RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

W005M THRU W10M

SINGLE-PHASE GLASS PASSIVATED SILICON BRIDGE RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts   CURRENT 1.5 Amperes

FEATURES
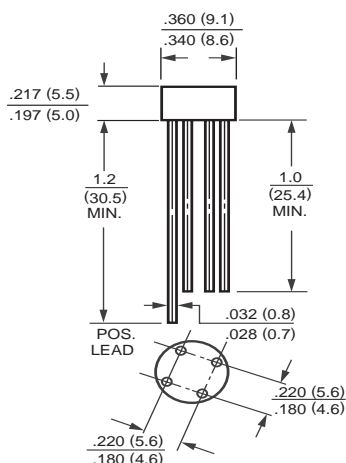* High reverse voltage to 1000V
* Surge overload ratings to 50 amperes peak
* Good for printed circuit board assembly
* Mounting position: Any
* Weight: 1.20 grams

MECHANICAL DATA
* UL listed the recognized component directory, file #E94233
* Epoxy: Device has UL flammability classification 94V-O

WOM

.360 (9.1)
.340 (8.6)

.217 (5.5)
.197 (5.0)

1.2 (30.5) MIN.

1.0 (25.4) MIN.

.032 (0.8)
.028 (0.7)

POS. LEAD

.220 (5.6)
.180 (4.6)

.220 (5.6)
.180 (4.6)

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25 ^{o}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	W005M	W01M	W02M	W04M	W06M	W08M	W10M	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input 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 Output Current at T_A = 25°C	I_O	1.5							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	50							Amps
Typical Thermal Resistance	$R\theta_{JA}$	40							^{o}C/W
	$R\theta_{JC}$	22							
Operating Temperature Range	T_J	-55 to + 150							^{o}C
Storage Temperature Range	T_{STG}	-55 to + 150							^{o}C

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

CHARACTERISTICS		SYMBOL	W005M	W01M	W02M	W04M	W06M	W08M	W10M	UNITS
Maximum Forward Voltage Drop per element at 1.0A DC		V_F	1.0							Volts
Maximum Reverse Current at Rated	@T_A = 25°C	I_R	5.0							uAmps
DC Blocking Voltage per element	@T_A = 100°C		1							mAmps

Note: "Fully ROHS compliant", "100% Sn plating (Pb-free)".

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REV: A

RATING AND CHARACTERISTIC CURVES (W005M THRU W10M)

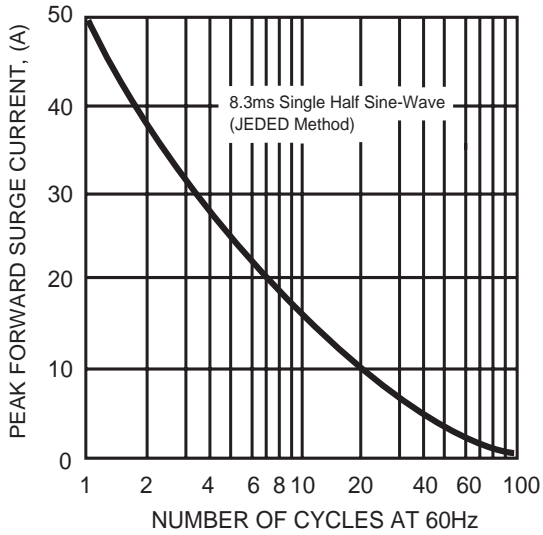### FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave (JEDED Method)

X-axis: NUMBER OF CYCLES AT 60Hz
Y-axis: PEAK FORWARD SURGE CURRENT, (A)

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

60 Hz RESISTIVE OR INDUCTIVE LOAD

X-axis: AMBIENT TEMPERATURE, (℃)
Y-axis: AVERAGE FORWARD CURRENT, (A)
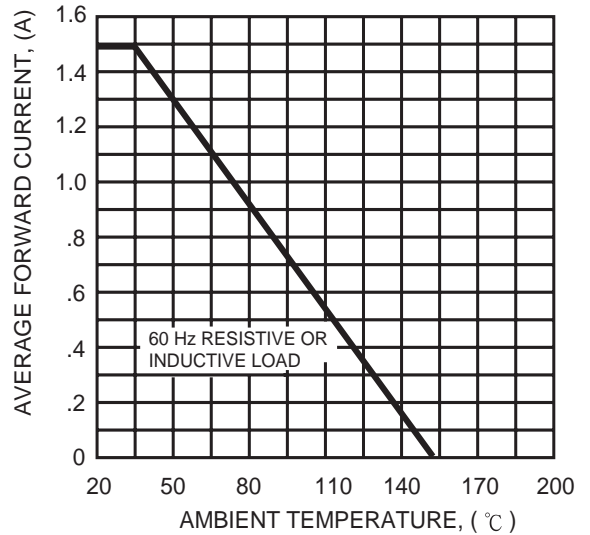
FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

$T_J = 25℃$
Pulse Width = 300us
1% Duty Cycle

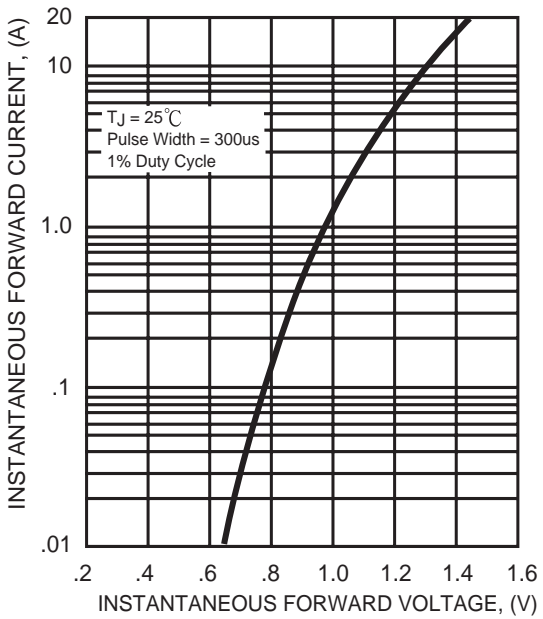X-axis: INSTANTANEOUS FORWARD VOLTAGE, (V)
Y-axis: INSTANTANEOUS FORWARD CURRENT, (A)

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

$T_J = 25℃$

X-axis: PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)
Y-axis: INSTANTANEOUS REVERSE CURRENT, (uA)

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