RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

IRL1601C THRU IRL1606C

GLASS PASSIVATED SILICON RECTIFIER

VOLTAGE RANGE 50 to 800 Volts CURRENT 16 Amperes

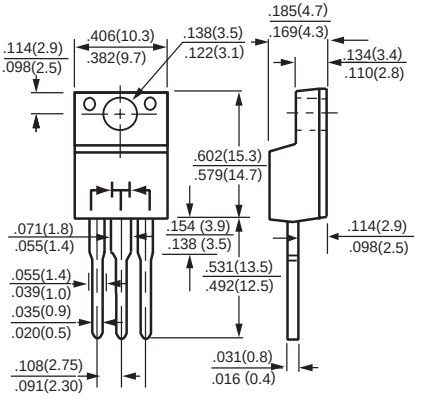
FEATURES

* Low power loss, high efficiency
* Low forward voltage drop
* Low thermal resistance
* High current capability
* High surge capability
* High reliability

MECHANICAL DATA

* Case: ITO-220 molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 2.24 grams
* Polarity: As marked

ITO-220



Dimensions in inches and (millimeters)

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 (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	IRL1601C	IRL1602C	IRL1603C	IRL1604C	IRL1605C	IRL1606C	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	Volts
Maximum Average Forward Rectified Current T_C = 100°C (Note 1)	I_O	16.0						Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	200						Amps
Typical Thermal Resistance	$R_{\theta JC}$	3.0						°C/W
Typical Junction Capacitance (Note 2)	C_J	40						pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150						°C

ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	IRL1601C	IRL1602C	IRL1603C	IRL1604C	IRL1605C	IRL1606C	UNITS
Maximum Instantaneous Forward Voltage at 8.0A DC		V_F	1.1						Volts
Maximum DC Reverse Current	@T_C = 25°C	I_R	10						uAmps
at Rated DC Blocking Voltage	@T_C = 100°C		100						

NOTES : 1.Case Temperature Measured at Metal Tab.
2.Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3.Suffix " A " = Common Anode.

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RATING AND CHARACTERISTIC CURVES (IRL1601C THRU IRL1606C)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

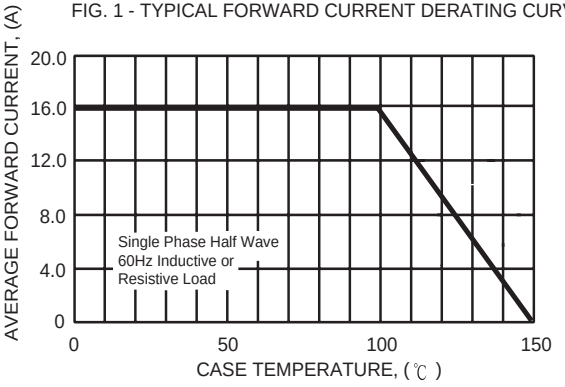

FIG. 2 - TYPICAL REVERSE CHARACTERISTICS

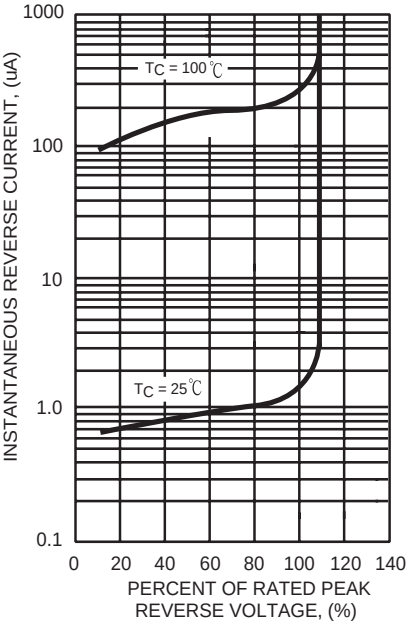

FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

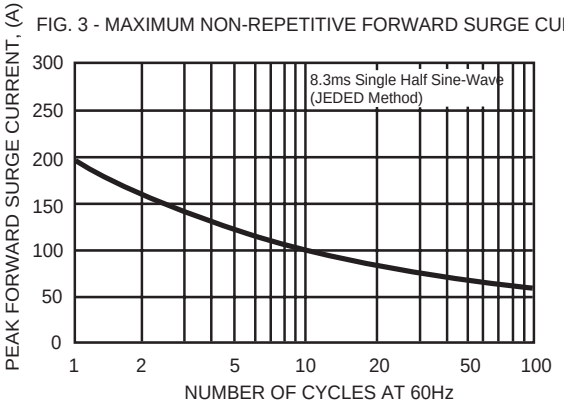

FIG. 4 - TYPICAL JUNCTION CAPACITANCE

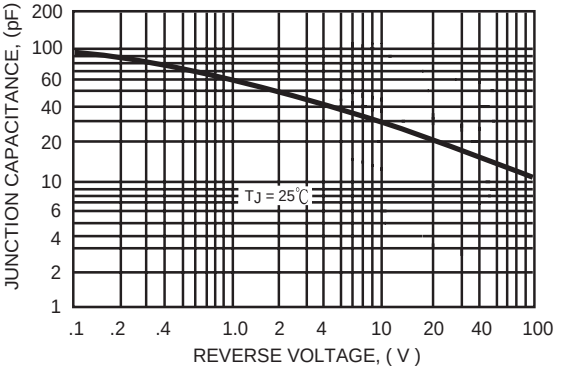
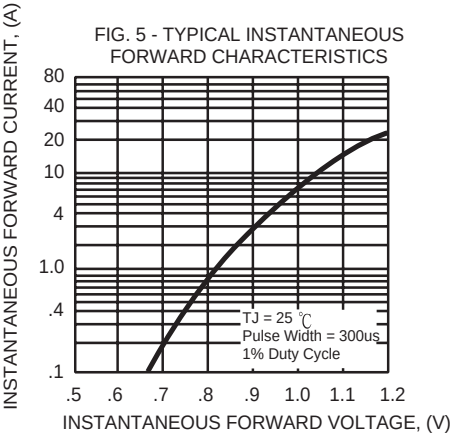
FIG. 5 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS