RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

RL251 THRU RL257

SILICON RECTIFIER

VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.5 Amperes

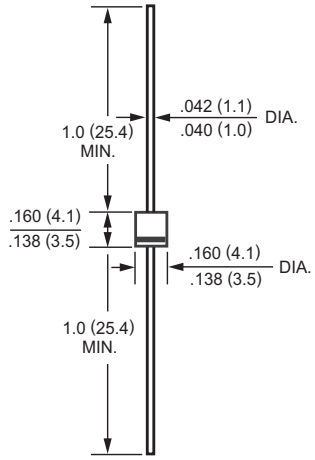
FEATURES

* Low cost
* Low leakage
* Low forward voltage drop
* High 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: 0.54 gram

R-3



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	RL251	RL252	RL253	RL254	RL255	RL256	RL257	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 = 75°C	I_O	2.5							Amps
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150							Amps
Typical Current Squarad Time	I^2t	93.37							A^2/Sec
Typical Junction Capacitance (Note)	C_J	35							pF
Typical Thermal Resistance	$R\theta JA$	35							°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150							°C

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

CHARACTERISTICS		SYMBOL	RL251	RL252	RL253	RL254	RL255	RL256	RL257	UNITS
Maximum Instantaneous Forward Voltage at 2.5A DC		V_F	1.0							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T_A = 25°C	I_R	1.0							uAmps
	@T_A = 100°C		50							
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at T_L = 75°C			30							uAmps

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

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RATING AND CHARACTERISTIC CURVES (RL251 THRU RL257)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

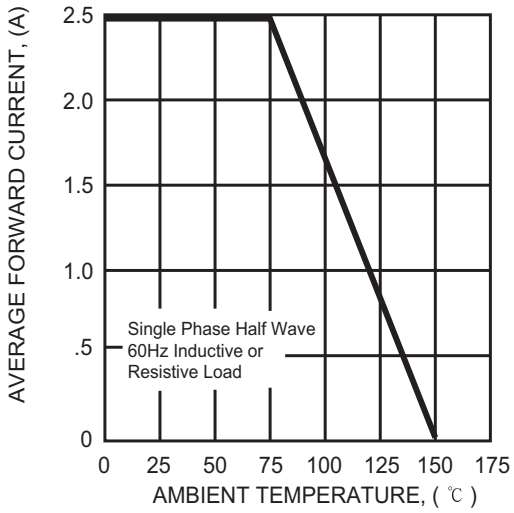


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

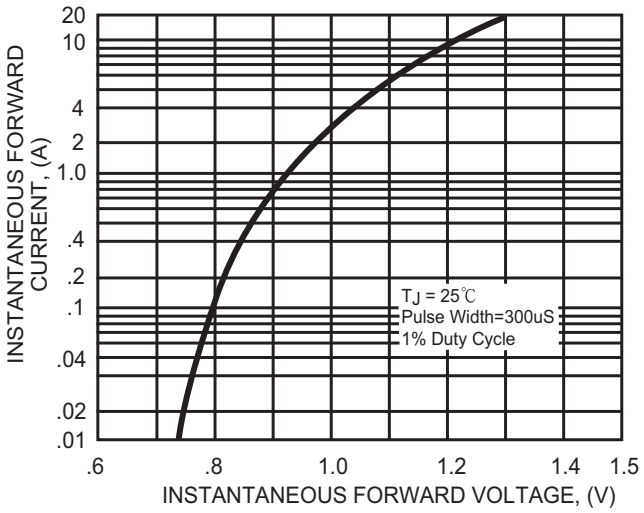


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

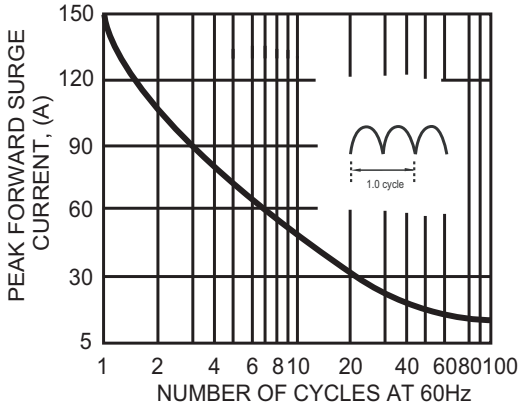


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

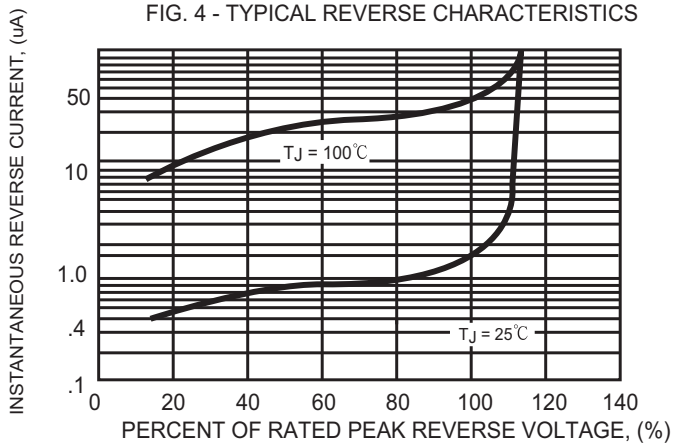
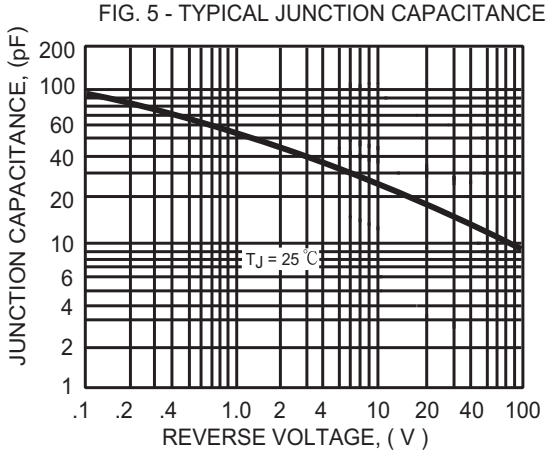


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

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

COMPNENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B		CUMULATIVE PITCH TOLERANCE
	±0.5mm (.020")	±0.5mm (.020")	±1.5mm (.059")	
T-1	5.0mm	26.0mm		2.0mm/20pitch
R-1	5.0mm	26.0mm		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

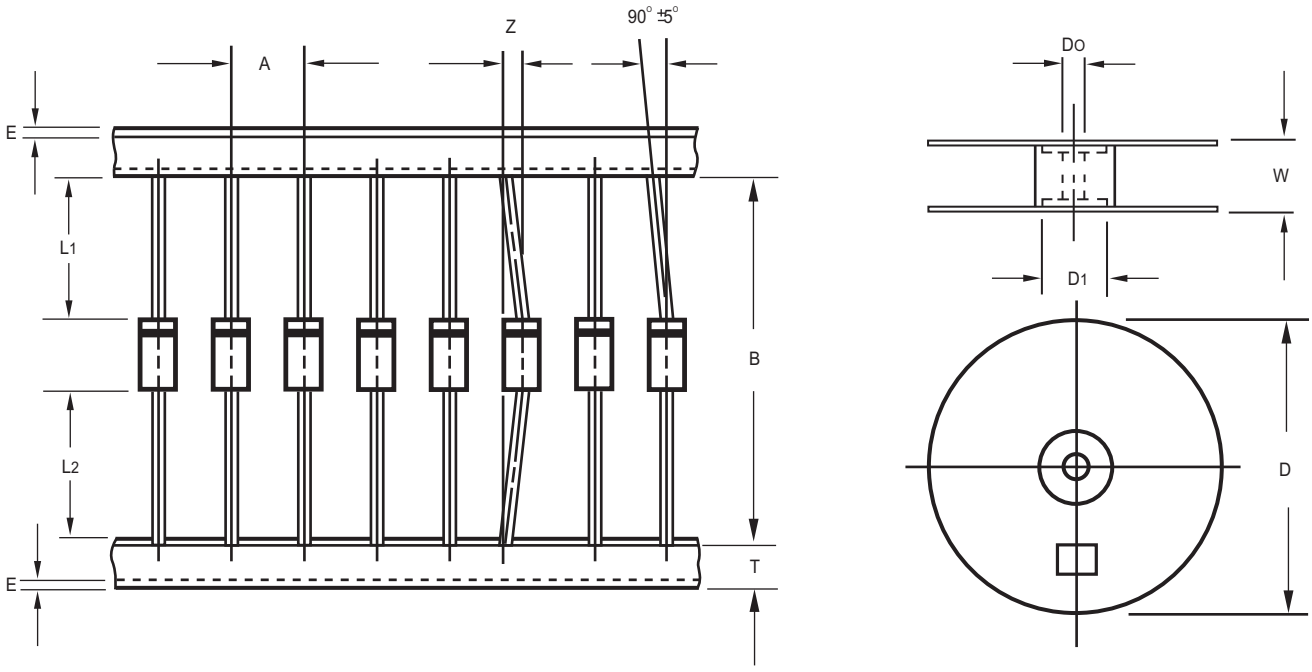


Fig.: Configuration of AXIAL LEAD TAPING

ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component alignment	Z	1.2 Max.	0.047 Max.
Tape width	T	6.0± 0.4	0.236± 0.016
Exposed adhesive	E	0.8 Max.	0.032 Max.
Body eccentricity	IL1-L2I	1.0 Max.	0.039 Max.
Reel outside diameter	D	330.0	13.0
Reel inner diameter	D1	85.7± 0.3	3.374± 0.012
Feed hole diameter	DO	30.5± 0.4	1.201± 0.016
Reel width	W	79.0± 1.0	3.110± 0.039

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±1.0mm (1.97" ± 0.040").

PACKAGING OF DIODE AND BRIDGE RECTIFIERS

REEL PACK

PACKAGE	packing code	EA PER REEL	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-1	-T	5,000	5.0	52	330	355*360*350	20,000	7.25
A-405	-T	5,000	5.0	330	52	355*360*350	20,000	8.13
DO-41	-T	5,000	5.0	52	330	355*360*350	20,000	10.49
DO-15	-T	4,000	5.0	52	330	355*360*350	16,000	10.05
R-3	-T	3,000	5.0	52	330	355*360*350	12,000	10.37
DO-201AD	-T	1,200	9.5	52	330	355*360*350	4,800	8.93
1.5KE	-T	1,200	10.0	52.4	330	355*360*350	4,800	8.05
R-6	-T	500	9.5	52	330	355*360*350	2,000	7.29
SMA	-T	1,500	---	---	178	465*220*260	48,000	8.40
SMA	-W	5,000	---	---	330	355*360*350	80,000	14.20
MELF	-T	1,500	---	---	178	465*220*260	48,000	11.14
MELF	-W	5,000	---	---	330	355*360*350	80,000	19.60
DB-S	-T	1,000	---	---	330	355*360*350	8,000	9.85
MD	-T	500	---	---	178	465*220*260	16,000	---
MD	-W	3,000	---	---	330	355*360*350	48,000	15.50
SMB	-T	500	---	---	178	465*220*260	16,000	---
SMB	-W	3,000	---	---	330	355*360*350	48,000	13.90
SMC	-T	500	---	---	176	465*220*260	12,000	---
SMC	-W	3,000	---	---	330	355*360*350	24,000	11.50
D2PAK	-W	800	---	---	330	355*360*350	6,400	---

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-1	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	8.5
A-405	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	9.6
DO-41	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	13.0
DO-15	-F	1,500	5.0	52	255*73*100	402*270*225	15,000	8.8
R-3	-F	1,500	5.0	52	255*73*100	402*270*225	15,000	11.2
DO-201AD	-F	600	9.5	52	255*73*100	402*270*225	6,000	9.9
R-6	-F	300	9.5	52	255*73*100	402*270*225	3,000	8.7
R-1	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	8.35
A-405	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	9.61
DO-41	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	12.41
R-1	-J	3,000	12.7	---	328*170*42	355*360*350	42,000	13.93
R-1	-I	2,000	12.7	---	328*170*42	355*360*350	28,000	9.31
A405	-N	2,000	12.7	---	328*170*42	355*360*350	28,000	11.41

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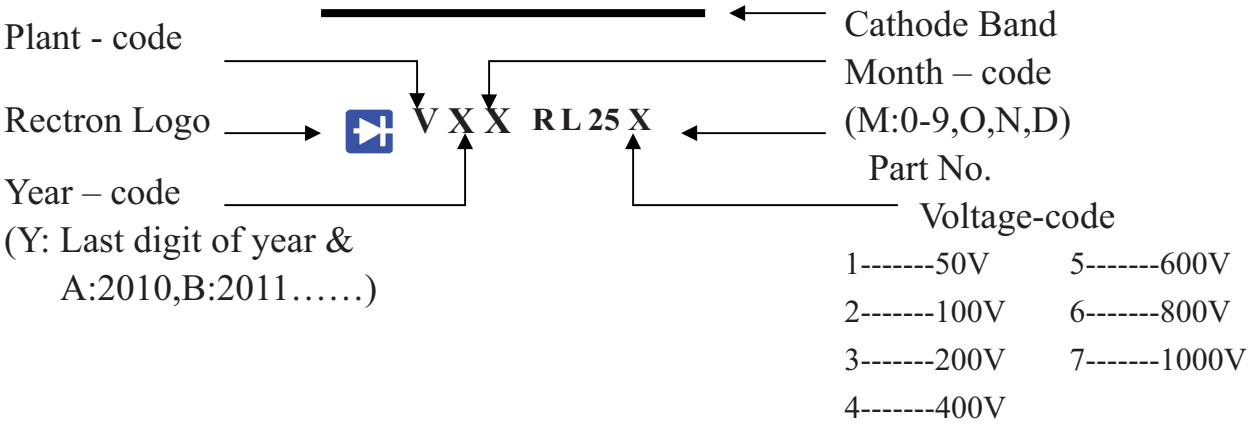
Attachment information about RL25X

1. Internal Circuit

2. Marking on the body



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