



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

12SQ030  
THRU  
12SQ100

**TECHNICAL SPECIFICATIONS OF SCHOTTKY BARRIER RECTIFIER**

**VOLTAGE RANGE - 30 to 100 Volts**

**CURRENT - 12 Amperes**

**FEATURES**

- \* Low power loss
- \* Low forward voltage
- \* High current capability
- \* High efficiency
- \* High surge capability
- \* Guard ring for transient protection
- \* For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

**MECHANICAL DATA**

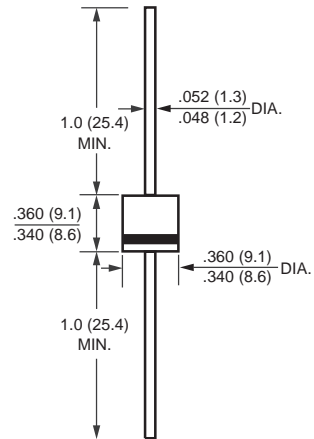
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 2.08 gram

**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%.



R-6



Dimensions in inches and (millimeters)

	SYMBOL	12SQ030	12SQ035	12SQ040	12SQ045	12SQ050	12SQ060	12SQ080	12SQ100	UNITS	
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	30	35	40	45	50	60	80	100	Volts	
Maximum RMS Voltage	V <sub>RMS</sub>	21	24.5	28	31.5	35	42	56	70	Volts	
Maximum DC Blocking Voltage	V <sub>DC</sub>	30	35	40	45	50	60	80	100	Volts	
Maximum Average Forward Rectified Current .375*(9.5mm) lead length	I <sub>D</sub>	12								Amps	
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	275								Amps	
Maximum Instantaneous Forward Voltage at 12A DC	V <sub>F</sub>	.55			.70		.80			Volts	
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> = 25°C	0.5									mAmps
	@ T <sub>A</sub> = 100°C	50									
Typical Thermal Resistance (Note 1)	R <sub>θJC</sub>	3.0									°C/W
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	450									pF
Storage and Operating Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +200									°C

NOTES : 1. Thermal Resistance Junction to case.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

# RATING AND CHARACTERISTIC CURVES (12SQ030 THRU 12SQ100)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

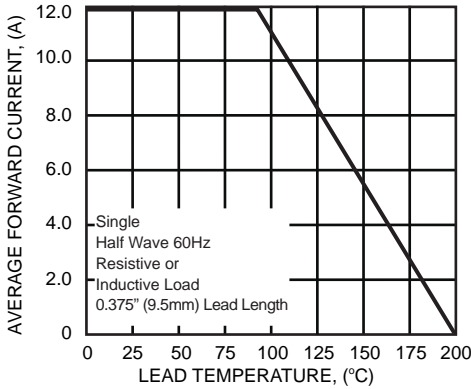


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

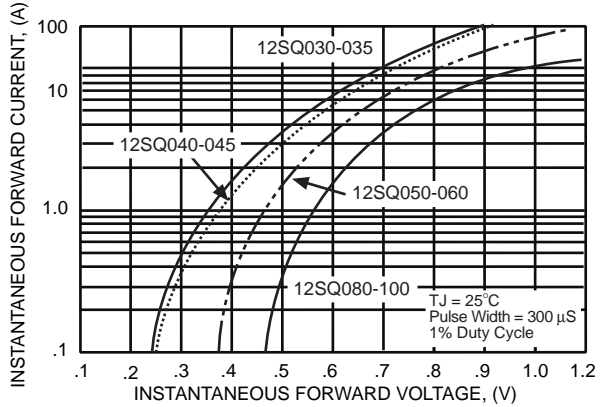


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

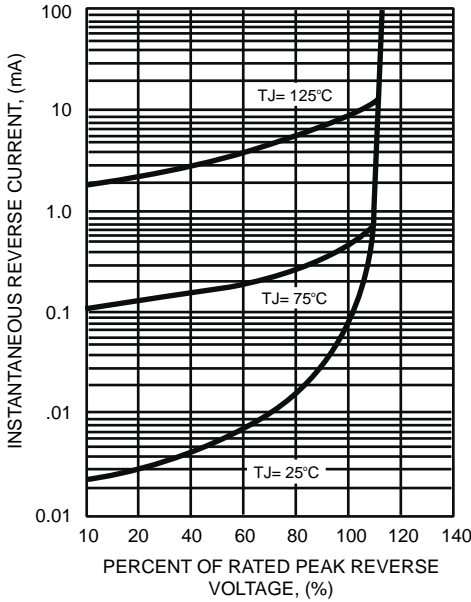


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

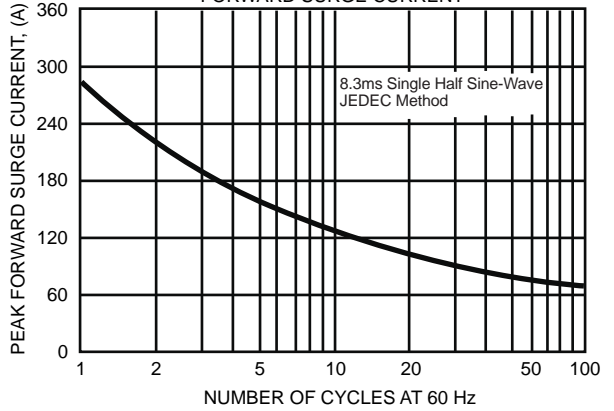


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

