



TAYCHIPST FAST RECOVERY RECTIFIERS

FR301 THRU FR307

50V-1000V

2.0A



DO-27

FEATURES

- * The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- * Fast switching
- * Low leakage
- * Low forward voltage drop
- * High current capability
- * High current surge
- * High reliability

MECHANICAL DATA

Case : JEDEC DO-201AD molded plastic

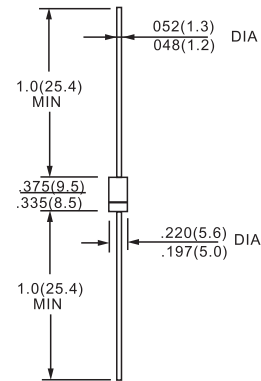
Terminals : Plated axial leads , solderable per MIL-STD-750, Method 2026

Polarity : Color band denotes cathode end

Mounting Position : Any

Weight : 0.04 ounces , 1.12 grams

DO-27



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR305P	FR306	FR307	FR307P	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	600	800	1000	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	420	560	700	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	600	800	1000	1000	Volts
Maximum Average Forward Rectified Current at $T_A = 75^\circ\text{C}$	I_O	3.0									Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	200									Amps
Typical Junction Capacitance (Note 2)	C_J	65									pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 150									$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

CHARACTERISTICS	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR305P	FR306	FR307	FR307P	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	V_F	1.3									Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_A = 25^\circ\text{C}$	I_R	10									μAmps
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at $T_L = 55^\circ\text{C}$		150									μAmps
Maximum Reverse Recovery Time (Note 1)	t_{rr}	150		250		150	500		250		nSec

NOTES : 1. Test Conditions: $I_F = 0.5A$, $I_R = -1.0A$, $I_{RR} = -0.25A$

2. Measured at 1 MHz and applied reverse voltage of 4.0 volts

FIG.1 - FORWARD CURRENT DERATING CURVE

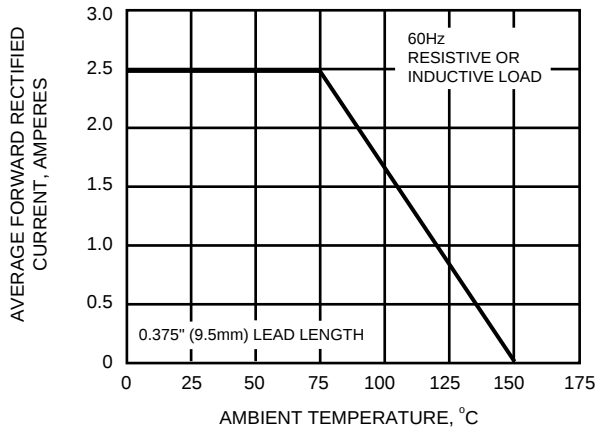


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

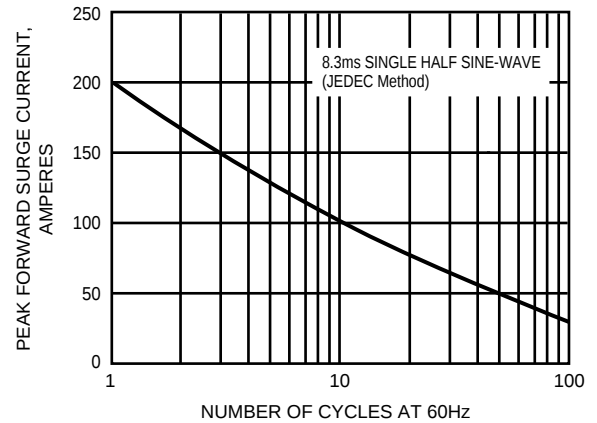


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

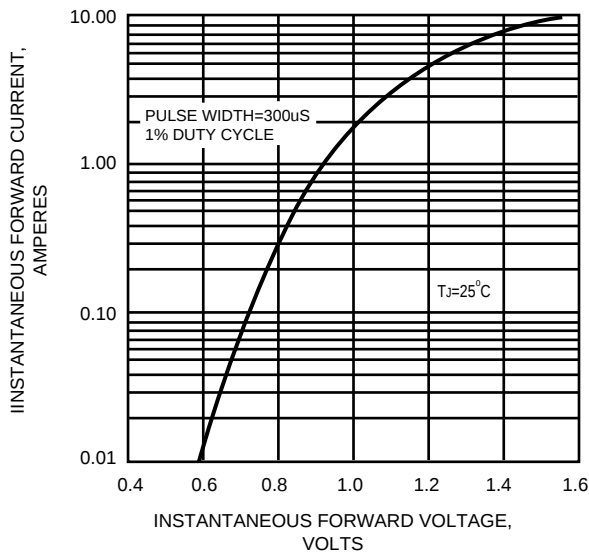


FIG.5 - TYPICAL JUNCTION CAPACITANCE

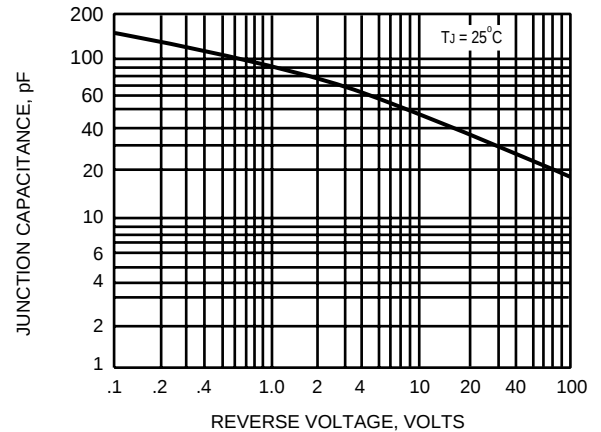
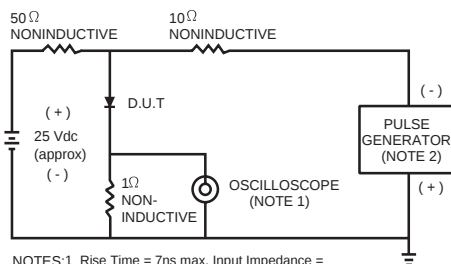


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES:1. Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.

