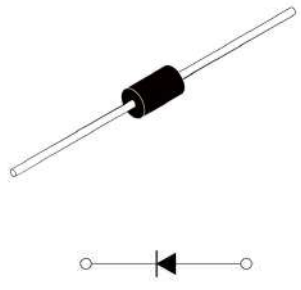
Super Fast Recovery Rectifier Diodes

DO-27 Plastic-Encapsulate Diodes

Features

- $I_{F(AV)}$ 3.0A
- V_{RRM} 50V-600V
- High surge current capability
- Polarity: Color band denotes cathode

DO-27



Applications

- Rectifier

Marking

- SF3 X G

X：From 1 To 8

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	SF3							
				1G	2G	3G	4G	5G	6G	7G	8G
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
Maximum DC Blocking Voltage	V_{DC}	V		50	100	150	200	300	400	500	600
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, TL=55℃	3.0							
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, Ta=25℃	125							
Operation Junction and Storage Temperature Range	T_J,T_{STG}	℃		-55 ~ +150							

Electrical Characteristics (T=25℃ Unless otherwise specified)

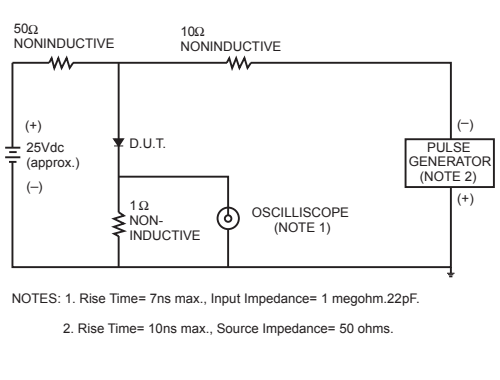
Item	Symbol	Unit	Test Condition		SF3							
					1G	2G	3G	4G	5G	6G	7G	8G
Maximum Peak Forward Voltage	V_{FM}	V	I_{FM}= 3.0A		0.95				1.25		1.7	
Maximum Peak Reverse Current	I_{RRM1}	μA	$V_{RM}=V_{RRM}$	T_J=25℃	5							
	I_{RRM2}			T_J=125℃	50							
Reverse Recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A,I_{rr} =0.25A		35							
Typical junction capacitance	C_J	pF	Measured at 1MHz and applied reverse voltage of 4.0V D.C.		35							
Typical Thermal Resistance	$R_{\theta J-A}$	℃/W	Between junction and ambient		60							
	$R_{\theta J-L}$		Between junction and lead		23							

Notes:

Thermal resistance from junction to ambient at 0.375"(9.5mm)lead length,P.C.B. mounted

Typical Characteristics

FIG.1- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

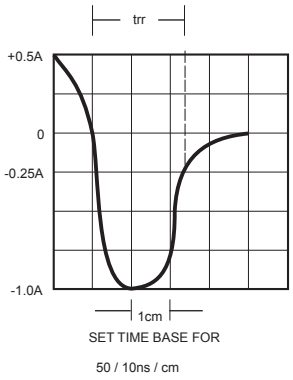


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

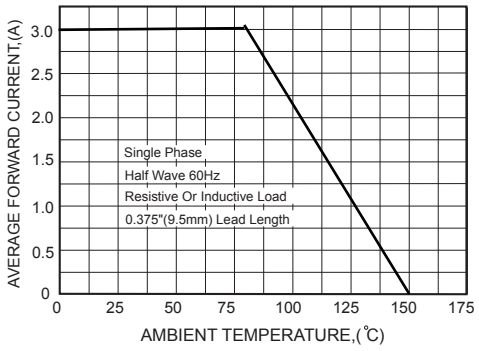


FIG.3-TYPICAL FORWARD CHARACTERISTICS

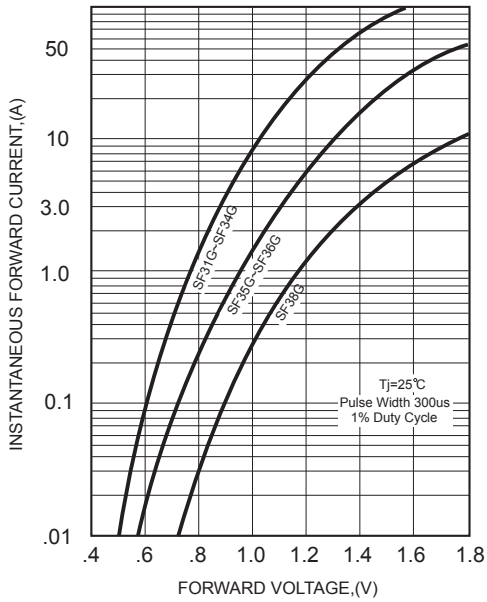


FIG.4-TYPICAL REVERSE CHARACTERISTICS

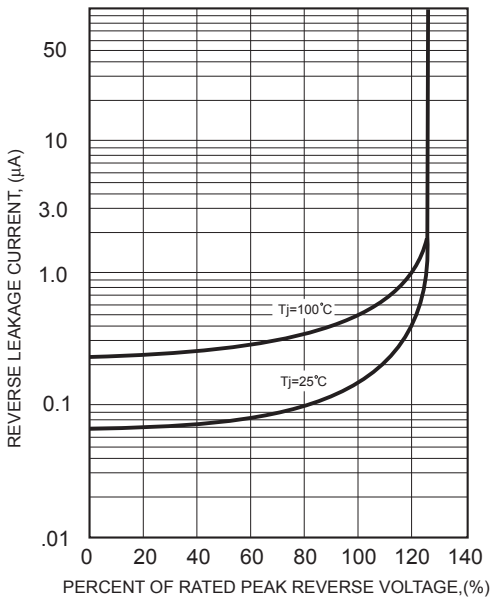


FIG.5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

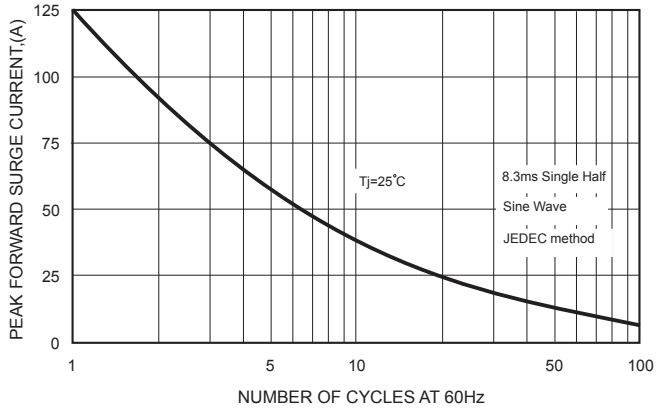
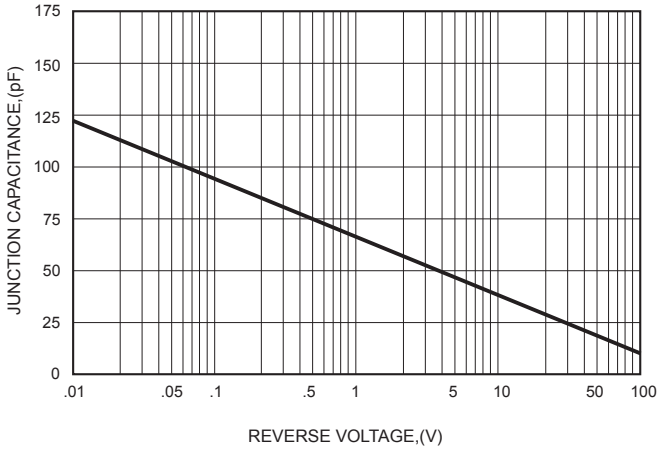
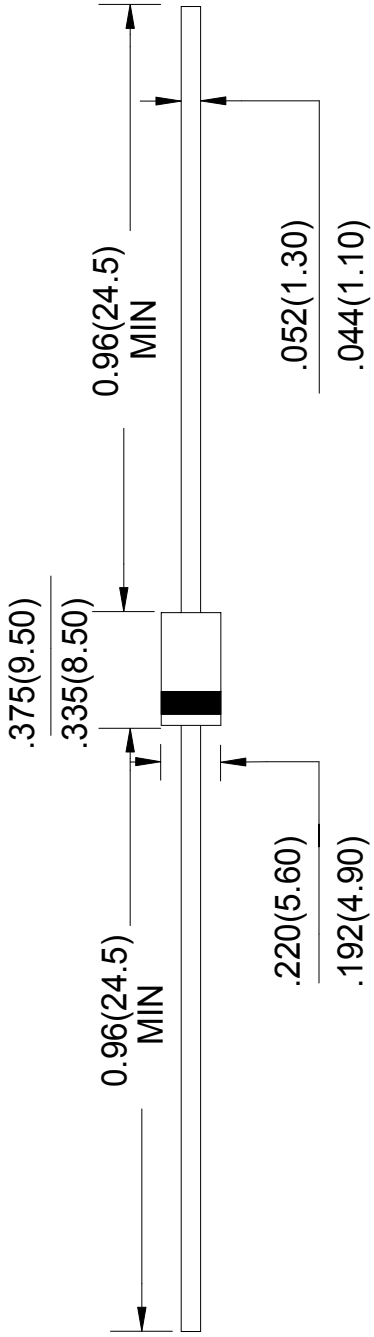


FIG.6-TYPICAL JUNCTION CAPACITANCE



DO- 27 Package Outline Dimensions

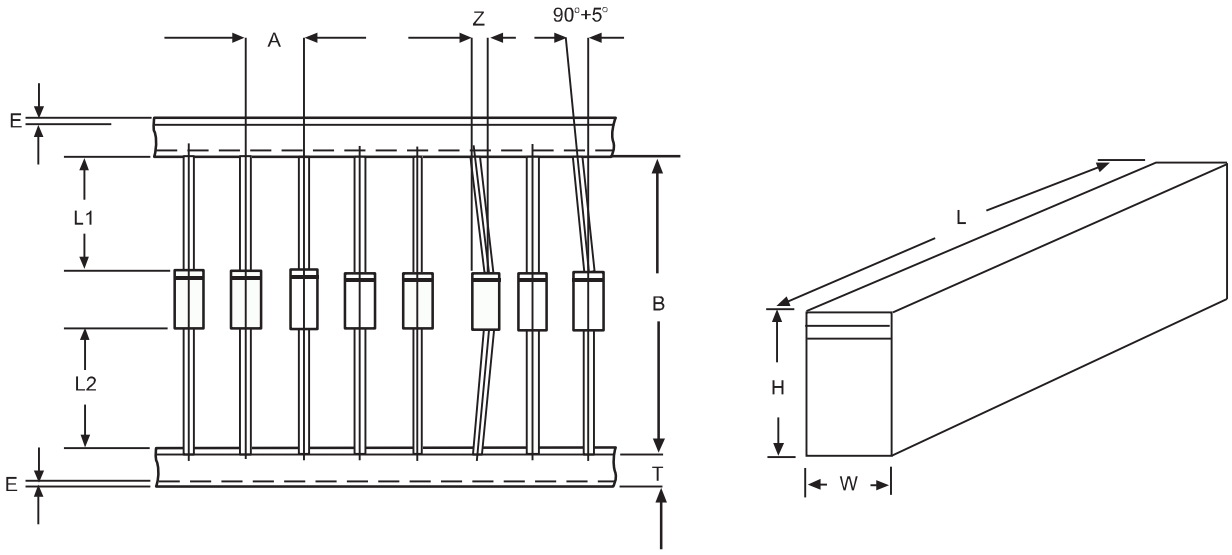


Unit: in inches (millimeters)

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
	±0.5mm(.020``)	+0.5mm(.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±0.4	0.236±0.016
Exposed adhesive	E	0.8max	0.032max
Body eccentricity	|L1-L2|	1.0max	0.040max
Box length	L	255.0±5.0	10.04±0.197
Box width	W	78.0±5.0	3.07±0.197
Box height	H	150.0±5.0	5.91±0.197

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