



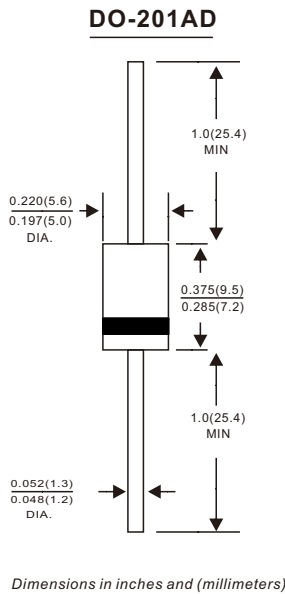
# FR 301 THRU FR 307

## FAST RECOVERY RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Ampere

### 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:** 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:** 0.004 ounce, 1.10 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%.

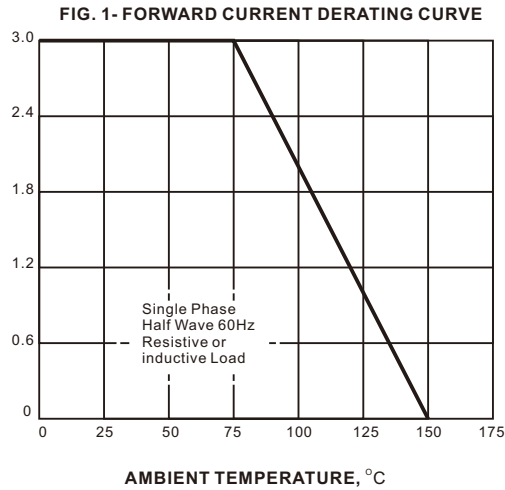
	SYMBOLS	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 307	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current 0.375"(9.5mm) lead length at TA=75°C	I(AV)	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200.0							Amps
Maximum instantaneous forward voltage at 3.0A	V <sub>F</sub>	1.3							Volts
Maximum DC reverse current TA=25 °C at rated DC blocking voltage TA=100 °C	I <sub>R</sub>	5.0 100.0							uA
Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	150			250	500		ns	
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	60.0							pF
Typical thermal resistance (NOTE 3)	R <sub>θJA</sub>	40.0							°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-60 to +150							°C

**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

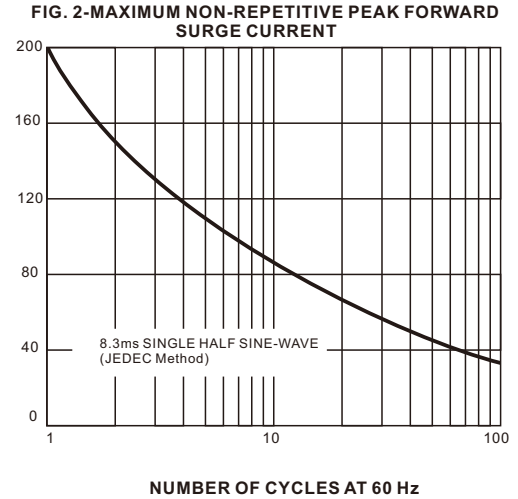


### RATINGS AND CHARACTERISTIC CURVES FR301 THRU FR307

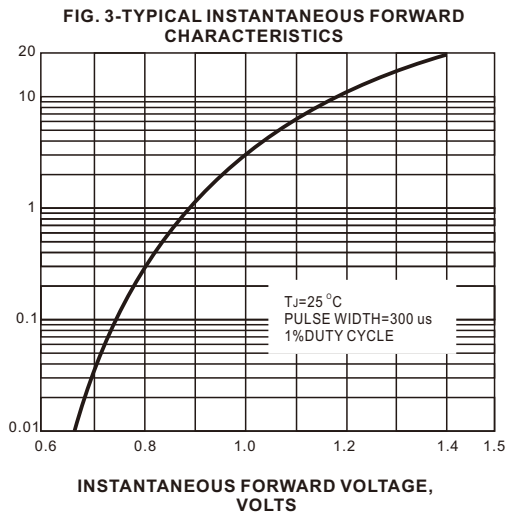
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES



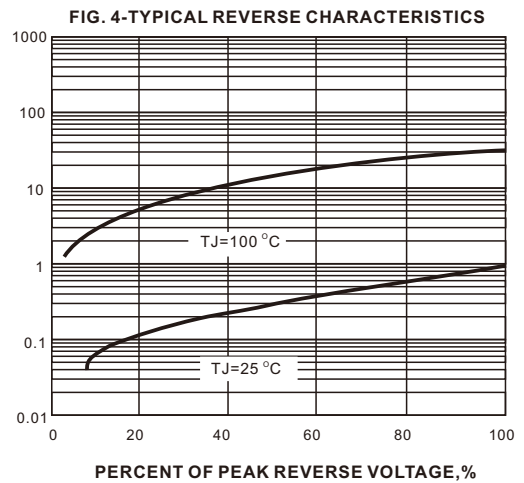
PEAK FORWARD SURGE CURRENT, AMPERES



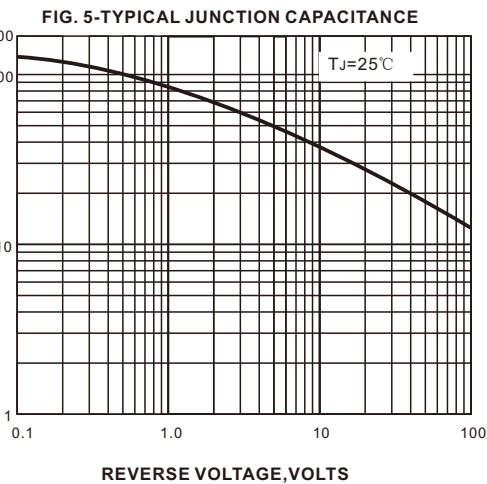
INSTANTANEOUS FORWARD CURRENT, AMPERES



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES



JUNCTION CAPACITANCE, pF



TRANSIENT THERMAL IMPEDANCE, °C/W

