



SHENZHEN FAITH TECHNOLOGY CO.,LTD

FAST RECOVERY RECTIFIER

FR301 THRU FR308

VOLTAGE RANGE

50 to 1000 Volts

CURRENT

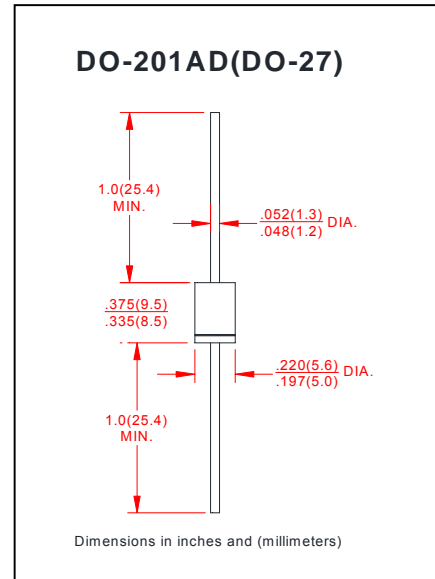
3.0 Ampere

FEATURES

- Fast speed switching
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High reliability
- High temperature soldering guaranteed
260°C/10 seconds, 0.375"(9.5mm) lead length at 5 lbs(2.3kg) tension

MECHANICAL DATA

- Case: Transfer molded plastic
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Color band denotes cathode end
- Lead: Plated axial lead, solderable per MIL-STD-202E method 208C
- Mounting position: Any



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 derate current by 20%

	SYMBOLS	FR 301	FR 302	FR 303	FR 304	FR 305	FR 306	FR 308	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 at $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amps
Maximum Instantaneous Forward Voltage at 3.0A	V_F	1.2							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	$T_A = 25^\circ\text{C}$	5.0							μA
	$T_A = 100^\circ\text{C}$	100							
Maximum Reverse Recovery Time(NOTE1)	T_{RR}	150			250	500	nS		
Typical Junction Capacitance (NOTE 2)	C_J	60							pF
Typical TSFmal Resistance (NOTE 3)	$R_{\theta JA}$	40							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

Notes:

- 1.Reverse Recovery Test Conditions: $I_f=0.5\text{A}$, $I_r=1.0\text{A}$, $I_{rr}=0.25\text{A}$.
- 2.Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
- 3.Thermal Resistance From Junction to Ambient at .375"(9.5mm)lead length, P.C. board mounted.



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FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

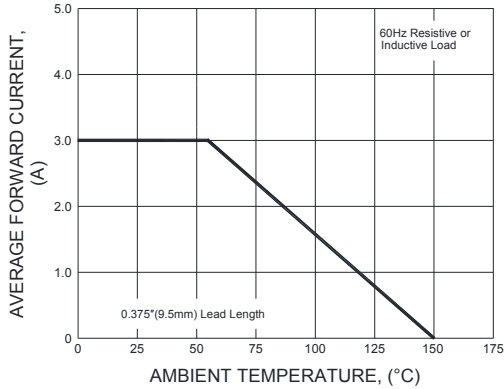


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

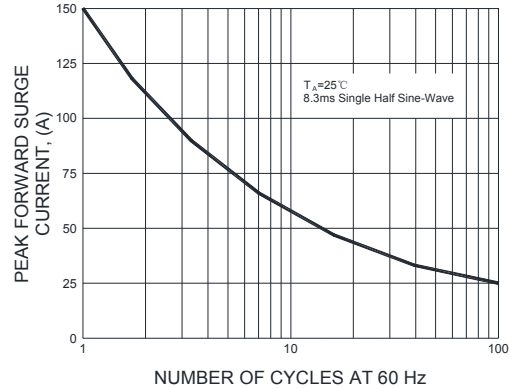


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

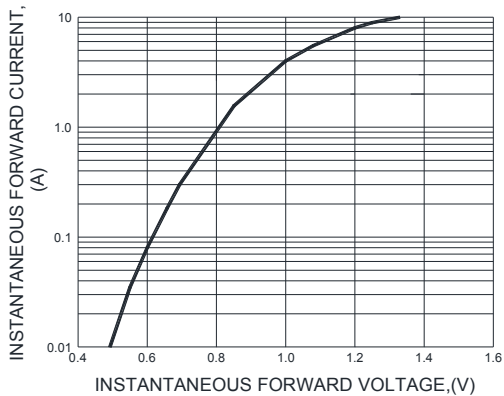


FIG.3-TYPICAL REVERSE CHARACTERISTICS

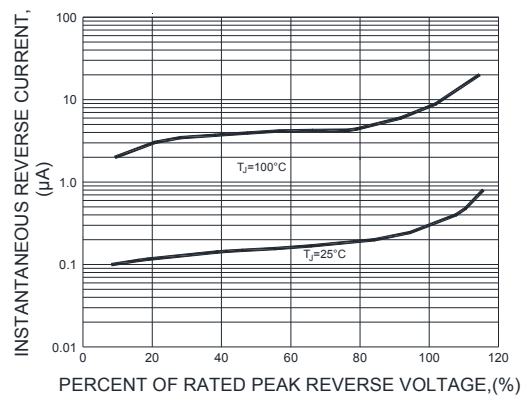
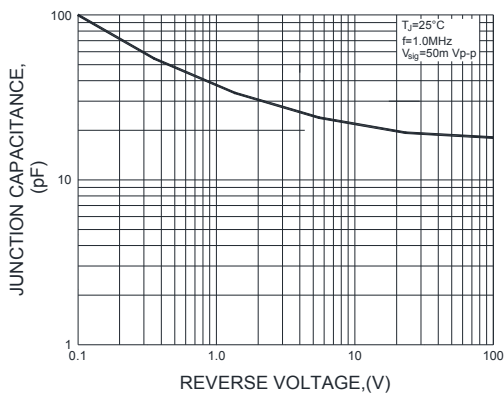


FIG.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT

