



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

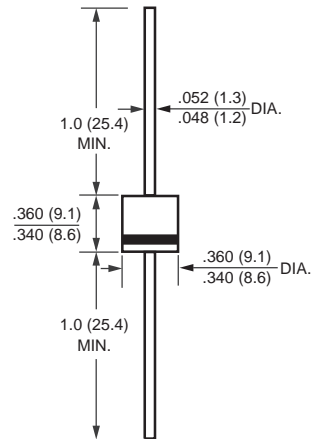
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 2.08 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 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%.



R-6



Dimensions in inches and (millimeters)

	SYMBOL	12SQ030	12SQ040	12SQ050	12SQ060	12SQ080	12SQ100	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	30	40	50	60	80	100	Volts
Maximum RMS Voltage	V _{RMS}	21	28	35	42	56	70	Volts
Maximum DC Blocking Voltage	V _{DC}	30	40	50	60	80	100	Volts
Maximum Average Forward Rectified Current .375*(9.5mm) lead length	I _o	12						Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	300						Amps
Maximum Instantaneous Forward Voltage at 12A DC	V _F	0.55		0.7		0.8		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T _A = 25°C	0.5						mAmps
	@ T _A = 100°C	50						
Typical Thermal Resistance (Note 1)	R _{θJC}	3.0						°C/W
Typical Junction Capacitance (Note 2)	C _J	450						pF
Storage and Operating Temperature Range	T _J , T _{STG}	-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

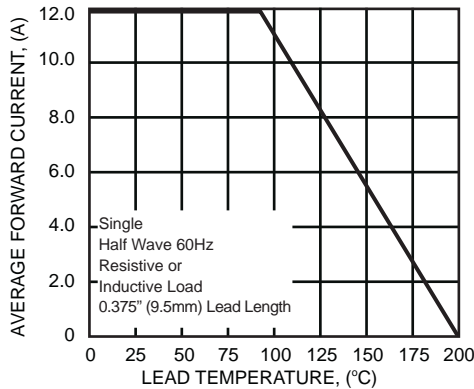


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

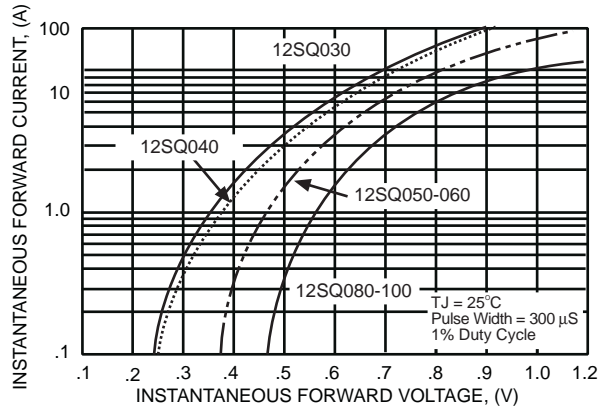


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

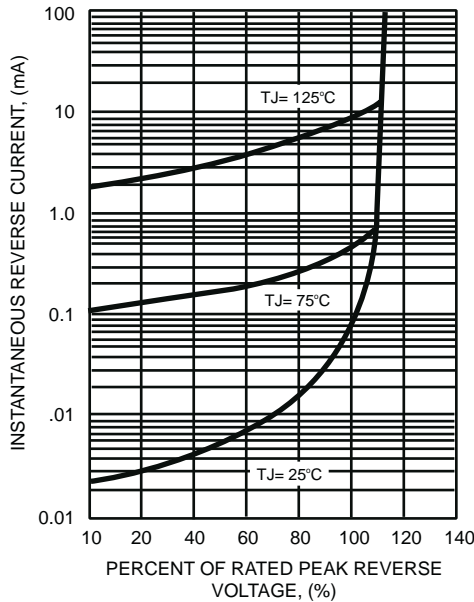


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

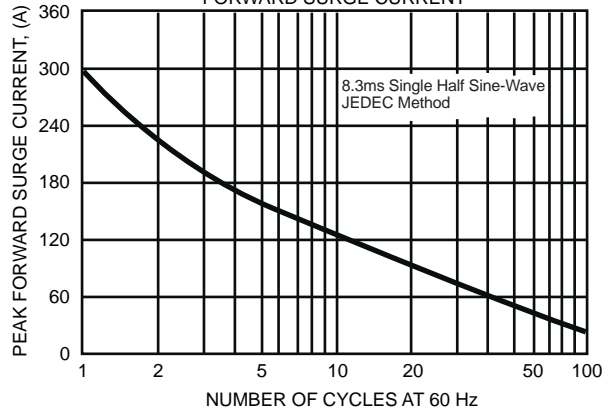
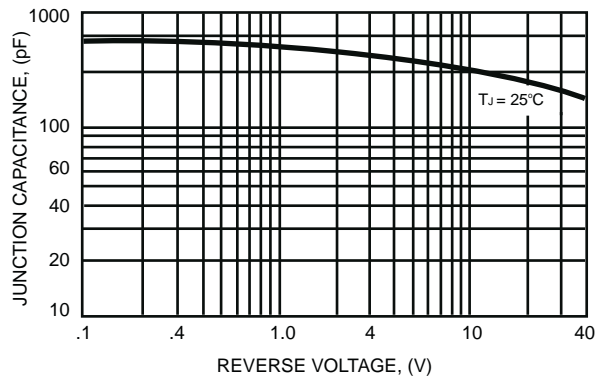


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



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