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**DC COMPONENTS CO., LTD.**  
RECTIFIER SPECIALISTS

**BY251  
THRU  
BY255**

**TECHNICAL SPECIFICATIONS OF GENERAL PURPOSE SILICON RECTIFIER**  
**VOLTAGE RANGE - 50 to 1000 Volts**      **CURRENT - 3.0 Amperes**

**FEATURES**

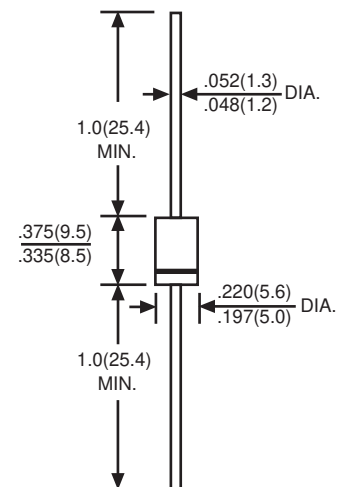
- \* Low cost
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 1.18 gram approx.



DO-27



Dimensions in inches and (millimeters)

**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%.

	SYMBOL	BY251	BY252	BY253	BY254	BY255	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	200	400	600	800	1300	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	140	280	420	560	910	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	200	400	600	800	1300	Volts
Maximum Average Forward Rectified Current 375"(9.5mm) lead length at T <sub>A</sub> = 75°C	I <sub>O</sub>	3.0					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	200					Amps
Maximum Instantaneous Forward Voltage at 3.0A DC	V <sub>F</sub>	1.1					Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> =25°C	5.0					μAmps
	@ T <sub>A</sub> =100°C	500					
Maximum Full Load Reverse Current Average, Full Cycle .375"(9.5mm) lead length at T <sub>L</sub> = 55°C	I <sub>R</sub>	30					
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	40					pF
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	30					°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150					°C

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.

Note 2: Typical thermal resistance from junction to ambient.

# RATING AND CHARACTERISTIC CURVES (BY251 THRU BY255)

FIG. 1  
TYPICAL FORWARD CURRENT  
DERATING CURVE

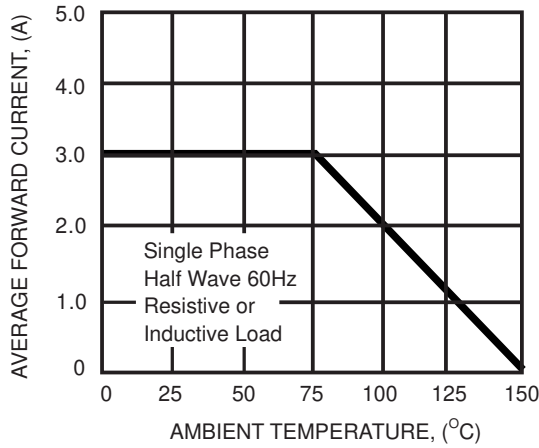


FIG. 2  
MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

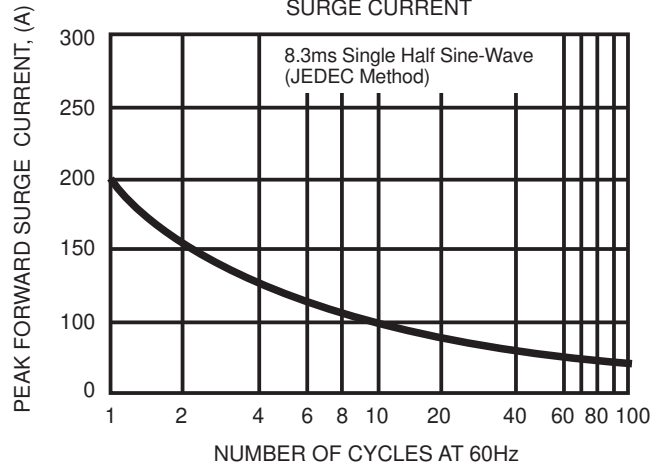


FIG. 3  
TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

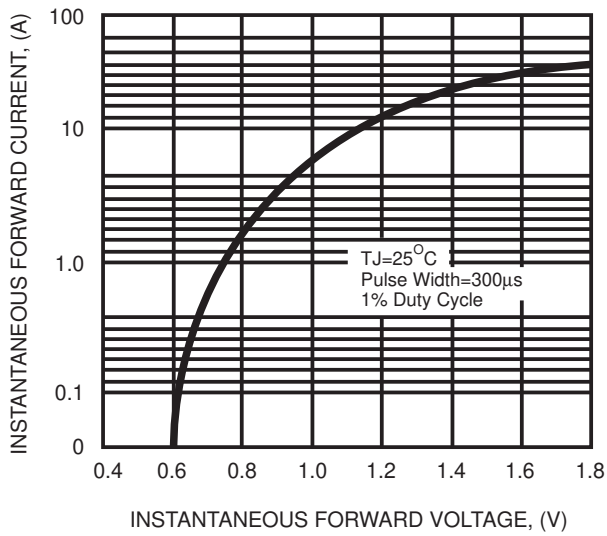


FIG. 4  
TYPICAL REVERSE CHARACTERISTICS

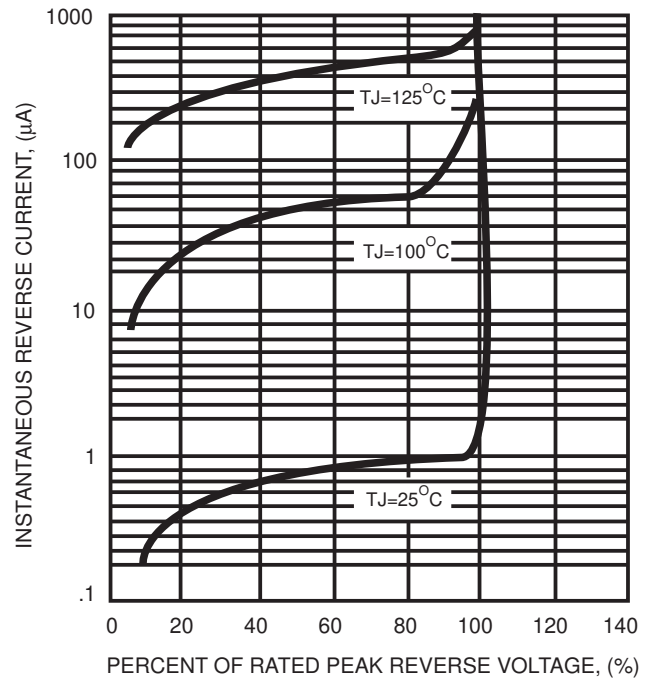
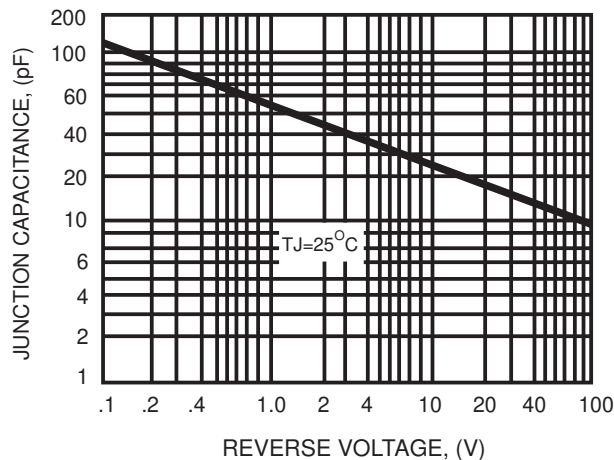


FIG. 5  
TYPICAL JUNCTION CAPACITANCE



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