FORWARD INTERNATIONAL ELECTRONICS LTD.

SEMICONDUCTOR
TECHNICAL DATA

SF81 THRU SF86

TECHNICAL SPECIFICATIONS OF SUPER FAST RECTIFIER

VOLTAGE RANGE - 50 to 400 Volts *CURRENT - 8.0 Amperes*

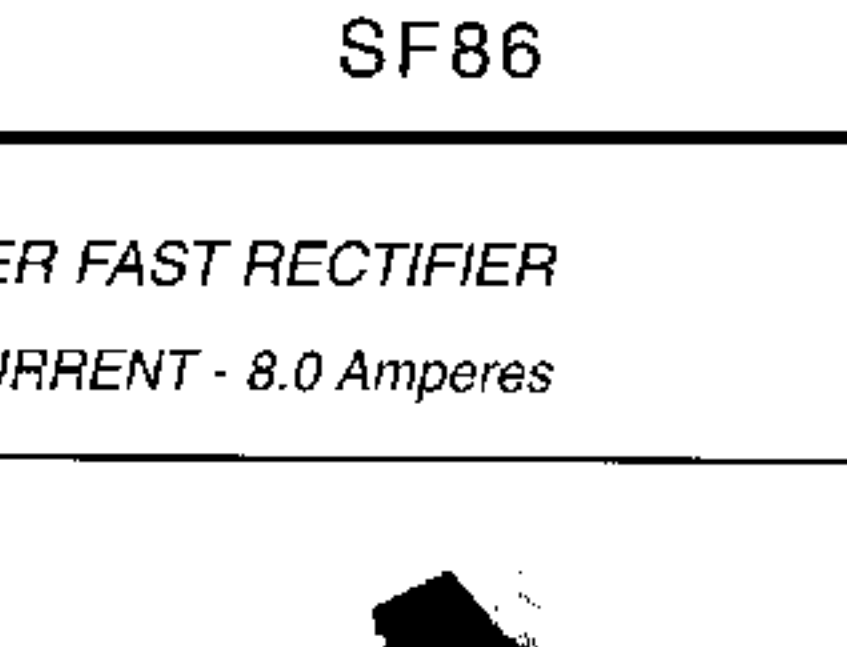
FEATURES

* Low switching noise
* Low forward voltage drop
* Low thermal resistance
* High current capability
* Super fast switching speed
* High reliability
* Good for switching mode circuit

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: MIL-STD-202E, Method 208 guaranteed
* Mounting position: Any
* Weight: 2.24 grams

TO-220A



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

	SYMBOL	SF81	SF82	SF83	SF84	SF85	SF86	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	300	400	Volts
Maximum RMS Voltage	V_{RMS}	35	70	105	140	210	280	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	Volts
Maximum Average Forward Rectified Current: at Tc = 100 °C	IO	8.0						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150						Amps
Maximum Instantaneous Forward Voltage at 8.0A DC	V_F	1.0				1.35		Volts
Maximum DC Reverse Current @Tc = 25°C	I_R	10						uAmps
at Rated DC Blocking Voltage @Tc = 100°C		500						
Maximum Reverse Recovery Time (Note 1)	trr	35				50		nSec
Typical Thermal Resistance	RθJC	3						°C/W
Typical Junction Capacitance (Note 2)	C_J	50				30		pF
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 150						°C

NOTES 1. Test Conditions: IF = 0.5A, IR = 1.0A, IRR = 0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts
3. Suffix "R" for Reverse Polarity.

RATING AND CHARACTERISTIC CURVES (SF81 THRU SF86)

FIG. 1 - TEST C RCUIT DIAGRAM AND REVERSE RECOVERY T ME CHARACTERISTIC

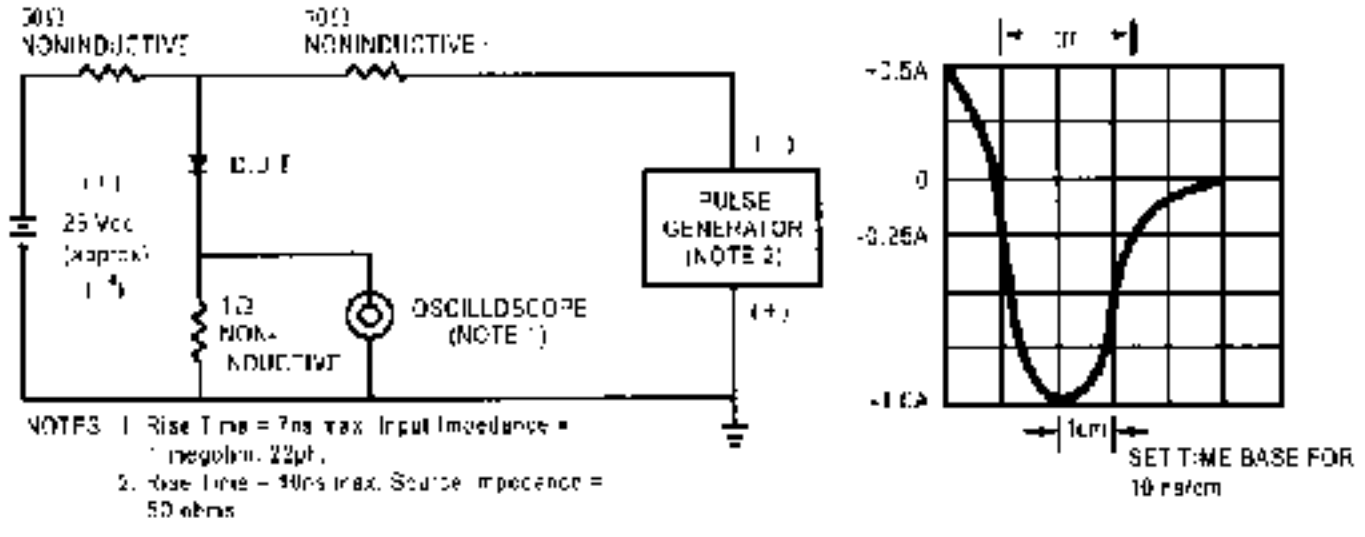


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

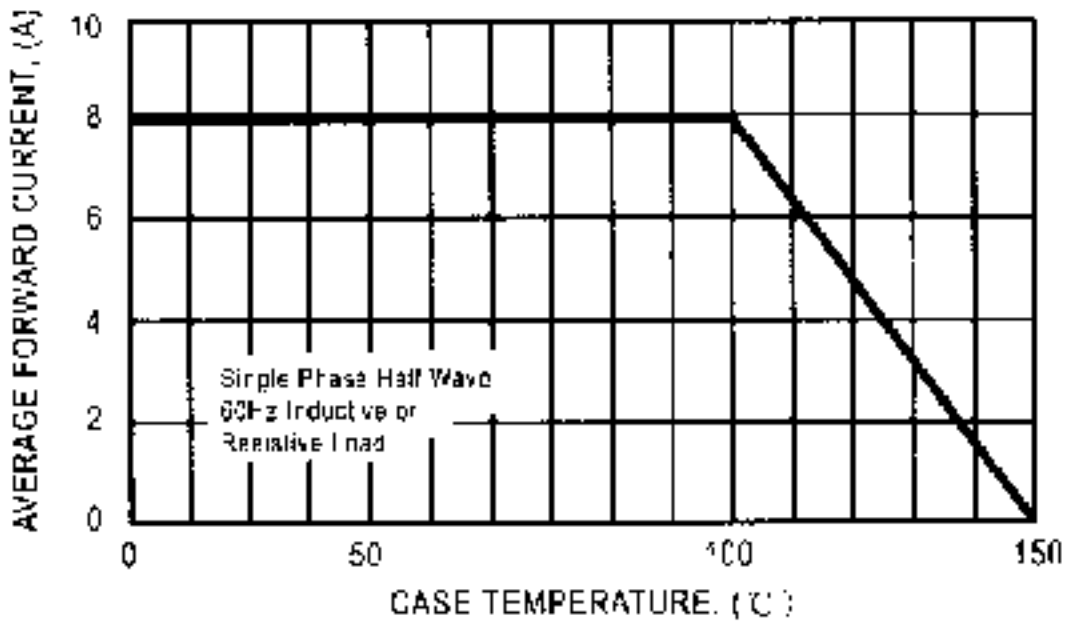


FIG 3 - TYPICAL REVERSE CHARACTERISTICS

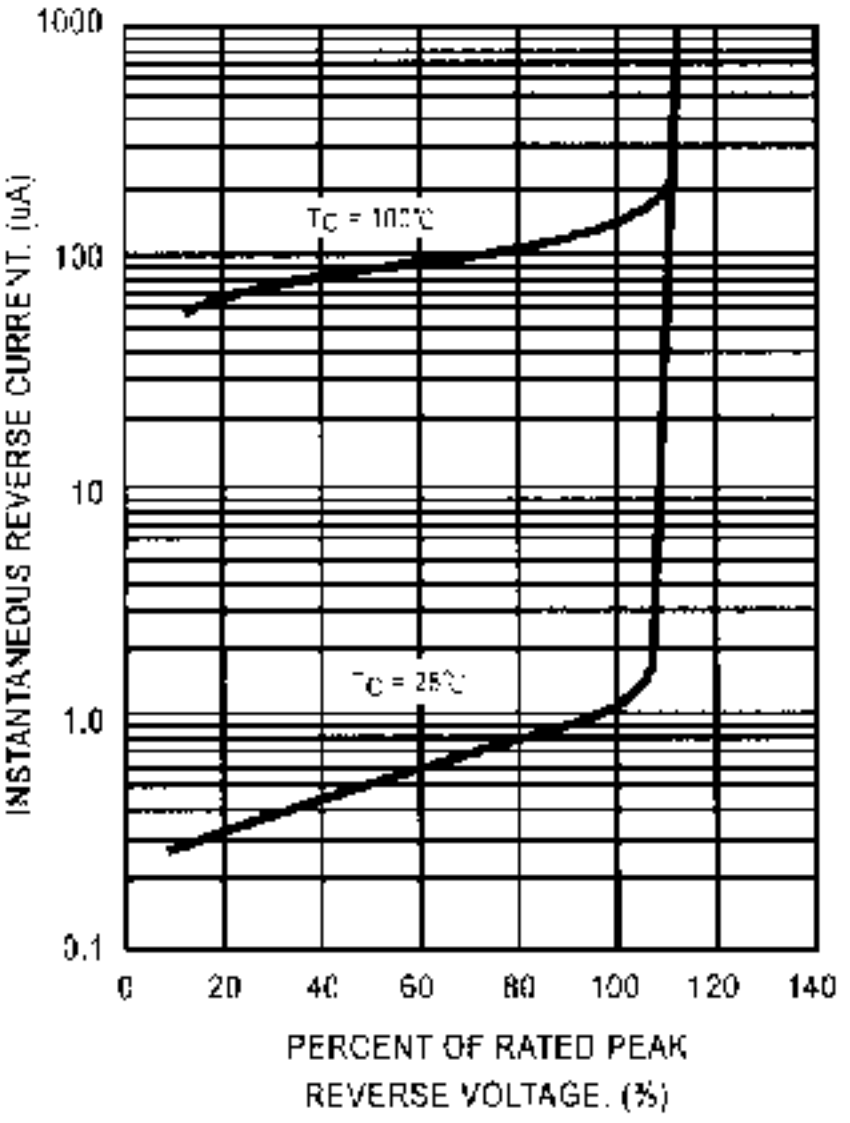


FIG.4 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

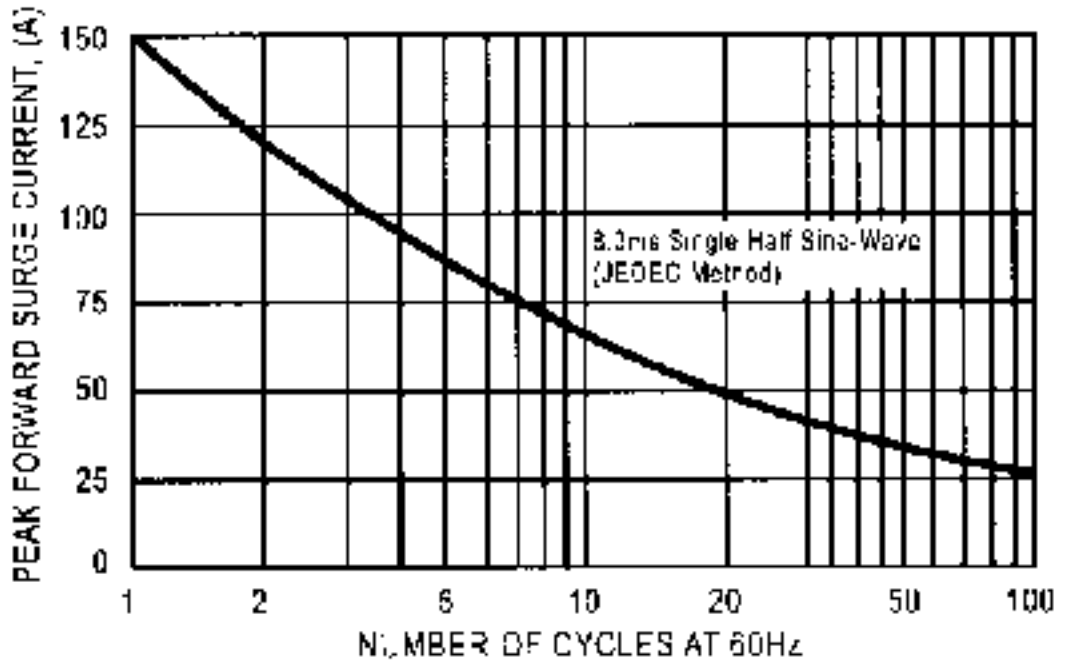


FIG.5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

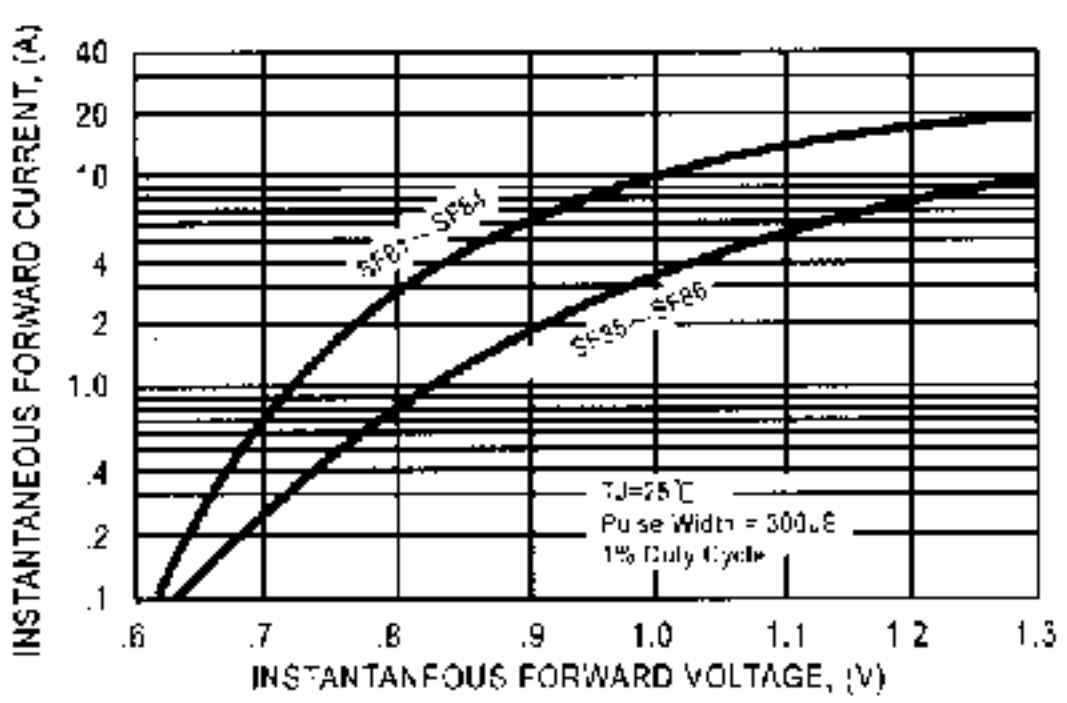


FIG.6 - TYPICAL JUNCTION CAPACITANCE