

**GLASS PASSIVATED SILICON RECTIFIER**

**VOLTAGE RANGE 50 to 1000 Volts CURRENT 8.0 Amperes**

**FEATURES**

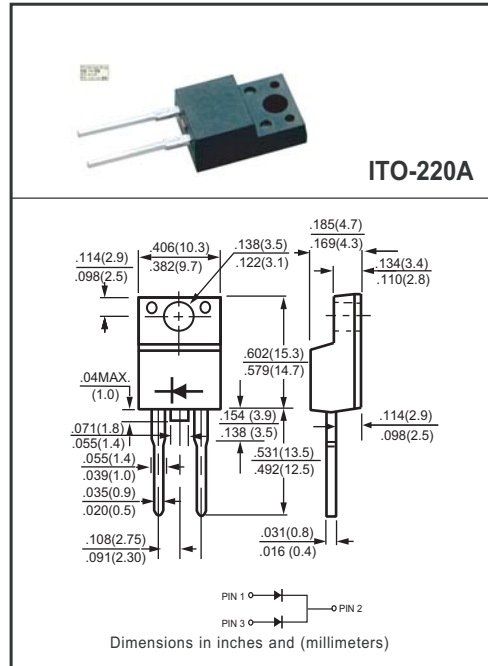
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* High surge capability
- \* High reliability

**MECHANICAL DATA**

- \* Case: ITO-220A molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any

**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%.



**MAXIMUM RATINGS (@ TA=25 °C unless otherwise noted)**

RATINGS	SYMBOL	IRL801	IRL802	IRL803	IRL804	IRL805	IRL806	IRL807	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T <sub>C</sub> = 100 °C	I <sub>O</sub>	8.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	125							Amps
Typical Current Squared Time	I <sup>2</sup> t	64.8							A <sup>2</sup> S
Typical Thermal Resistance (Note 1)	R <sub>θJC</sub>	3.6							°C/W
	R <sub>θJA</sub>	25							
Typical Junction Capacitance (Note 2)	C <sub>J</sub>	40							pF
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to + 150							°C

**ELECTRICAL CHARACTERISTICS (@TA=25 °C unless otherwise noted)**

CHARACTERISTICS	SYMBOL	IRL801	IRL802	IRL803	IRL804	IRL805	IRL806	IRL807	UNITS
Maximum Instantaneous Forward Voltage at 8.0A DC	V <sub>F</sub>	1.0							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T <sub>A</sub> = 25°C	1.0							uAmps
	@T <sub>A</sub> = 100°C	50							

- NOTES : 1. Thermal Resistance : Heat-sink case mounted or if PCB mounted.  
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.  
3. "Fully ROHS compliant", "100% Sn plating (Pb-free)".  
4. Suffix "R" for Reverse Polarity.  
5. Suffix "S" for D2-PAK Pkg.  
6. Available in Halogen-free epoxy by adding suffix -HF after the part nbr.

## RATING AND CHARACTERISTICS CURVES ( IRL801 THRU IRL807 )

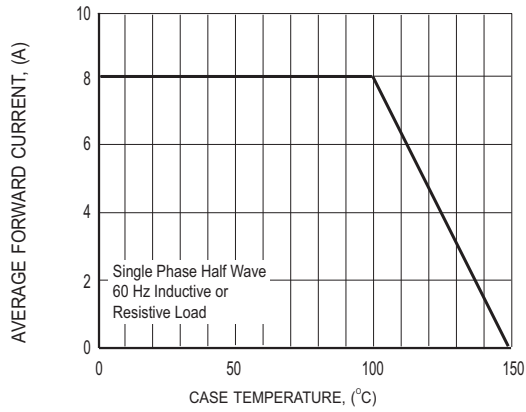


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

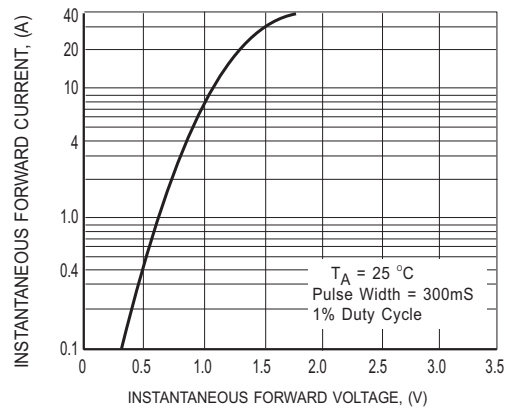


FIG.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

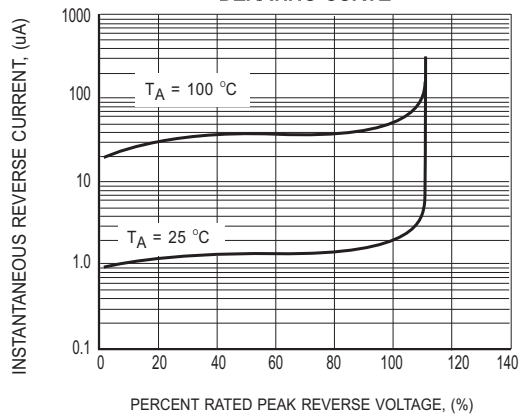


FIG.3 TYPICAL REVERSE CHARACTERISTICS

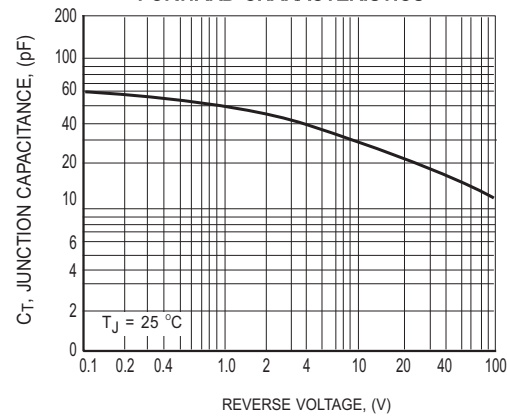


FIG.4 TYPICAL JUNCTION CAPACITANCE

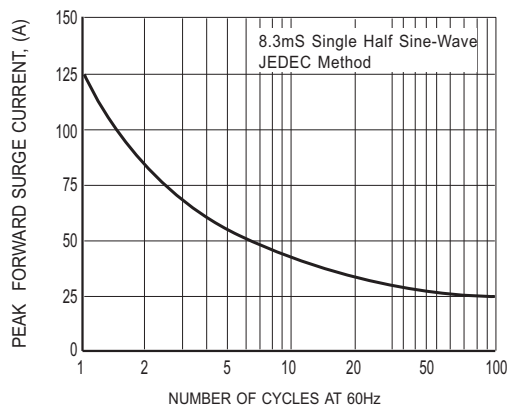


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

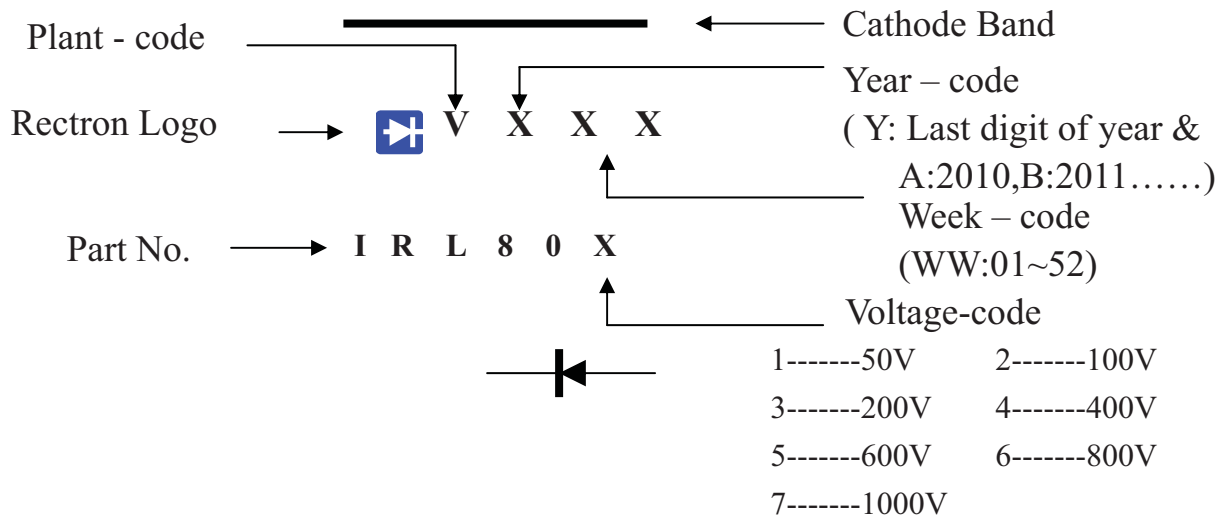


## Attachment information about IRL80X

### 1. Internal Circuit



### 2. Marking on the body



# PACKAGING OF DIODE AND BRIDGE RECTIFIERS

## TUBE PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	WEIGHT(Kg)
(I)TO-220/TO-220(A)	-C	2,000	550*140*92	572*308*120	4,000	11.80

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