



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

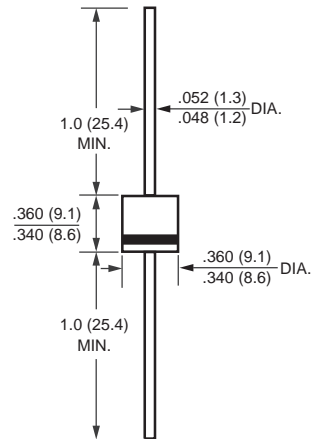
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: MIL-STD-202E, Method 208 guaranteed
- * Polarity: Color band denotes cathode end
- * Mounting position: Any
- * Weight: 2.08 gram

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

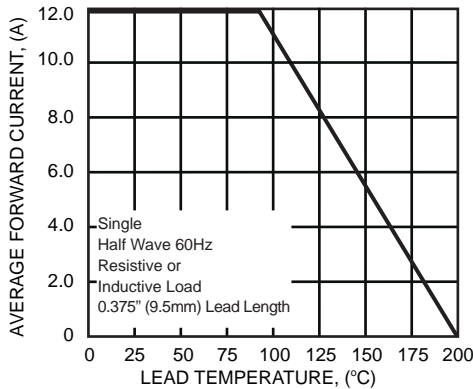


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

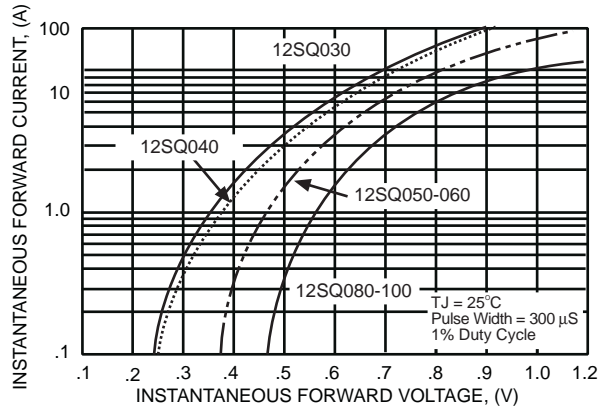


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

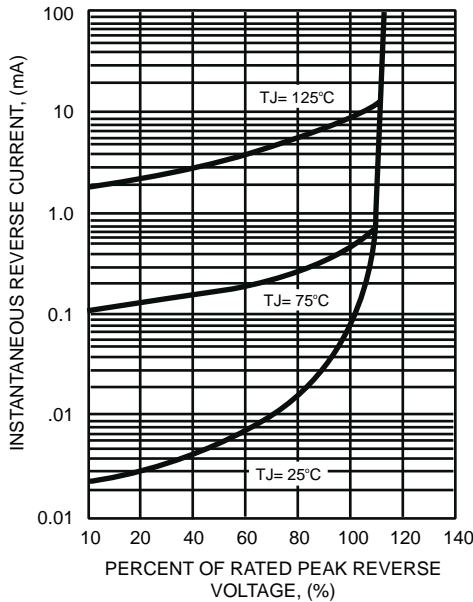


FIG. 4 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

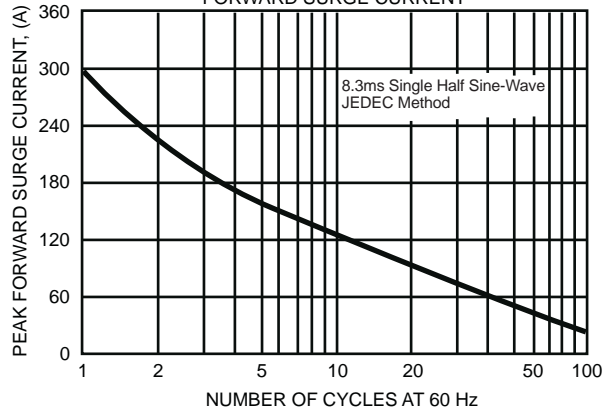
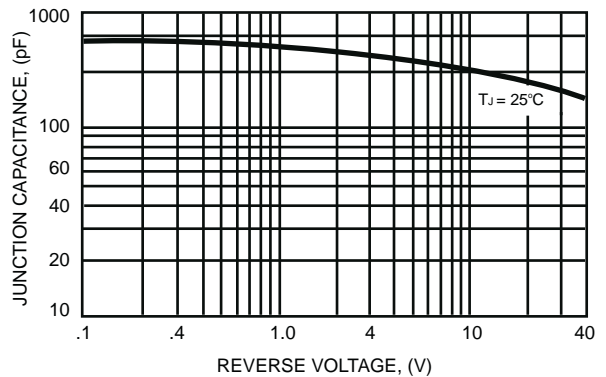


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



Disclaimer

Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold *DC COMPONENTS* harmless against all damages.

DC COMPONENTS disclaims any and all liability arising out of the application or use of any product, including consequential or incidental damages. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

DC COMPONENTS reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein, and disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Unless otherwise in writing, *DC COMPONENTS* products are intended for use as general electronic components in standard applications (eg: Consumer electronic, Computer equipment, Office equipment, etc.), and not recommended for use in a high specific application where a failure or malfunction of the device could result in human injury or death (eg: Aerospace equipment, Submarine cables, Combustion equipment, Safety devices, Life support systems, etc.)

Customers using or selling *DC COMPONENTS* products not expressly indicated for use in such applications do so at their own risk. If customer intended to use *DC COMPONENTS* standard quality grade devices for applications not envisioned by *DC COMPONENTS*, please contact our sales representatives in advance.



DC COMPONENTS CO., LTD.