

## SF51 THRU SF58 Super Fast Recovery Rectifier Diodes

### Features

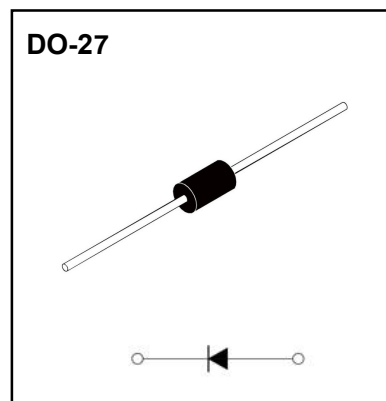
- $I_{F(AV)}$  5.0A
- $V_{RRM}$  50V-600V
- High surge current capability
- Polarity: Color band denotes cathode

### Applications

- Rectifier

### Marking

- SF5X  
X : From 01 To 8



### Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	SF							
				51	52	53	54	55	56	57	58
Repetitive Peak Reverse Voltage	$V_{RRM}$	V		50	100	150	200	300	400	500	600
Maximum RMS Voltage	$V_{RMS}$	V		35	70	105	140	210	280	350	420
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_a=50^\circ\text{C}$	5.0							
Surge(Non-repetitive)Forward Current	$I_{FSM}$	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	150							
Junction Temperature	$T_J$	$^\circ\text{C}$		-55 ~ +125							
Storage Temperature	$T_{STG}$	$^\circ\text{C}$		-55 ~ +150							

### Electrical Characteristics ( $T=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	SF							
				51	52	53	54	55	56	57	58
Peak Forward Voltage	$V_{FM}$	V	$I_{FM}=5.0\text{A}$	0.95		1.25		1.7			
Peak Reverse Current	$I_{RRM2}$	$\mu\text{A}$	$V_{RM}=V_{RRM}$	$T_a=25^\circ\text{C}$							
	$I_{RRM1}$			$T_a=100^\circ\text{C}$							
Reverse Recovery time	$t_{rr}$	ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$	35							
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C}/\text{W}$	Between junction and ambient	30							
	$R_{\theta J-L}$		Between junction and lead	10							

### Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.27" x 0.27" (7.0 mm x 7.0 mm) copper pad areas

# Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

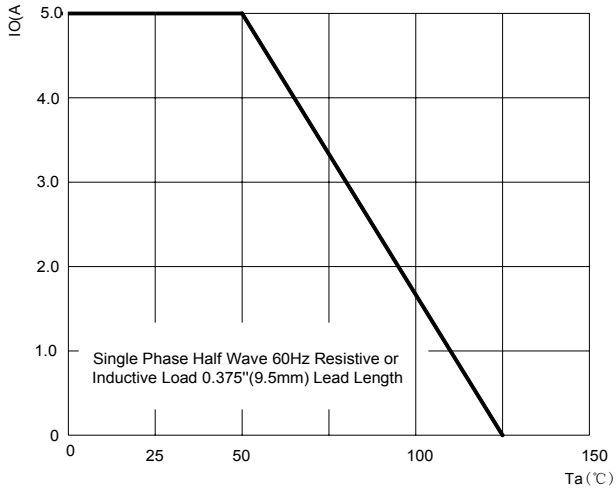


FIG.2 : MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

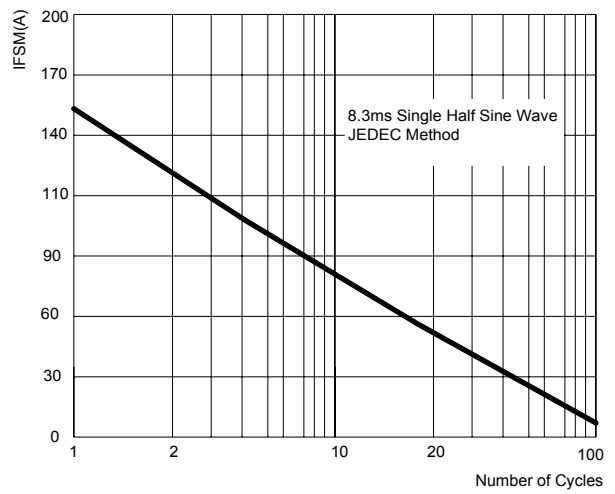


FIG.3: TYPICAL FORWARD CHARACTERISTICS

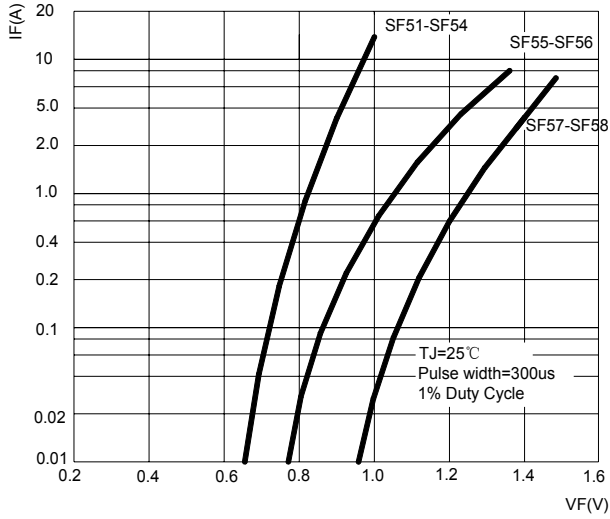


FIG.4:TYPICAL REVERSE CHARACTERISTICS

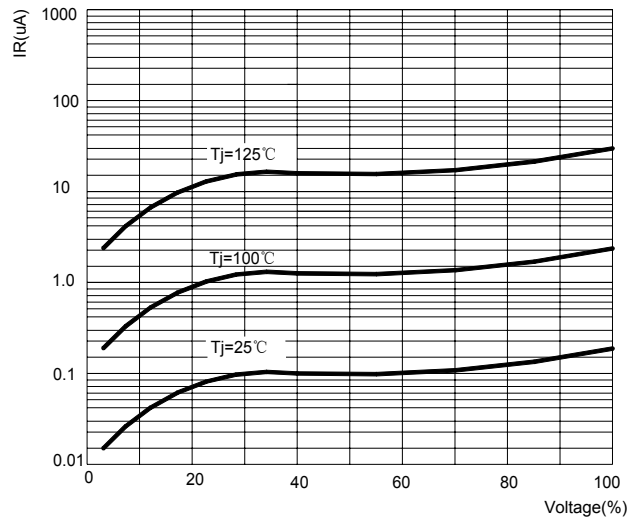
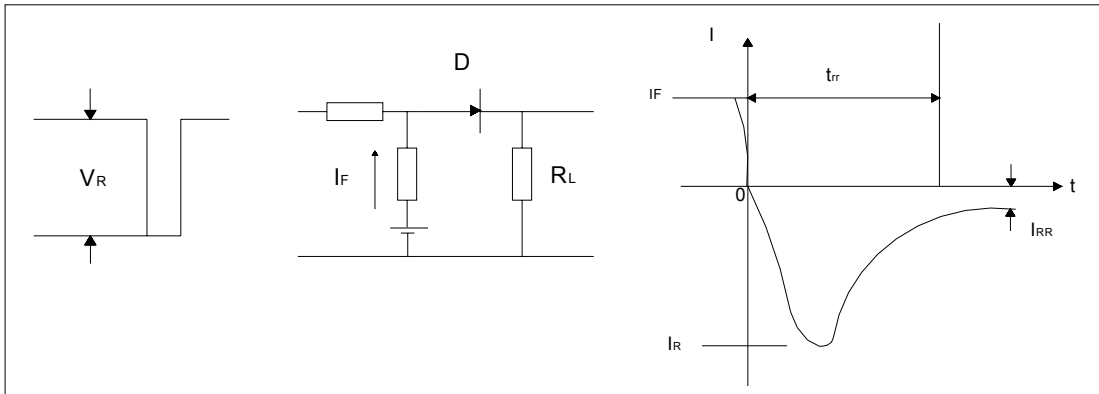


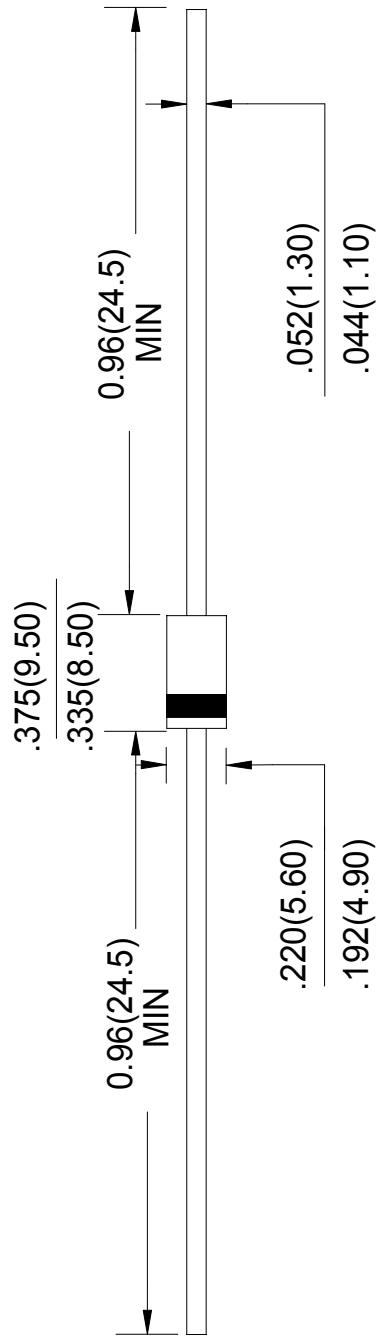
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



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## DO- 27 Package Outline Dimensions

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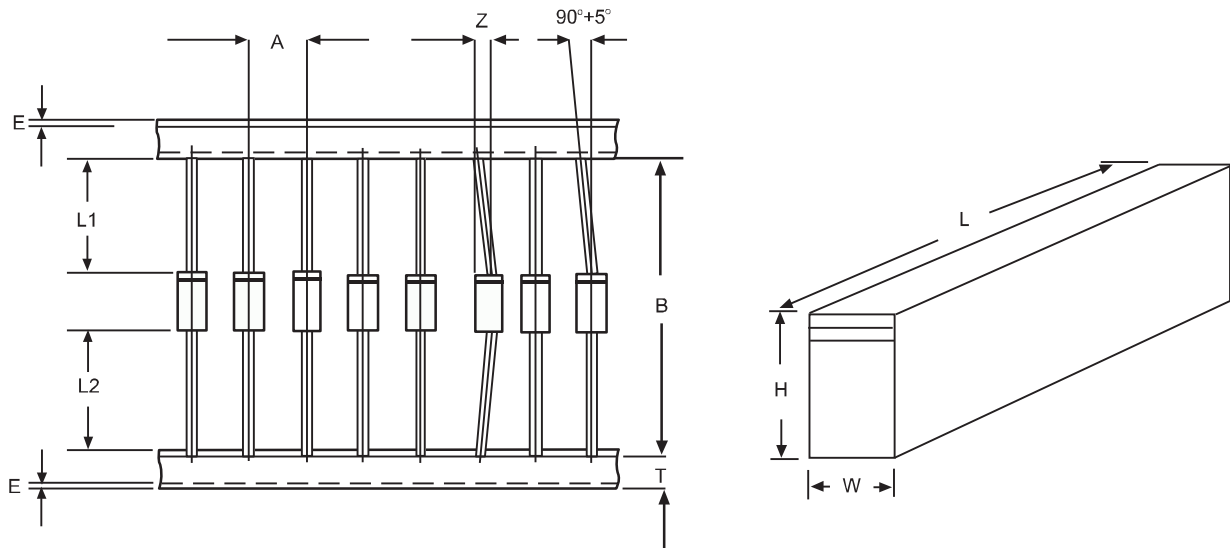


Unit: in inches (millimeters)

# Ammo Box Packaging Specifications For Axial Lead 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
	$\pm 0.5\text{mm}(.020'')$	$+0.5\text{mm}(.020'')$	
R-1	5.0mm	26.0mm	2.0mm/20pitch
R-1	5.0mm	52.4mm	2.0mm/10pitch
A-405	5.0mm	26.0mm	2.0mm/20pitch
A-405	5.0mm	52.4mm	2.0mm/10pitch
DO-34/DO-35	5.0mm	26.0mm	2.0mm/20pitch
DO-34/DO-35	5.0mm	52.4mm	2.0mm/10pitch
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
DO-27	10.0mm	52.4mm	2.0mm/10pitch
R-6	10.0mm	52.4mm	2.0mm/10pitch



ITEM	SYMBOL	SPECIFICATIONS(mm)	SPECIFICATIONS(inch)
Component alignment	Z	1.2max	0.048max
Tape width	T	$6.0\pm 0.4$	$0.236\pm 0.016$
Exposed adhesive	E	0.8max	0.032max
Body eccentricity	IL1-L2I	1.0max	0.040max
Box length	L	$255.0\pm 5.0$	$10.04\pm 0.197$
Box width	W	$78.0\pm 5.0$	$3.07\pm 0.197$
Box height	H	$150.0\pm 5.0$	$5.91\pm 0.197$

NOTE: Each component lead shall be sandwiched between tapes for A minimum of 3.2mm(0.126'')