SYC SEMICONDUCTORES Y COMPONENTES

6A05 THRU 6A10

SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 6.0 Amperes

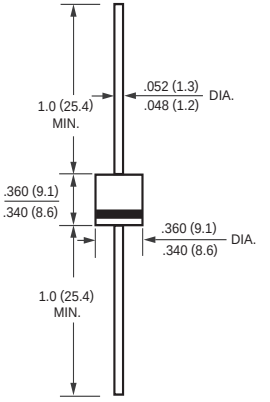
FEATURES

* Low cost
* Low leakage
* Low forward voltage drop
* High current capability
* High surge current capability

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: Device has UL flammability classification 94V-O
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 2.08 grams

R-6



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	6A05	6A1	6A2	6A4	6A6	6A8	6A10	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T_A = 60°C	I_O	6.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	400							Amps
Typical Junction Capacitance (Note)	C_J	150							pF
Typical Thermal Resistance	$R_{\theta JA}$	10							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 175							°C

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

CHARACTERISTICS		SYMBOL	6A05	6A1	6A2	6A4	6A6	6A8	6A10	UNITS
Maximum Instantaneous Forward Voltage at 6.0A DC		V_F	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	10							uAmps
	@T_A = 100°C		100							
Maximum Full Load Reverse Current Average Full Cycle .375" (9.5mm) lead length at T_L = 75°C			50							uAmps

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

RATING AND CHARACTERISTIC CURVES (6A05 THRU 6A10)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

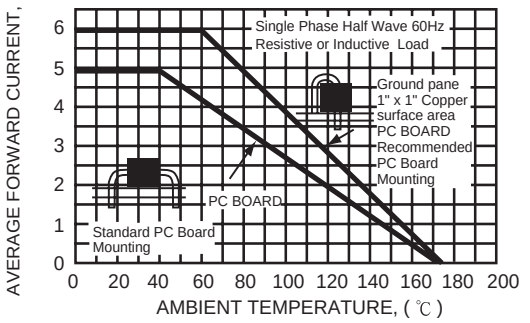


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

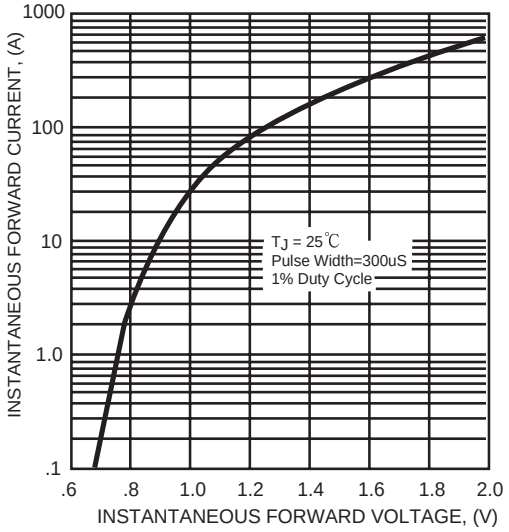


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

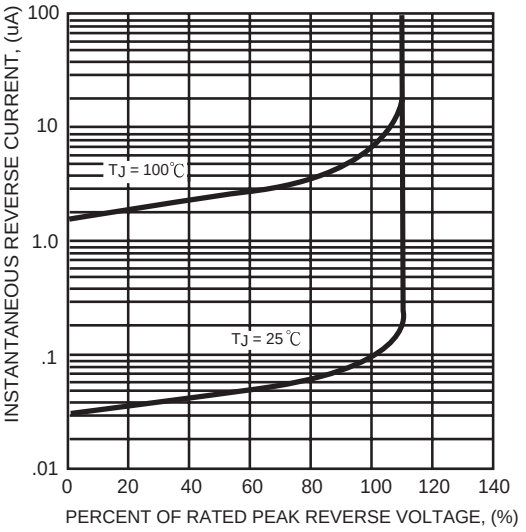


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

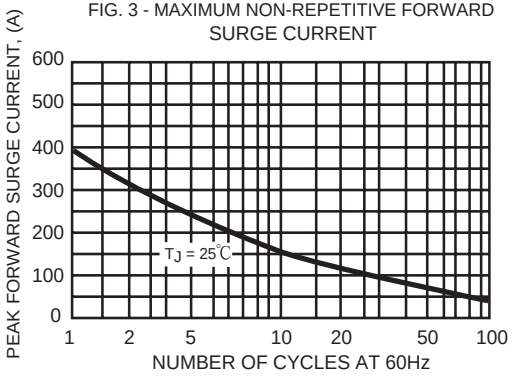
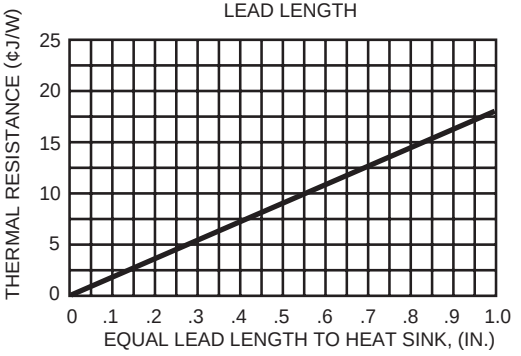



FIG. 5 - TYPICAL THERMAL RESISTANCE VS LEAD LENGTH