

# Kingtronics®

**SF51G THRU SF58G  
SUPER FAST GLASS PASSIVATED  
RECTIFIER**

## FEATURE

Super fast switching speed  
Glass passivated chip junction  
Low power loss, high efficiency  
Low leakage  
High Surge Capacity  
High temperature soldering guaranteed  
260°C/10 seconds, 0.375" (9.5mm) lead length

VOLTAGE RANGE 50 to 600 Volts CURRENT 5.0 Ampere

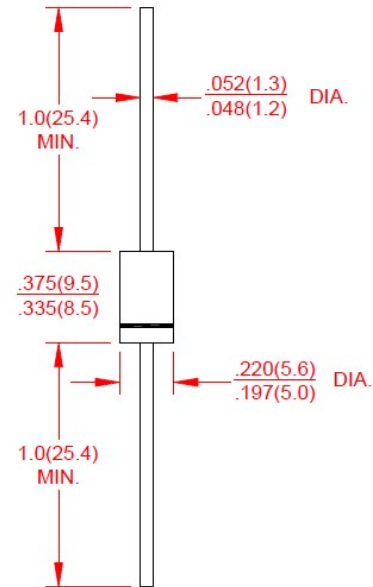
## Mechanical Data

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  
Weight: 0.042ounce, 1.19 gram

## 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%.

DO-201AD



Dimensions in inches and (millimeters)

CHARACTERISTICS	Symbols	SF51G	SF52G	SF53G	SF54G	SF55G	SF56G	SF57G	SF58G	UNITS
Maximum repetitive peak reverse voltage	VRRM	50	100	150	200	300	400	500	600	Volts
Maximum RMS voltage	VRMS	35	70	105	140	210	280	350	420	Volts
Maximum DC blocking voltage	VDC	50	100	150	200	300	400	500	600	Volts
Maximum Average Forward Rectified Current 0.375" (9.5mm) lead length at TA=80°C	I(AV)	5.0								Amps
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)	IFSM	125								Amps
Maximum Instantaneous Forward Voltage at 5.0A	VF	0.95			1.25		1.70			Volts
Maximum DC reverse current at rated DC blocking voltage	IR	5.0				50				uA
Maximum Reverse Recovery Time Test conditions IF= 0.5A, IR= 1.0A, IRR=0.25A	TRR	35								nS
Typical Junction Capacitance (Measured at 1.0MHz and applied reverse voltage of 4.0V)	CJ	50				30				pF
Typical Thermal Resistance (NOTE 1)	RθJA	30								°C/W
Operating temperature range	TJ	(-55 to +150)								°C
Storage Temperature Range	TSTG	(-55 to +150)								°C

Notes: 1. Thermal Resistance from Junction to Ambient with 0.375" (9.5mm) lead length, PCB mounted.

**Kingtronics® International Company**

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## Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

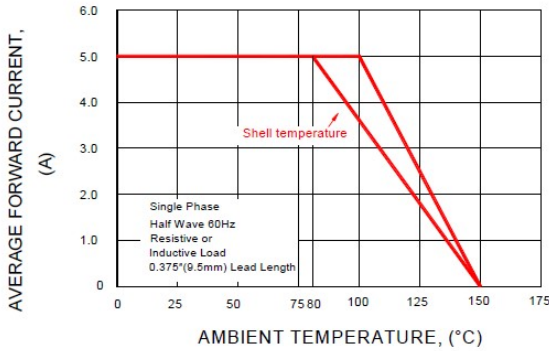


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

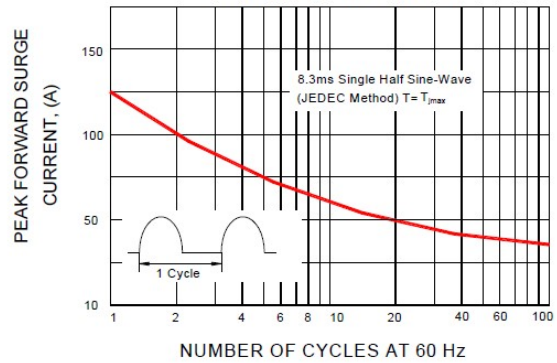


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

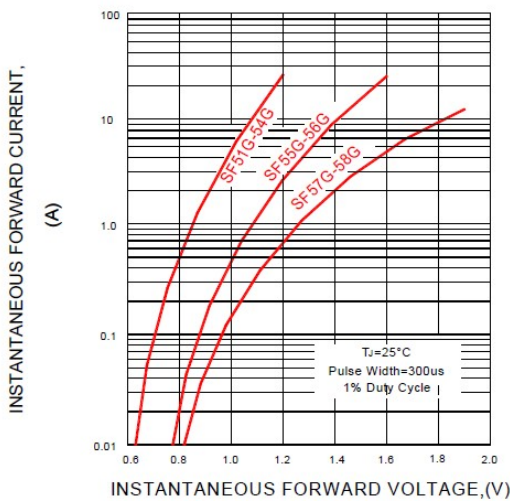


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

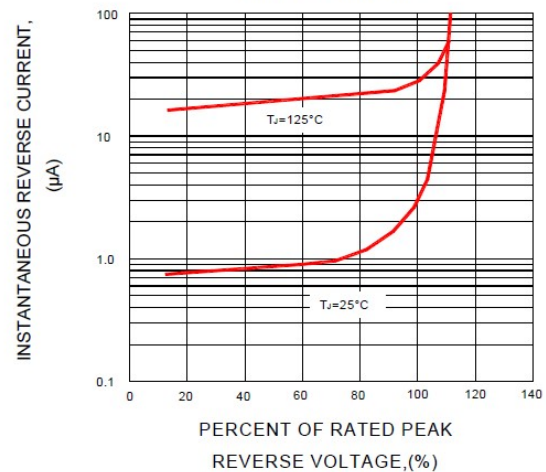


FIG. 5-TYPICAL JUNCTION CAPACITANCE

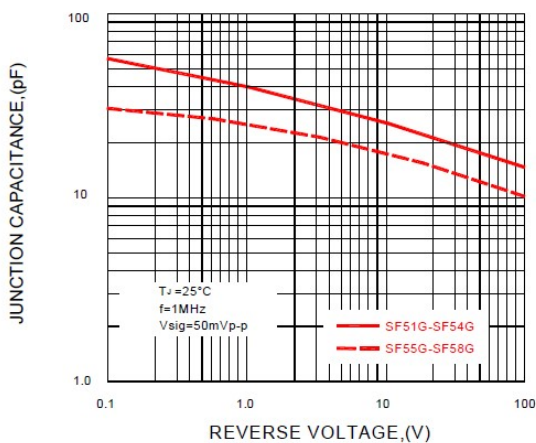
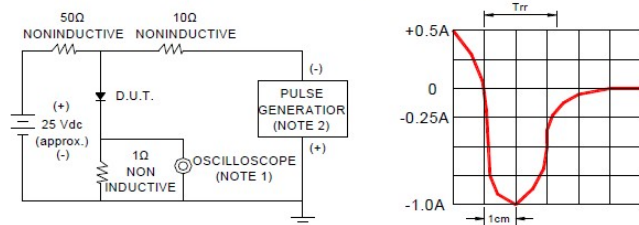
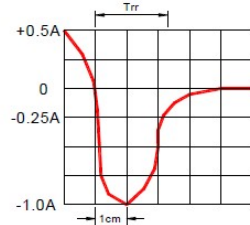


FIG. 6-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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



SET TIME BASE FOR 50/100ns/cm

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