"(9.5mm) Lead Length Ta = 55 °C | I _{F(AV)} | 3.0 | | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single half sine wave Superimposed on rated load (JEDEC Method) | I _{FSM} | 200 | | | | | | | | A |
| Maximum Peak Forward Voltage at I _F = 3 A | V _F | 1.3 | | | | | | | | V |
| Maximum DC Reverse Current Ta = 25 °C at Rated DC Blocking Voltage Ta = 100 °C | I _R | 10 | | | | | | | | μA |
| | I _{R(H)} | 150 | | | | | | | | μA |
| Maximum Reverse Recovery Time (Note 1) | T _{rr} | 150 | | | 250 | 500 | 250 | | | ns |
| Typical Junction Capacitance (Note 2) | C _J | 60 | | | | | | | | pf |
| Junction Temperature Range | T _J | - 65 to + 150 | | | | | | | | °C |
| Storage Temperature Range | T _{STG} | - 65 to + 150 | | | | | | | | °C |

Notes :

- (1) Reverse Recovery Test Conditions : I_F = 0.5 A, I_R = 1.0 A, I_{rr} = 0.25 A.
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V_{dc}

RATING AND CHARACTERISTIC CURVES (FR301 - FR307-STR)

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

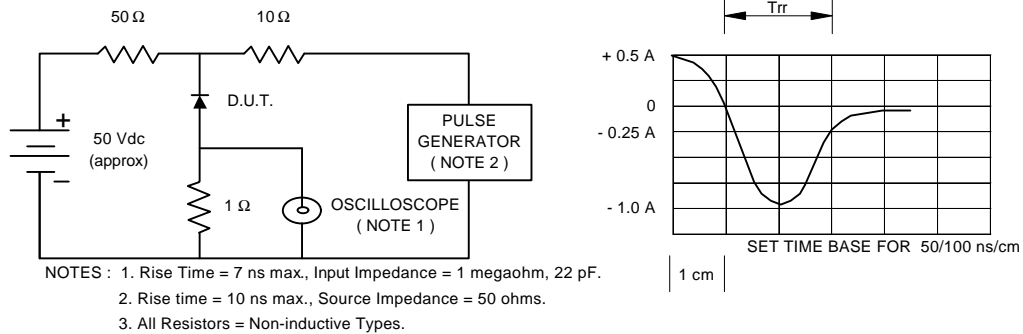


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

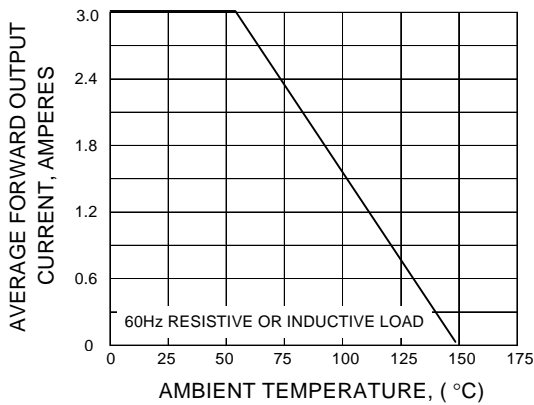


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

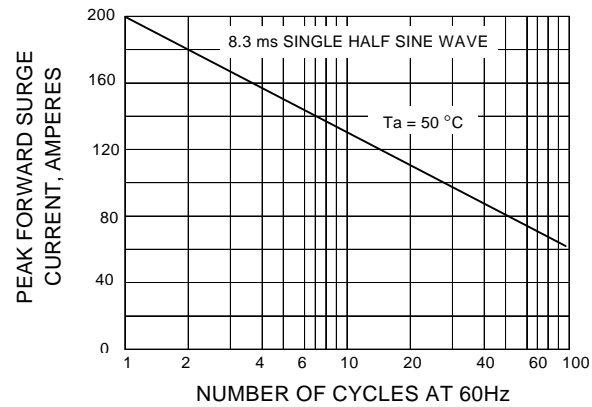


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

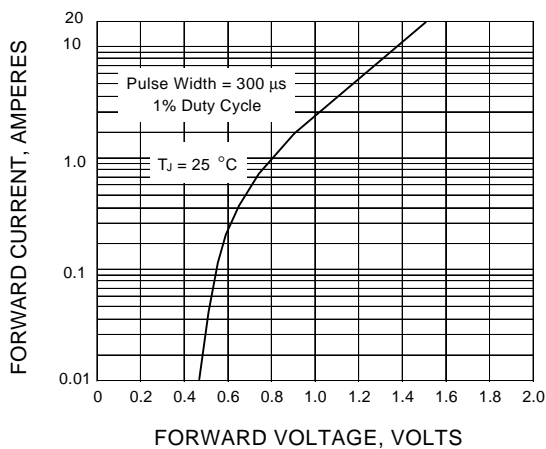


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

