

**ZENER SILICON RECTIFIER**

**VOLTAGE RANGE 75 to 330 Volts CURRENT 1.0 Ampere**

**FEATURES**

- \* High reliability
- \* Low leakage
- \* Low forward voltage drop
- \* Excellent clamping capability
- \* P/N suffix V means AEC-Q101 qualified
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

- \* Case: Molded plastic
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Lead: MIL-STD-202E method 208C guaranteed
- \* Mounting position: Any
- \* Weight: 0.33 gram

**DO-41**

Dimensions in inches and (millimeters)

The drawing shows a cylindrical component with two leads. Dimensions include: total length 1.0 (25.4) MIN.; lead diameter .034 (0.9) DIA.; lead thickness .028 (0.7); body diameter .107 (2.7) DIA.; body thickness .080 (2.0); lead diameter at base .166 (4.2); and lead thickness at base .205 (5.2).

**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 TA = 25°C unless otherwise noted)

TYPE	Zener Breakdown Voltage	Dynamic Impedances @ 25°C TA				Maximum Reverse Current @ Measurement Voltage and 25°C TA		Maximum Forward Voltage @ 25°C TA @ IF = 1.0A
		IzT	ZzT	IzK	ZzK	VR	IR	
	V	mA	Ohms	mA	Ohms	V	uA	V
Z75	75	3.0	200	.25	1500	60	5.0	1.2
Z90	90	2.7	250	.25	2000	70	5.0	1.2
Z100	100	2.5	350	.25	3000	75	5.0	1.2
Z105	105	2.4	400	.25	3500	77	5.0	1.2
Z110	110	2.3	450	.25	4000	80	5.0	1.2
Z115	115	2.2	500	.25	4250	85	5.0	1.2
Z120	120	2.1	550	.25	4500	90	5.0	1.2
Z130	130	1.9	700	.25	5000	95	5.0	1.2
Z135	135	1.85	750	.25	5250	100	5.0	1.2

TYPE	Zener Breakdown Voltage	Dynamic Impedances @ 25°C TA				Maximum Reverse Current @ Measurement Voltage and 25°C TA		Maximum Forward Voltage @ 25°C TA @ IF = 1.0A	
		VZ	IzT	ZzT	IzK	ZzK	VR	IR	VF
		V	mA	Ohms	mA	Ohms	V	uA	V
Z140	140	1.8	800	.25	5500	105	5.0	1.2	
Z150	150	1.7	1000	.25	6000	110	5.0	1.2	
Z160	160	1.6	1100	.25	6500	120	5.0	1.2	
Z170	170	1.5	1200	.25	6750	130	5.0	1.2	
Z180	180	1.4	1350	.25	7000	140	5.0	1.2	
Z190	190	1.3	1500	.25	7500	150	5.0	1.2	
Z200	200	1.2	1700	.25	8000	160	5.0	1.2	
Z220	220	1.1	2000	.25	8250	170	5.0	1.2	
Z240	240	1.0	2200	.25	8500	180	5.0	1.2	
Z270	270	0.9	2500	.25	8750	200	5.0	1.2	
Z300	300	0.8	3000	.25	9000	220	5.0	1.2	
Z330	330	0.75	4000	.25	9500	240	5.0	1.2	

OPERATING AND STORAGE TEMPERATURE - 55°C to + 150°C

NOTE:1. Standard tolerance: +/-20%, Suffix "A" : +/-10%, Suffix "B" : +/-5%  
2. "Fully ROHS compliant", "100% Sn plating (Pb-free)".

## RATING AND CHARACTERISTIC CURVES ( Z75 THRU Z330 )

FIG. 1 - MAXIMUM CONTINUOUS POWER DISSIPATION

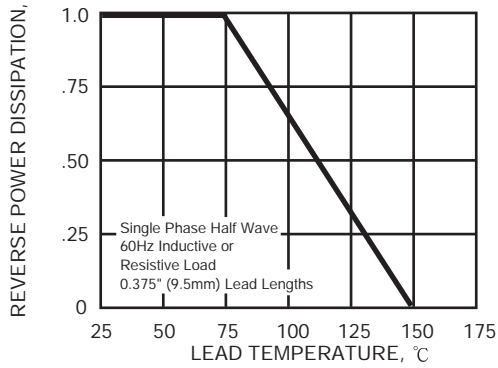


FIG. 2 - TYPICAL ZENER IMPEDANCE

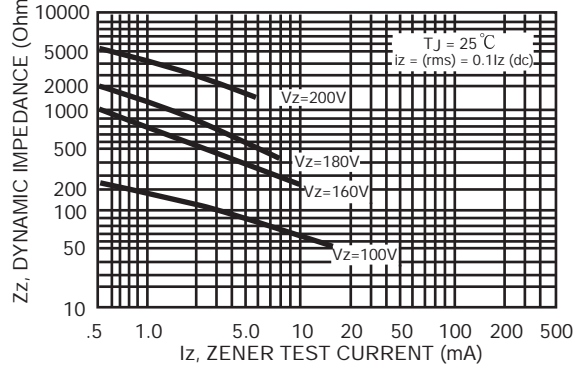


FIG. 3 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

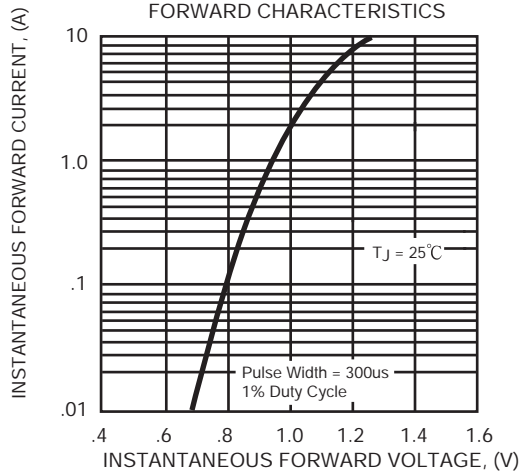


FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

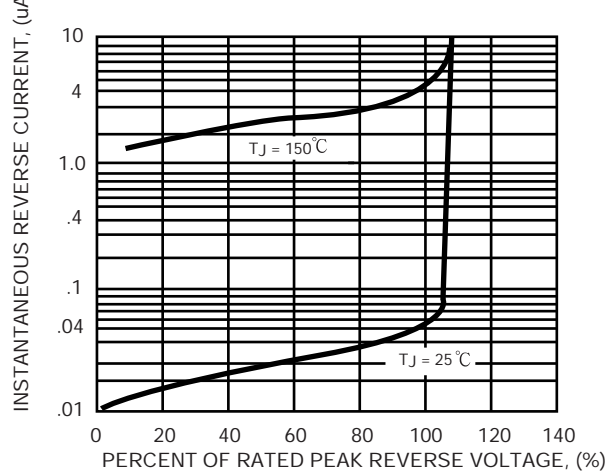
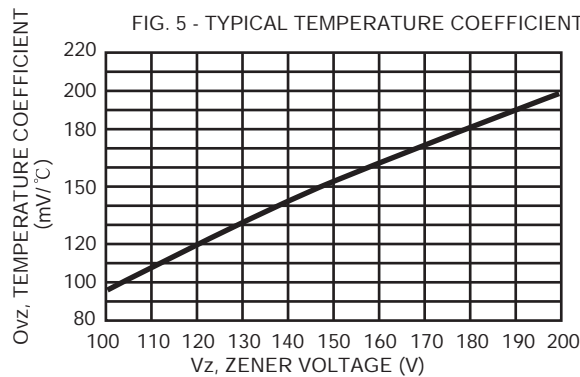


FIG. 5 - TYPICAL TEMPERATURE COEFFICIENTS



# 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

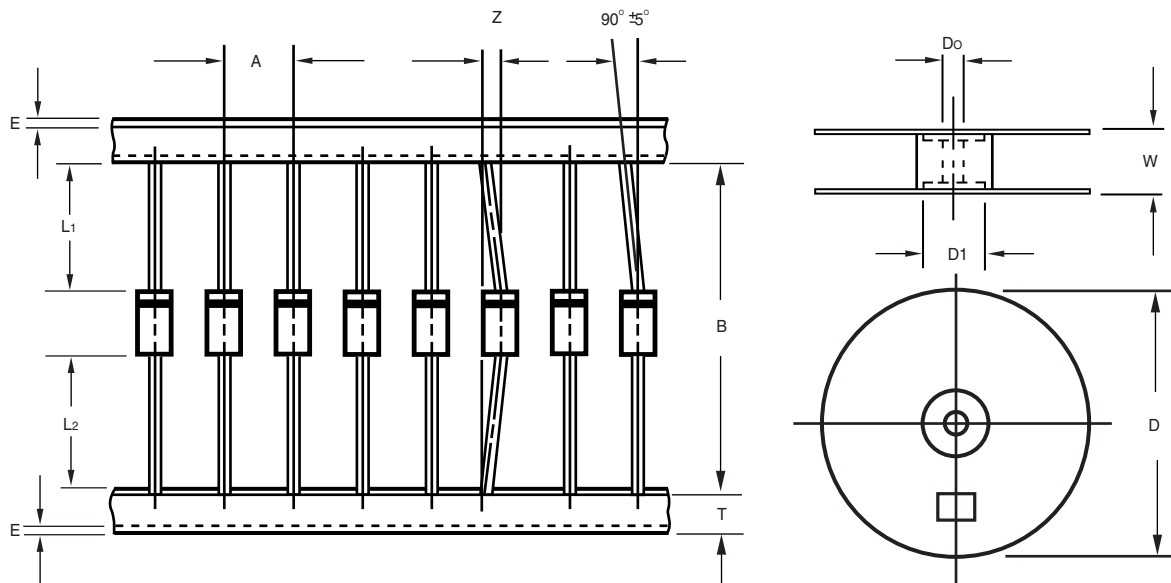


Fig.: Configuration of AXIAL LEAD TAPING

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  $50.0 \pm 1.0\text{mm} (1.97" \pm 0.040")$ .

2002-12

## 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)
DO-41	-B	1,000	194*75*21	415*220*255	50,000	16.2

### 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)
DO-41	-T	5,000	5,000	5.0	52	330	355*350*335	20,000	10.49

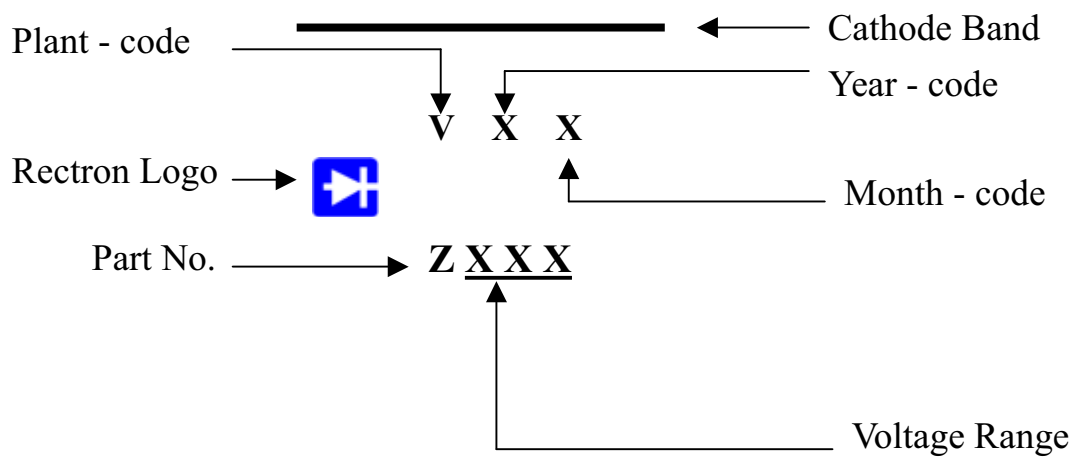
### AMMO PACK

PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON ( EA )	GROSS WEIGHT (Kg)
DO-41	-F	3,000	5.0	52	255*73*100	400*268*225	30,000	13.0
DO-41	-E	3,000	5.0	26	256*48*94	365*270*217	42,000	12.41

## 1. Internal Circuit



## 2. Marking on the body



## 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.