WILLAS

1S20 THRU 1S60

SCHOTTKY BARRIER RECTIFIER

VOLTAGE RANGE 20 to 60 Volts CURRENT 1.0 Ampere

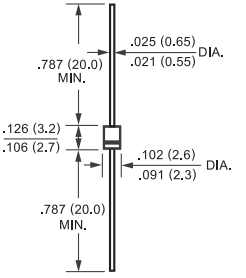
FEATURES

* Low power loss, high efficiency
* Low leakage
* Low forward voltage
* High current capability
* High speed switching
* High surge capabitity
* High reliability

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-O rate flame retardant
* Lead: MIL-STD-202E method 208C guaranteed
* Mounting position: Any
* Weight: 0.12 gram

R-1



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	1S20	1S30	1S40	1S50	1S60	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	Volts
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	Volts
Maximum Average Forward Rectified Current .375" (9.5mm) lead length	I_O	1.0					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	20					Amps
Typical Thermal Resistance (Note 1)	$R\theta_{JA}$	50					°C/W
Typical Junction Capacitance (Note 2)	C_J	110					pF
Operating Temperature Range	T_J	-65 to + 125			-65 to + 150		°C
Storage Temperature Range	T_{STG}	-65 to + 150					°C

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

CHARACTERISTICS		SYMBOL	1S20	1S30	1S40	1S50	1S60	UNITS
Maximum Instantaneous Forward Voltage at 1.0A DC		V_F	.55			.65		Volts
Maximum Average Reverse Current	@T_A = 25°C	I_R	0.5					mAmps
at Rated DC Blocking Voltage	@T_A = 100°C		10					mAmps

NOTES : 1. Thermal Resistance (Junction to Ambient): Vertical PC Board Mounting, 0.5" (12.7mm) Lead Length.
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES (1S20 THRU 1S60)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

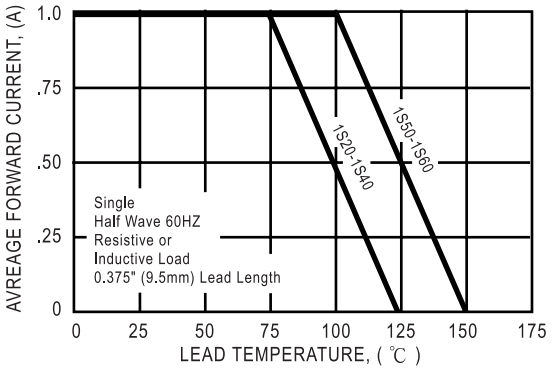


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARCTERISTICS

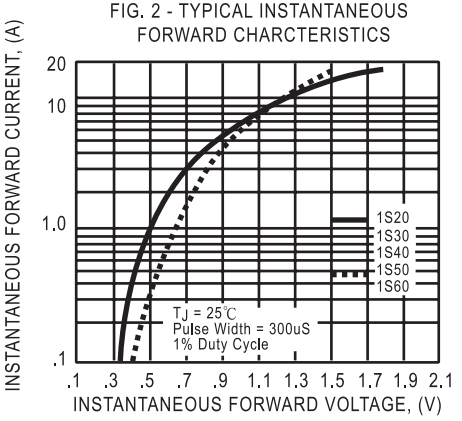


FIG. 3A - TYPICAL REVERSE CHARACTERISTICS

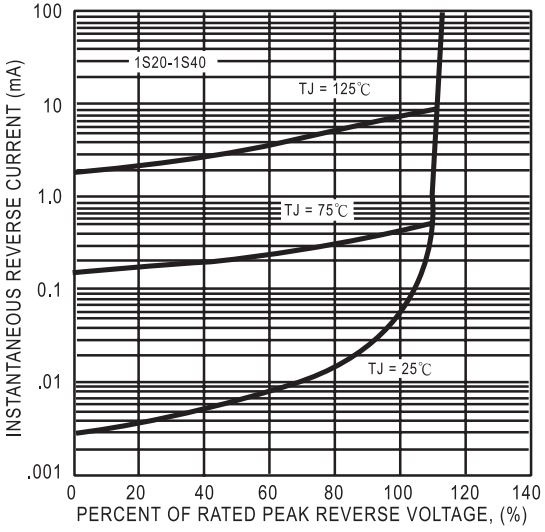


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

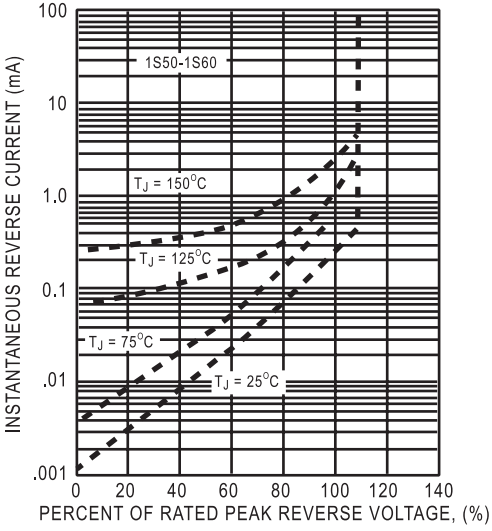


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

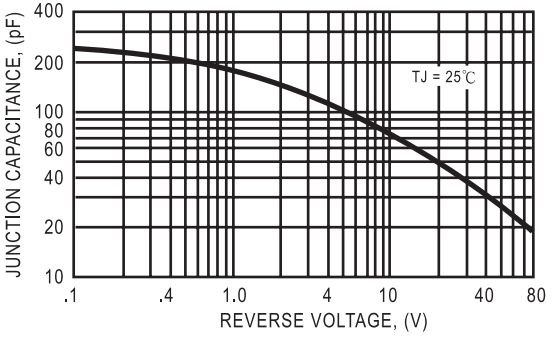


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT