

Kingtronics®**FR301 THRU
FR307****FAST RECOVERY RECTIFIERS****REVERSE VOLTAGE 50 to 1000 Volts FORWARD CURRENT 3.0 Ampere****FEATURES**

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

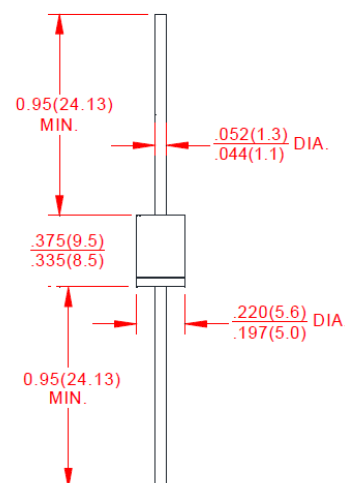
MECHANICAL DATA

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%

Dimensions in inches and (millimeters)



PARAMETER	SYMBOL	FR301	FR302	FR303	FR304	FR305	FR306	FR307	UNIT
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	I_R	5.0							□ μA
DC blocking voltage									
		100							
Maximum reverse recovery time (NOTE 1)	T_{RR}	150				250	500		ns
Typical Junction Capacitance (Note 2)	C_J	60							pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	40							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

1- Reverse recovery condition $I_f=0.5\text{A}, I_r=1.0\text{A}, I_{rr}=0.25\text{A}$.

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

3- Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted.

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RATINGS AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

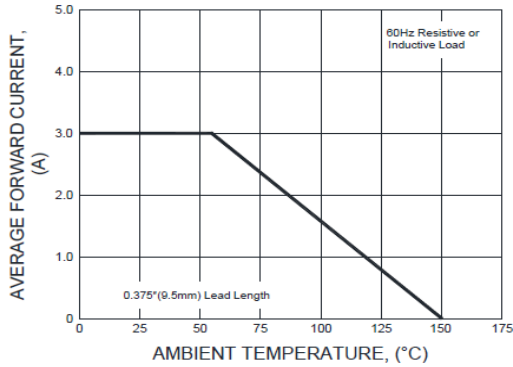


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

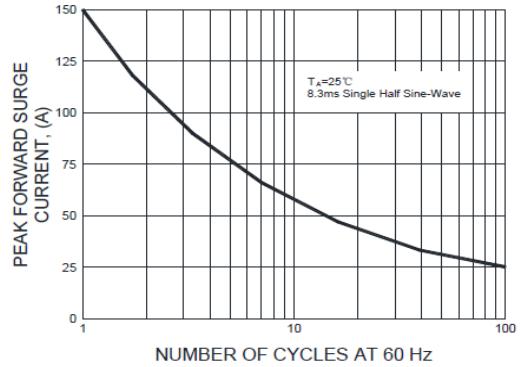


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

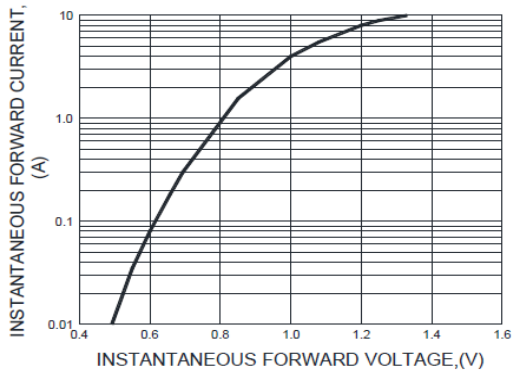


FIG.3-TYPICAL REVERSE CHARACTERISTICS

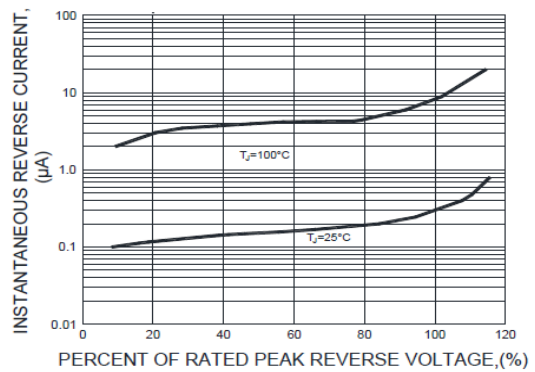


FIG.5-TYPICAL JUNCTION CAPACITANCE

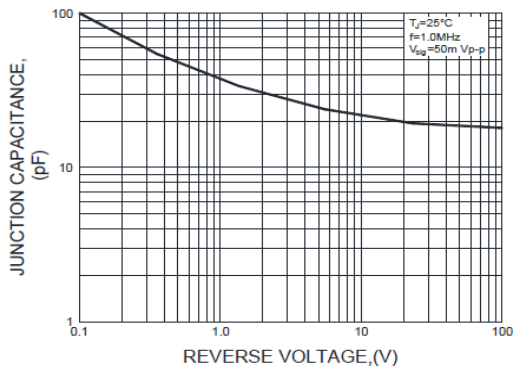
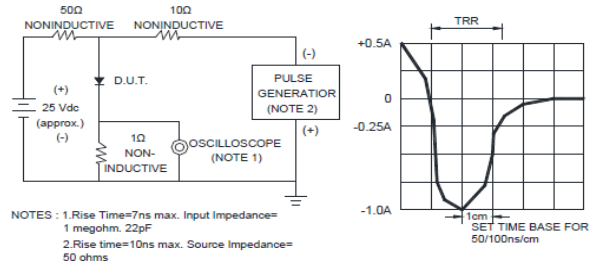


FIG.6-TEST CIRCUIT DIAGRAM AND FORWARD SURGE CURRENT



Note: Specifications are subject to change without notice.

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