

**SILICON RECTIFIER**

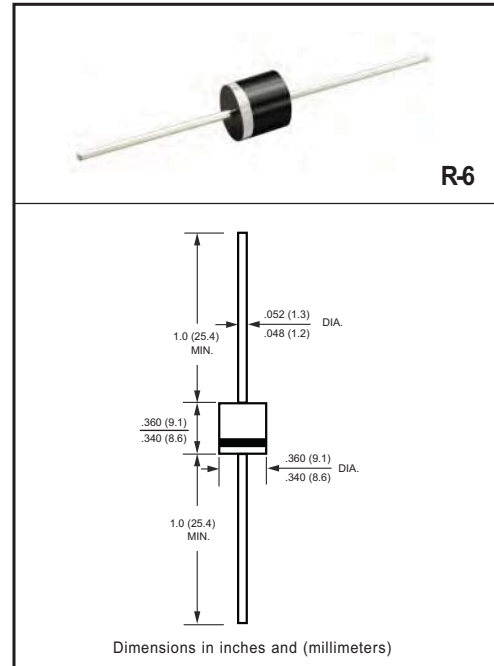
**VOLTAGE RANGE 1000 Volts CURRENT 6.0 Amperes**

**FEATURES**

- \* High surge current capability
- \* Low leakage
- \* Low forward voltage drop
- \* High current capability
- \* Low lost
- \* P/N suffix V means AEC-Q101 qualified, e.g:6A05V
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

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



**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	6A05V	6A1V	6A2V	6A4V	6A6V	6A8V	6A10V	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>				1000				Volts
Maximum RMS Voltage	V <sub>RMS</sub>				700				Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>				1000				Volts
Maximum Average Forward Rectified Current at TA = 50°C	I <sub>O</sub>				6.0				Amps
Peak Forward Surge Current IFM(surge): 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>				400				Amps
Current Squared Time	I <sup>2</sup> t				663.7				A <sup>2</sup> Sec
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>				10				°C/W
Typical Junction Capacitance (Note 1)	C <sub>J</sub>				150				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	6A05V	6A1V	6A2V	6A4V	6A6V	6A8V	6A10V	UNITS
Maximum Forward Voltage at 6.0A DC	V <sub>F</sub>				1.0				Volts
Maximum DC Average Reverse Current at Rated DC Blocking Voltage	@T <sub>A</sub> = 25°C				0.3				uAmps
	@T <sub>A</sub> = 150°C				1.5				mAmps

NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
2. Thermal Resistance: At 9.5mm lead lengths,PCB mounted.

2020-11  
REV:0

## RATING AND CHARACTERISTICS CURVES ( 6A05V THRU 6A10V )

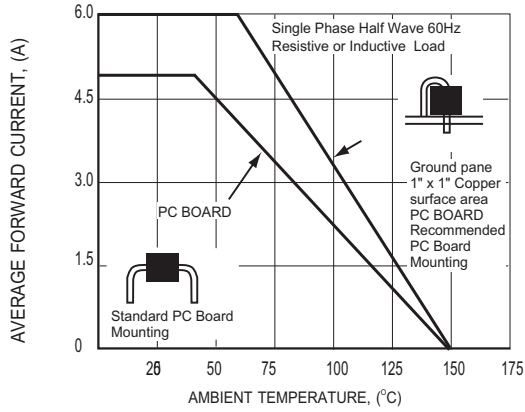


FIG.1 TYPICAL FORWARD CURRENT DERATING CURVE

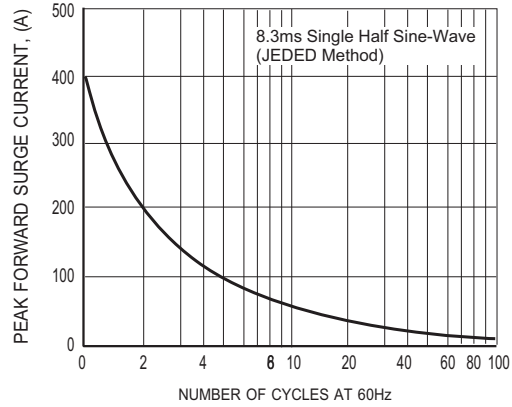


FIG.2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

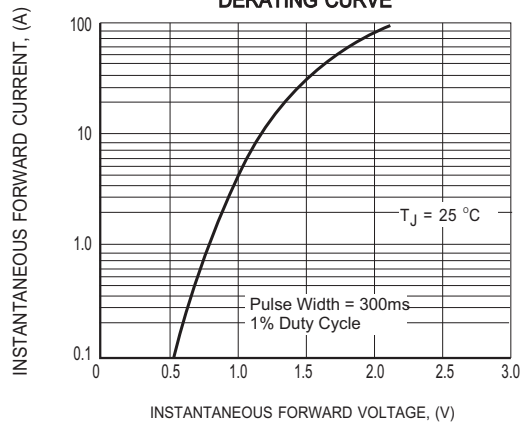


FIG.3 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

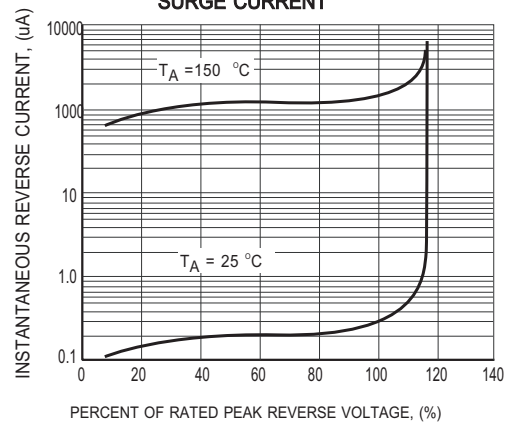


FIG.4 MAXIMUM REVERSE CHARACTERISTICS

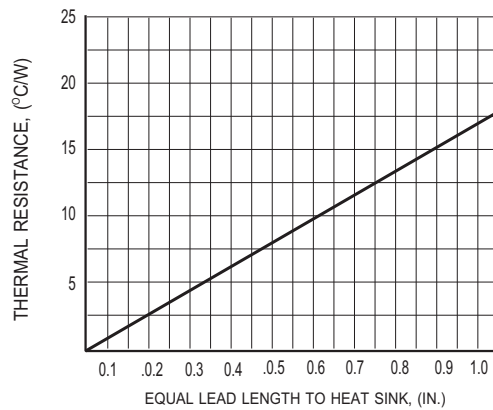
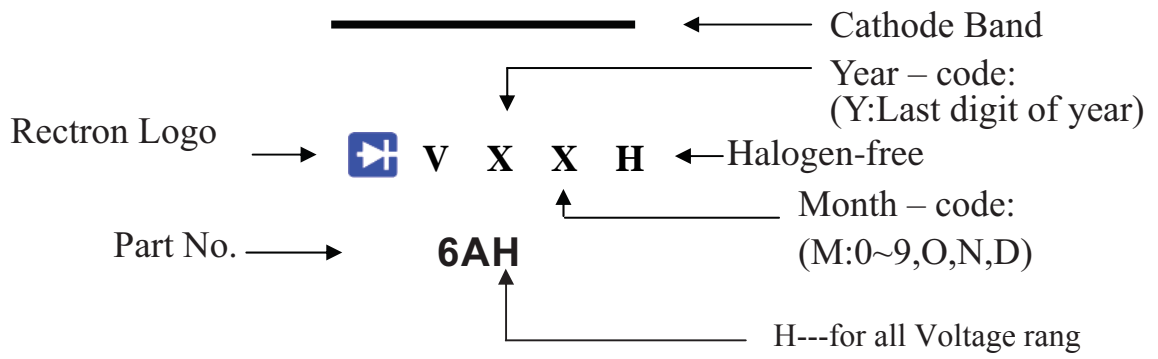


FIG.5 TYPICAL THERMAL RESISTANCE vs. LEAD LENGTH

## Marking Description



# AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below.

COMPONENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B		CUMULATIVE PITCH TOLERANCE
	$\pm 0.5\text{mm} (.020")$	$\pm 0.5\text{mm} (.020")$	$\pm 1.5\text{mm} (.059")$	
T-1	5.0mm	26.0mm		2.0mm/20pitch
R-1	5.0mm	26.0mm		2.0mm/20pitch
R-1	5.0mm		52.4mm	2.0mm/20pitch
A-405	5.0mm	26.0mm		2.0mm/20pitch
A-405	5.0mm		52.4mm	2.0mm/20pitch
DO-41	5.0mm	26.0mm		2.0mm/20pitch
DO-41	5.0mm		52.4mm	2.0mm/10pitch
DO-15	5.0mm		52.4mm	2.0mm/10pitch
R-3	5.0mm		52.4mm	2.0mm/10pitch
DO-201AD	10.0mm		52.4mm	2.0mm/10pitch
R-6	10.0mm		52.4mm	2.0mm/10pitch
1.5KE	10.0mm		52.4mm	2.0mm/10pitch

Note: -E for 26mm inner tape pitch  
-F & -T for 52mm inner tape pitch

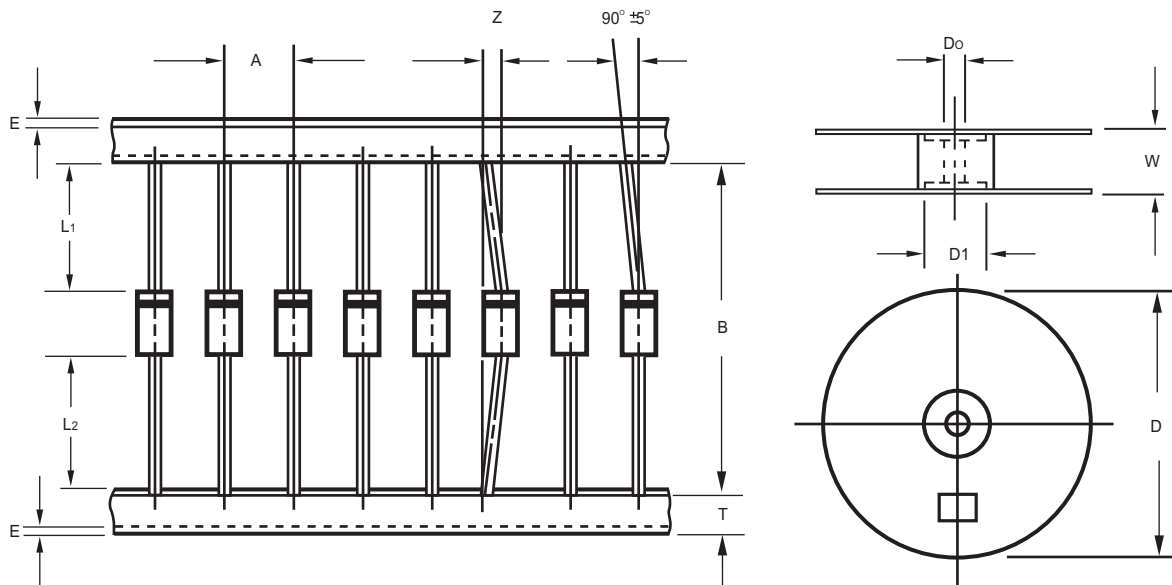


Fig.: Configuration of AXIAL LEAD TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component alignment	Z	1.2 Max.	0.048 Max.
Tape width	T	$6.0 \pm 0.4$	$0.236 \pm 0.016$
Exposed adhesive	E	0.8 Max.	0.032 Max.
Body eccentricity	$ L1-L2 $	1.0 Max.	0.040 Max.
Reel outside diameter	D	330.0	13.0
Reel inner diameter	D1	$85.7 \pm 0.3$	$3.375 \pm 0.012$
Feed hole diameter	Do	$30.5 \pm 0.4$	$1.201 \pm 0.016$
Reel width	W	$79.0 \pm 1.0$	$3.110 \pm 0.040$

Notes : 1. Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126").  
2. The reel width "W" for 26mm taping is  $50.0 \pm 1.0\text{mm} (1.97" \pm 0.040")$ .

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### BULK PACK

PACKAGE	PACKING CODE	EA PER BOX	INNER BOX SIZE (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-6/R-7	-B	200	300*73*40	347*320*271	4,800	12.93/14.57

eg(TYPE):6A10-B

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-6/R-7	-T	800	800	9.5	52	330	355*350*335	3,200	9.72/9.91

eg(TYPE):6A10-T

### AMMO PACK

PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON ( EA )	GROSS WEIGHT (Kg)
R-6/R-7	-F	300	9.5	52	255*73*100	400*268*225	3,000	8.5/8.7

eg(TYPE):6A10-F

## DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.