

SILICON RECTIFIER

VOLTAGE RANGE 1000 Volts CURRENT 2.5 Amperes

RL251-RL257 series not recommended; use RL251G-RL257G series instead

FEATURES

- * Low cost
- * Low leakage
- * Low forward voltage drop
- * High current capability

MECHANICAL DATA

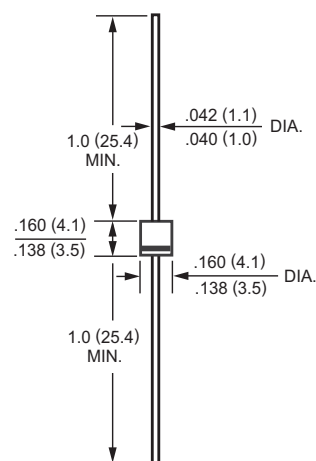
- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-O
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 0.54 gram

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%.



R-3



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (At TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	RL251	RL252	RL253	RL254	RL255	RL256	RL257	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}				1000				Volts
Maximum RMS Voltage	V _{RMS}				700				Volts
Maximum DC Blocking Voltage	V _{DC}				1000				Volts
Maximum Average Forward Rectified Current at TA = 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 Squared Time	I ² t				93.37				A ² /Sec
Typical Junction Capacitance (Note)	C _J				35				pF
Typical Thermal Resistance	R _{θJA}				35				°C/W
Operating and Storage Temperature Range	T _J , T _{STG}				-55 to + 150				°C

ELECTRICAL CHARACTERISTICS (At TA = 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 @TA = 25°C	I _R				1.0				uAmps
@TA = 150°C					2.0				mAmps
Maximum Full Load Reverse Current Average, Full Cycle .375" (9.5mm) lead length at TL = 75°C					30				uAmps

NOTES : 1. 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

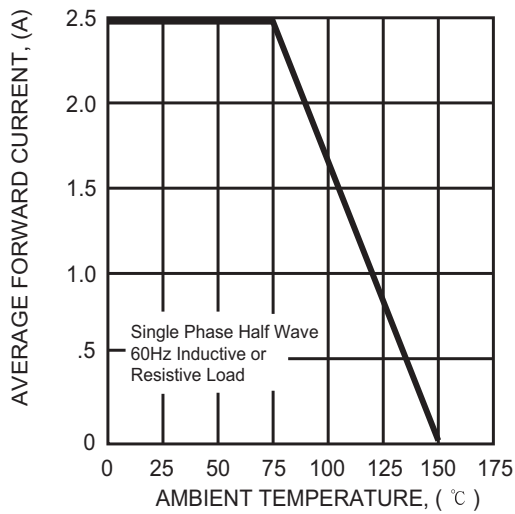


FIG. 2 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

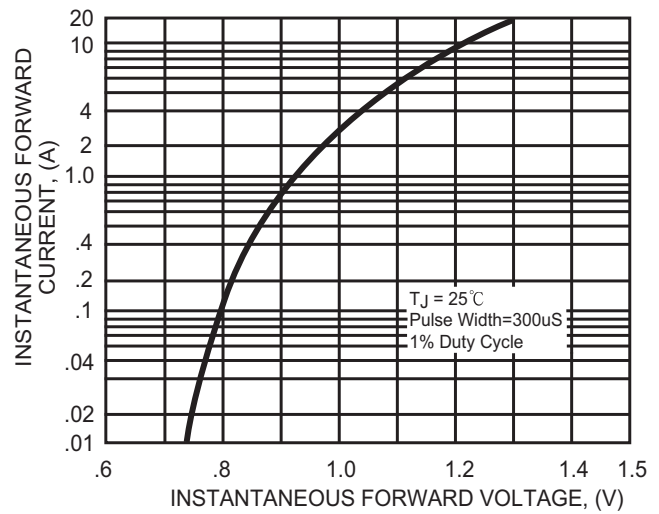


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

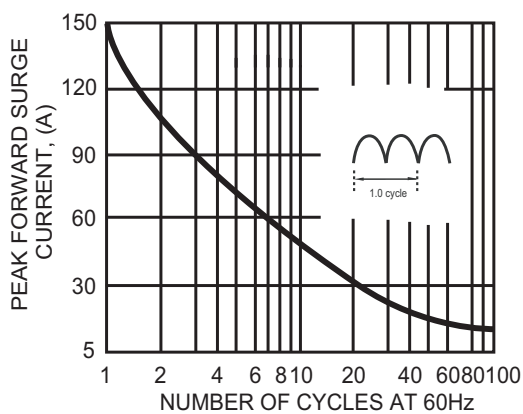


FIG. 4 - MAXIMUM REVERSE CHARACTERISTICS

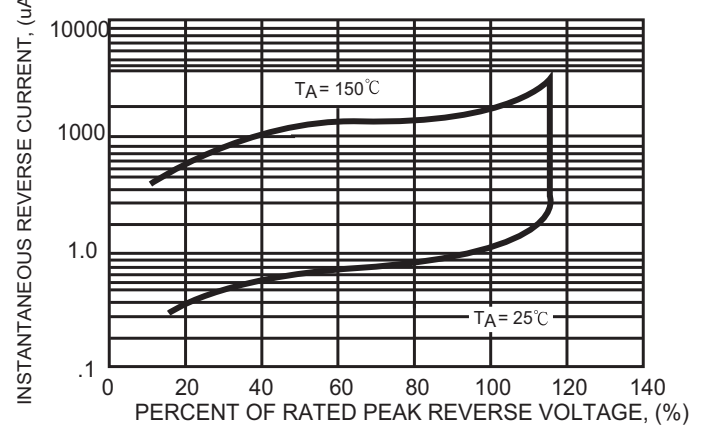
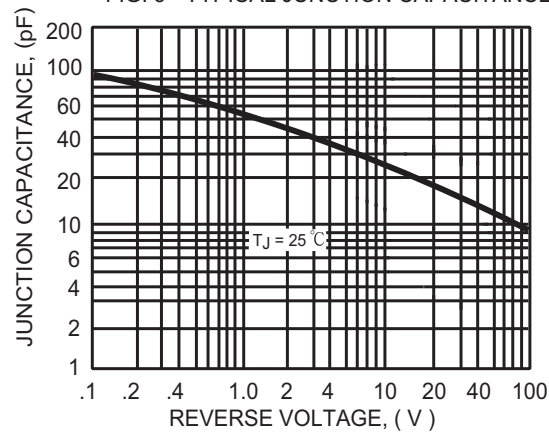


FIG. 5 - TYPICAL JUNCTION CAPACITANCE



AXIAL LEAD TAPING SPECIFICATIONS FOR RECTIFIERS

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

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
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

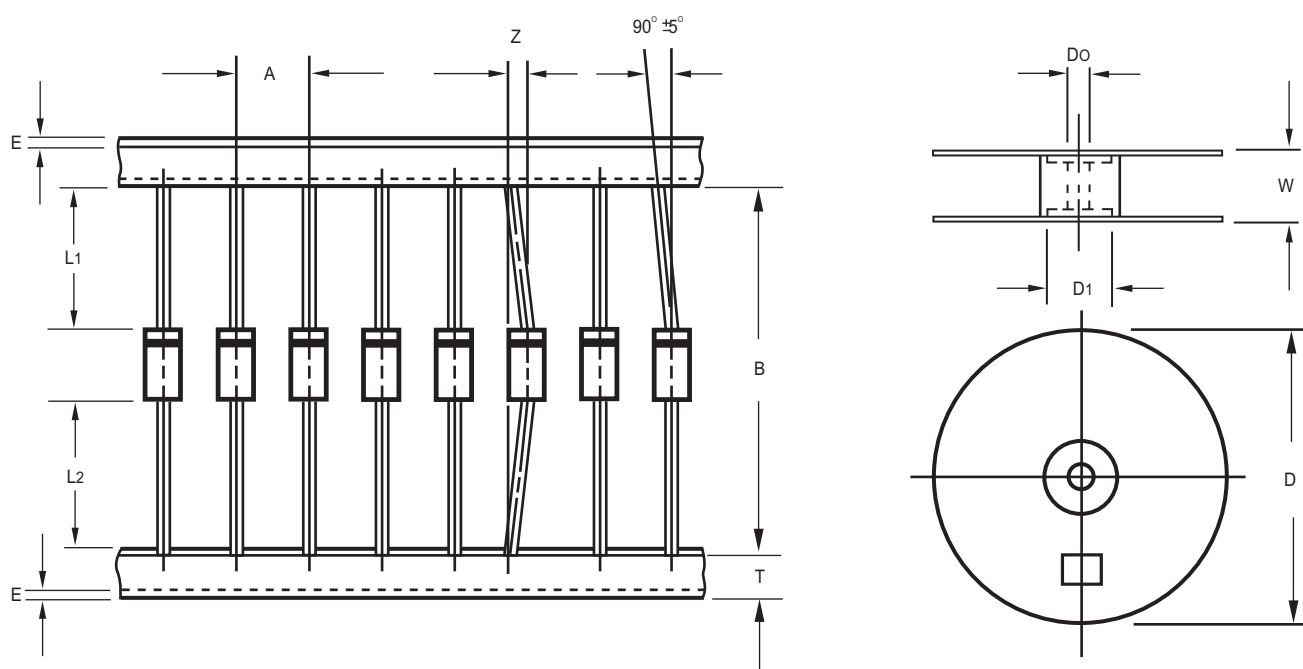


Fig.: Configuration of AXIAL LEAD TAPING

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	$ L1-L2 $	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 $50.0 \pm 1.0\text{mm} (1.97" \pm 0.040")$.

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-3	-B	500	192*75*21	415*220*255	25,000	16.17

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-3	-T	3,000	3,000	5.0	52	330	355*350*335	12,000	10.60

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-3	-F	1,500	5.0	52	255*73*100	400*268*225	15,000	11.2



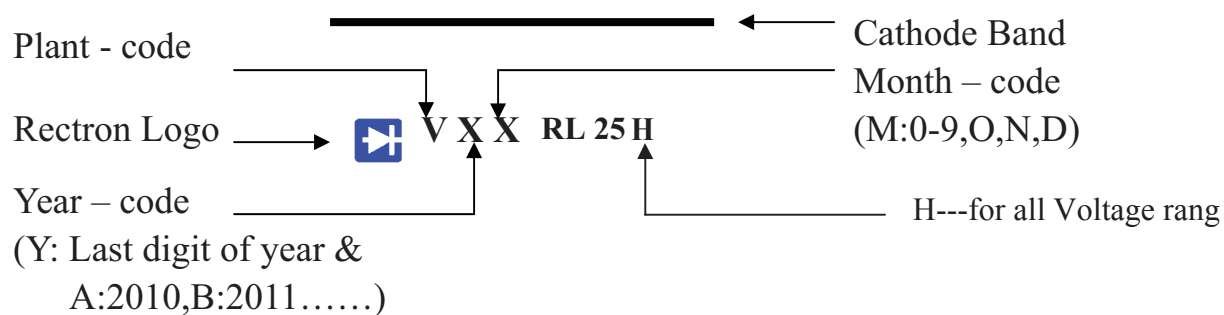


Attachment information about RL25X

1. Internal Circuit



2. Marking on the body



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