

GLASS PASSIVATED SUPER FAST RECTIFIER

VOLTAGE RANGE 50 to 600 Volts CURRENT 5.0 Ampere

FEATURES

- * High reliability
- * Low leakage
- * Low forward voltage
- * High current capability
- * Super fast switching speed
- * High surge capability
- * Good for switching mode circuit

MECHANICAL DATA

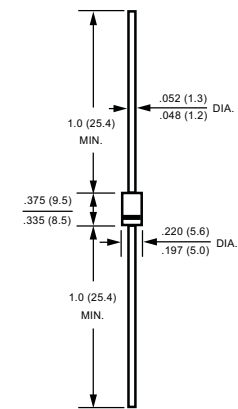
- * Case: Molded plastic
- * Epoxy: Device has UL flammability classification 94V-O
- * Lead: MIL-STD-202E method 208C guaranteed
- * Mounting position: Any
- * Weight: 1.18 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
resistive or inductive load.



DO-201AD



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

RATINGS	SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	SF57	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	Volts
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	Volts
Maximum DC Blocking Voltage	V _{DC}	50	100	150	200	300	400	600	Volts
Maximum Average Forward Rectified Current at T _A = 55°C	I _O	5.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	125							Amps
Current Squarad Time	I ² t	64.8							A ² /Sec
Typical Thermal Resistance (Note 3)	R _{θJA}	20							°CW
	R _{θJL}	5.0							
Typical Junction Capacitance (Note 2)	C _J	50				30			pF
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to + 150							°C

ELECTRICAL CHARACTERISTICS (@ TA=25 °C unless otherwise noted)

CHARACTERISTICS		SYMBOL	SF51	SF52	SF53	SF54	SF55	SF56	SF57	UNITS
Maximum Instantaneous Forward Voltage at 5.0A DC		V _F	0.95				1.25		1.50	Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@T _A = 25°C	I _R	5.0							uAmps
	@T _A = 100°C		100							
Maximum Reverse Recovery Time (Note 1)		t _{rr}	35						50	nSec

- NOTES : 1. Test Conditions: I_F = 0.5A, I_R = -1.0A, I_{RR} = -0.25A
2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
3. Typical Thermal Resistance : At 9.5mm lead lengths, PCB mounted.
4. "Fully ROHS complaint", "100% Sn plating (Pb-free)"

2013-04
REV:A

RATING AND CHARACTERISTICS CURVES (SF51 THRU SF57)

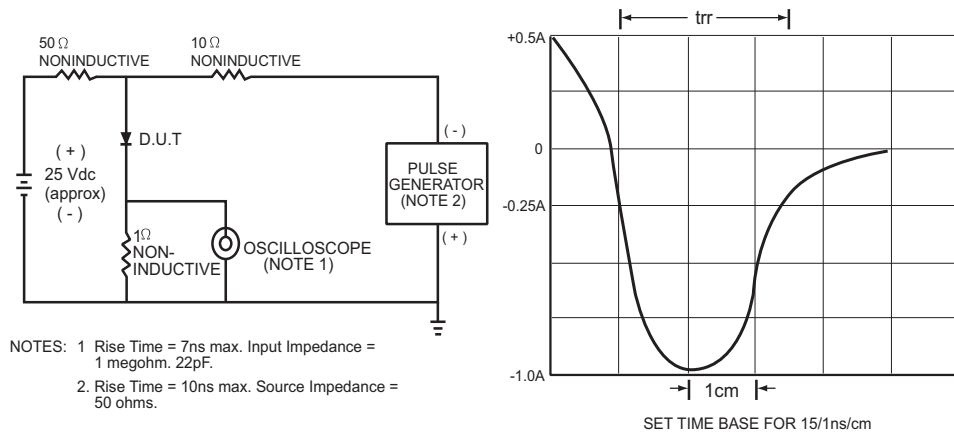


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

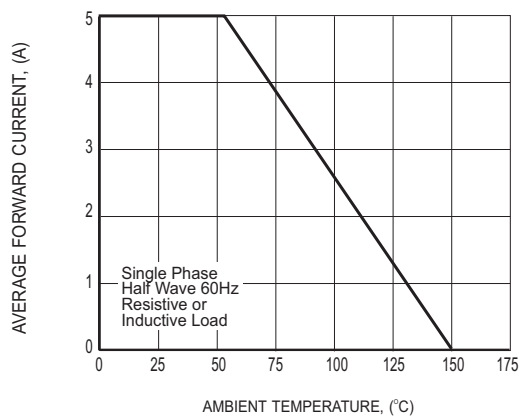


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

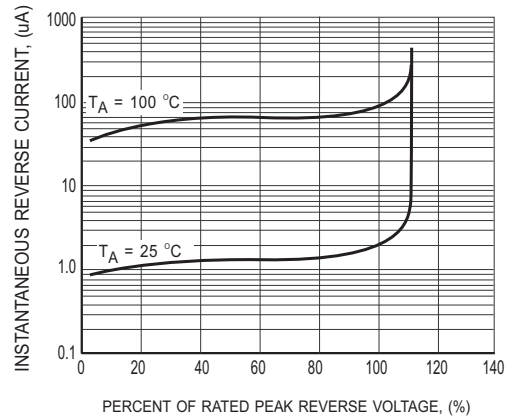


FIG.3 TYPICAL REVERSE CHARACTERISTICS

RATING AND CHARACTERISTICS CURVES (SF51 THRU SF57)

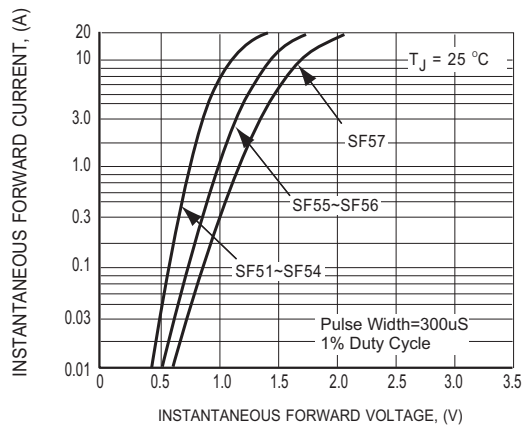


FIG.4 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

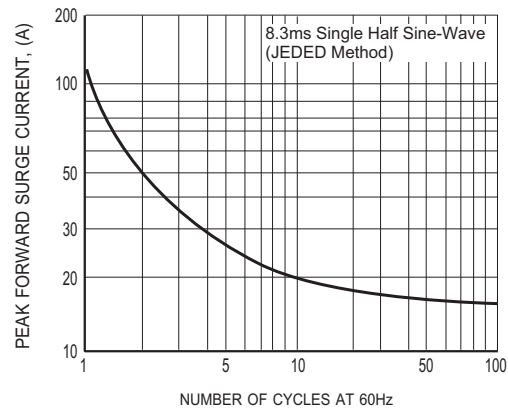


FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

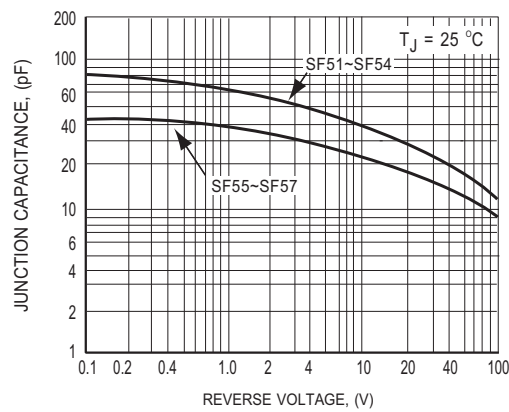
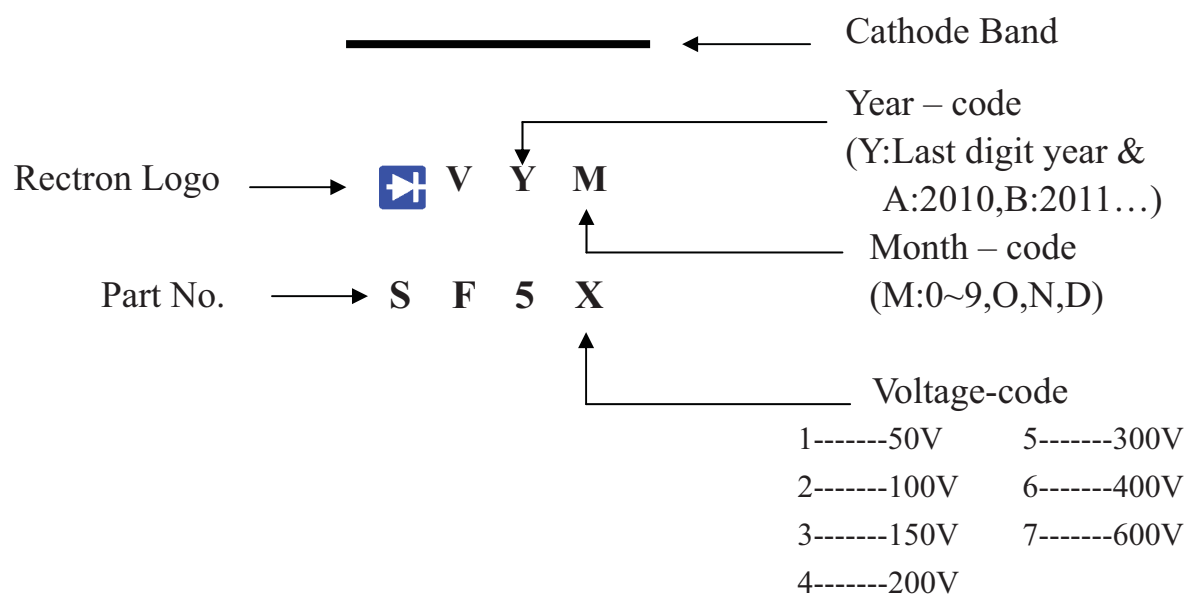


FIG.6 TYPICAL JUNCTION CAPACITANCE

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
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

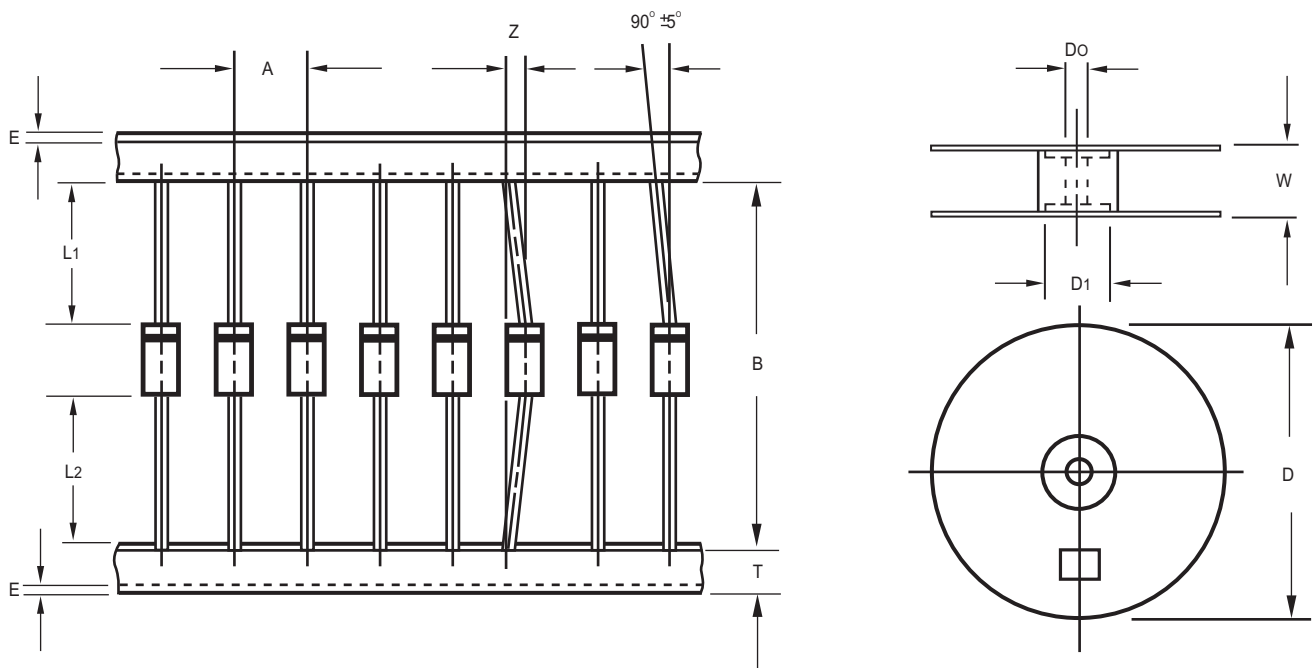


Fig.: Configuration of AXIAL LEAD TAPING

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)
DO-201	-B	500	300*73*40	347*320*271	12,000	15.9

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-201	-T	1,200	1,200	5.0	52	330	355*350*335	4,800	9.10

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-201	-F	600	9.5	52	255*73*100	400*268*225	6,000	9.9

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.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Rectron:](#)

[SF56-T](#) [SF52-T](#) [SF51-T](#) [SF53-B](#) [SF53-T](#) [SF51-B](#) [SF54-B](#) [SF56-B](#) [SF52-B](#) [SF55-B](#) [SF55-T](#) [SF54-T](#) [SF53](#)
[SF57-T](#)