



# THE DATASHEET OF FR303TA





## FR301 THRU FR307 FAST RECOVERY RECTIFIERS

**Reverse Voltage - 50 to 1000 Volts    Forward Current - 3.0 Amperes**

### 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:
- ◆ 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension
- ◆ This is a Pb - Free Device
- ◆ All SMC parts are traceable to the wafer lot
- ◆ Additional testing can be offered upon request

### MECHANICAL DATA

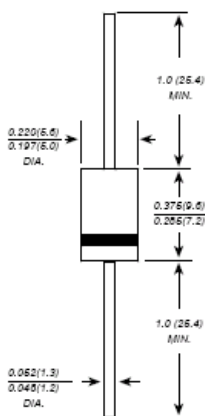
**Case:** JEDEC DO-201AD molded plastic body  
**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

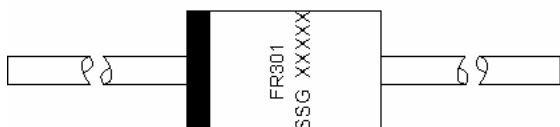
**Weight:** 0.04 ounce, 1.10 grams

### DO-201AD



Dimensions in inches and (millimeters)

### MARKING DIAGRAM



Where XXXXX is YYWWL

FR301 = Part Name  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

**Cautions:** Molding resin  
Epoxy resin UL:94V-0

### ORDERING INFORMATION

| Device      | Package               | Shipping       |
|-------------|-----------------------|----------------|
| FR301-FR307 | DO-201AD<br>(Pb-Free) | 1250pcs / tape |

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

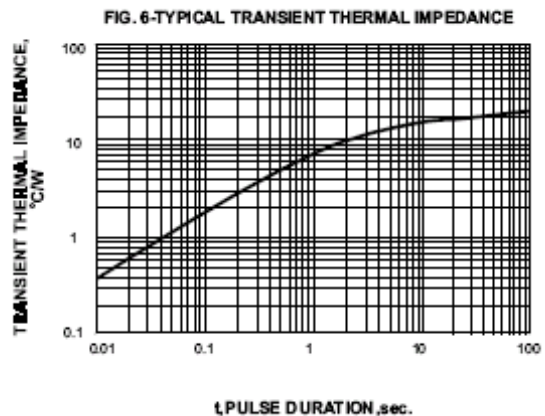
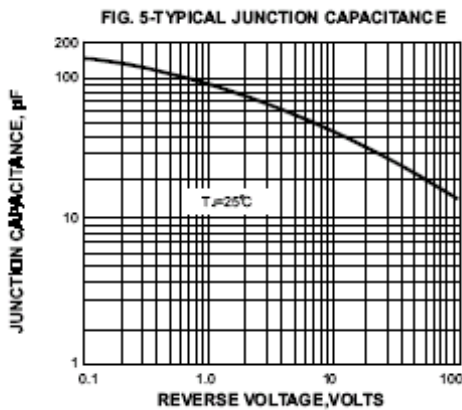
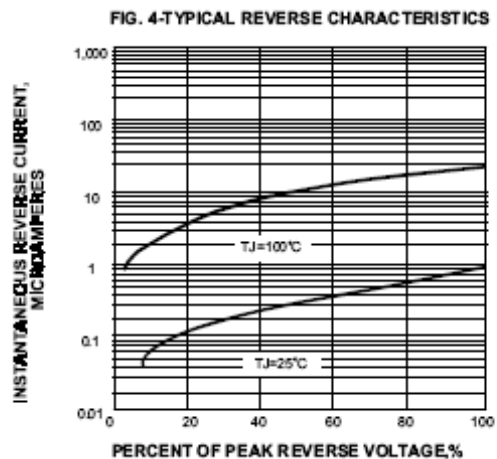
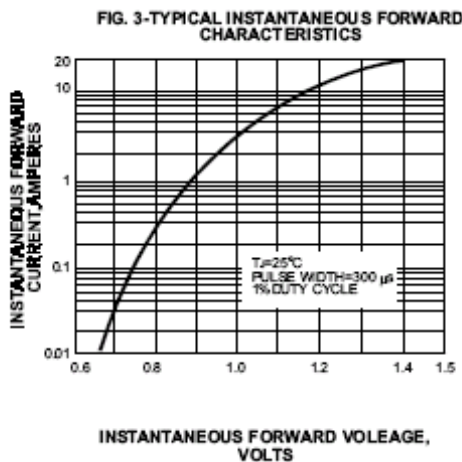
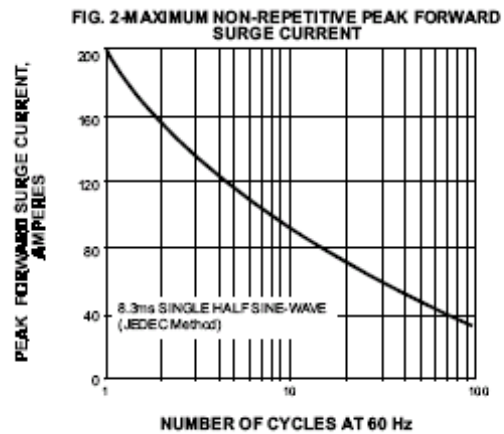
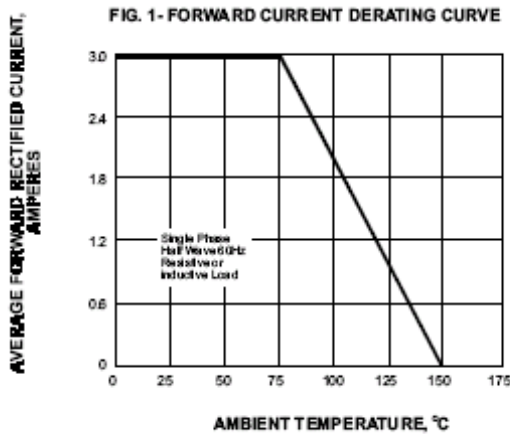
Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

|  | SYMBOLS         | FR 301       | FR 302 | FR 303 | FR 304 | FR 305 | FR 306 | FR 307 | UNITS        |
|--|-----------------|--------------|--------|--------|--------|--------|--------|--------|--------------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$       | 50           | 100    | 200    | 400    | 600    | 800    | 1000   | VOLTS        |
| Maximum RMS voltage  | $V_{RMS}$       | 35           | 70     | 140    | 280    | 420    | 560    | 700    | VOLTS        |
| Maximum DC blocking voltage  | $V_{DC}$        | 50           | 100    | 200    | 400    | 600    | 800    | 1000   | VOLTS        |
| Maximum average forward rectified current<br>0.375"(9.5mm) lead length at $T_A=75^\circ C$             | $I_{(AV)}$      | 3.0          |        |        |        |        |        |        | Amps         |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method) | $I_{FSM}$       | 200.0        |        |        |        |        |        |        | Amps         |
| Maximum instantaneous forward voltage at 3.0A  | $V_F$           | 1.3          |        |        |        |        |        |        | Volts        |
| Maximum DC reverse current $T_A=25^\circ C$<br>at rated DC blocking voltage $T_A=100^\circ C$          | $I_R$           | 5.0<br>100.0 |        |        |        |        |        |        | $\mu A$      |
| Maximum reverse recovery time (NOTE 1)   | $t_{rr}$        | 150          |        |        |        | 250    | 500    |        | ns           |
| Typical junction capacitance (NOTE 2)  | $C_J$           | 60.0         |        |        |        |        |        |        | pF           |
| Typical thermal resistance (NOTE 3)  | $R_{\theta JA}$ | 20.0         |        |        |        |        |        |        | $^\circ C/W$ |
| Operating junction and storage temperature range   | $T_J, T_{STG}$  | -65 to +150  |        |        |        |        |        |        | $^\circ C$   |

**Note:** 1.Reverse recovery condition  $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$   
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



**RATINGS AND CHARACTERISTIC CURVES FR301 THRU FR307**





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