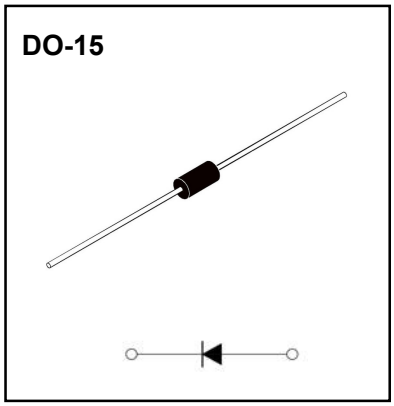
# DO-15 Plastic-Encapsulate Diodes

## Super Fast Recovery Rectifier Diode

### Features

- $I_O$ 2A
- VRRM 100V-600V
- High surge current capability
- Polarity: Color band denotes cathode




### Applications

- Rectifier

### Marking

- ER20X
  X:From 1 to 6

### Limiting Values (Absolute Maximum Rating)

| Item | Symbol | Unit | Conditions | ER20 | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | 1 | 2 | 3 | 4 | 6 |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | | 100 | 200 | 300 | 400 | 600 |
| Maximum RMS Voltage | $V_{RMS}$ | V | | 70 | 140 | 210 | 280 | 420 |
| Average Forward Current | $I_{F(AV)}$ | A | 60Hz Half-sine wave, Resistance load, Ta=50℃ | 2.0 | | | | |
| Surge(Non-repetitive)Forward Current | $I_{FSM}$ | A | 60Hz Half-sine wave,1 cycle, Ta=25℃ | 50 | | | | |
| Junction Temperature | $T_J$ | ℃ | | -55~+125 | | | | |
| Storage Temperature | $T_{STG}$ | ℃ | | -55 ~ +150 | | | | |

### Electrical Characteristics ($T_a$=25℃ Unless otherwise specified)

| Item | Symbol | Unit | Test Condition | | ER20 | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 6 |
| Peak Forward Voltage | $V_{FM}$ | V | $I_{FM}$=2.0A | | 0.95 | | 1.25 | | 1.7 |
| Peak Reverse Current | $I_{RRM1}$ | μA | $V_{RM}=V_{RRM}$ | $T_a$=25℃ | 5 | | | | |
| | $I_{RRM2}$ | | | $T_a$=125℃ | 50 | | | | |
| Reverse Recovery time | $t_{rr}$ | ns | $I_F$=0.5A $I_R$=1A $I_{RR}$=0.25A | | 35 | | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | ℃/W | Between junction and ambient | | 55 | | | | |
| | $R_{\theta J-L}$ | | Between junction and lead | | 20 | | | | |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

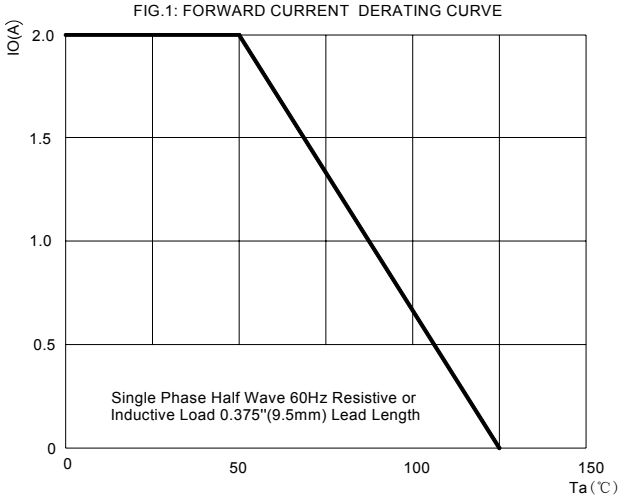



FIG.2 : MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

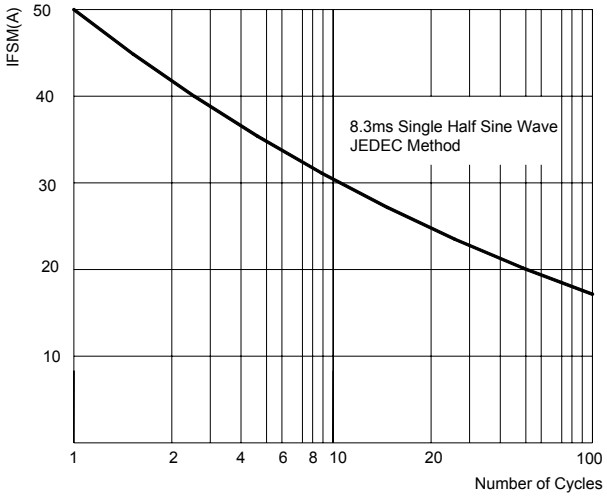



FIG.3: TYPICAL FORWARD CHARACTERISTICS

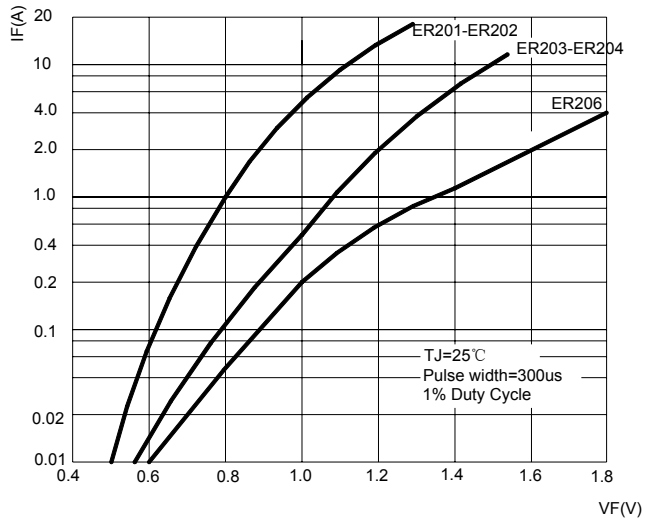



FIG.4:TYPICAL REVERSE CHARACTERISTICS

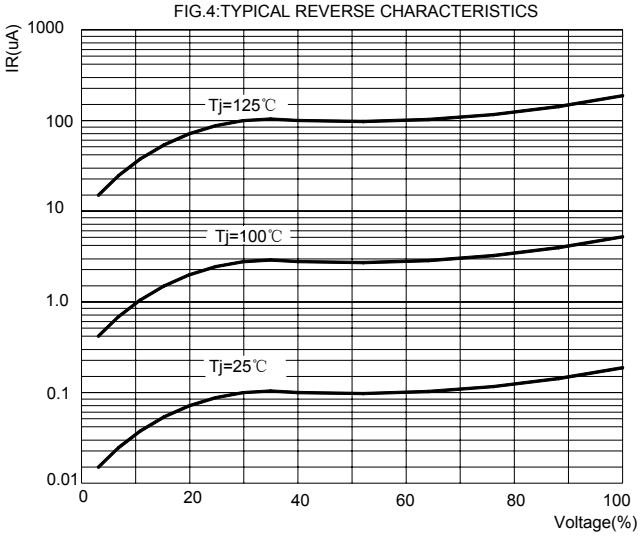
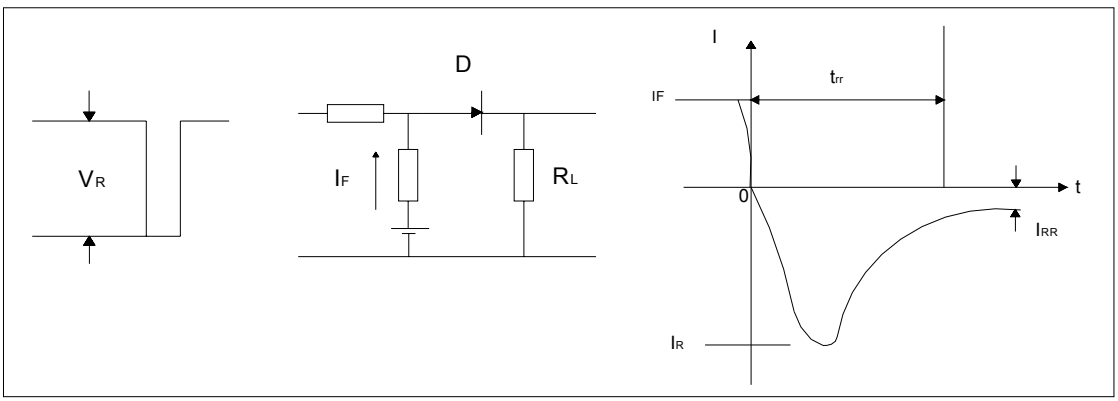
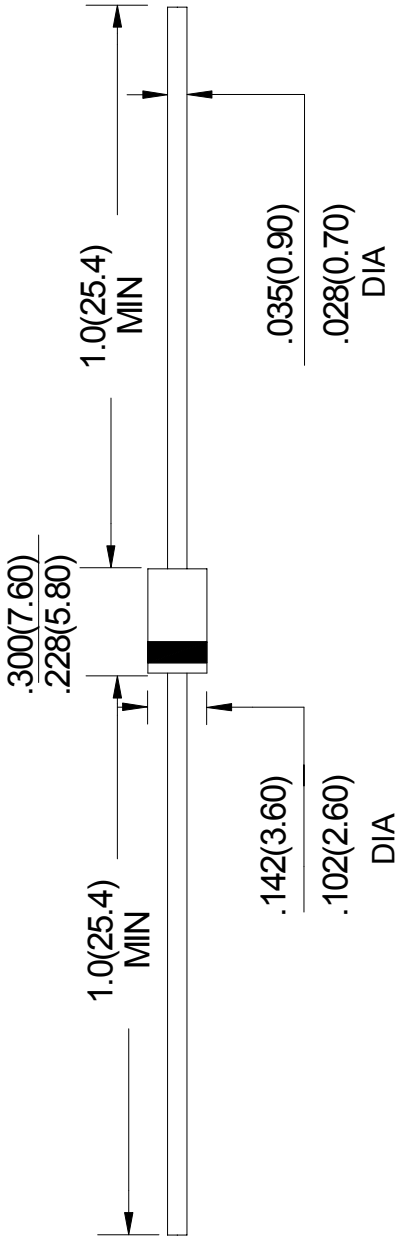



FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



## DO-15 Package Outline Dimensions

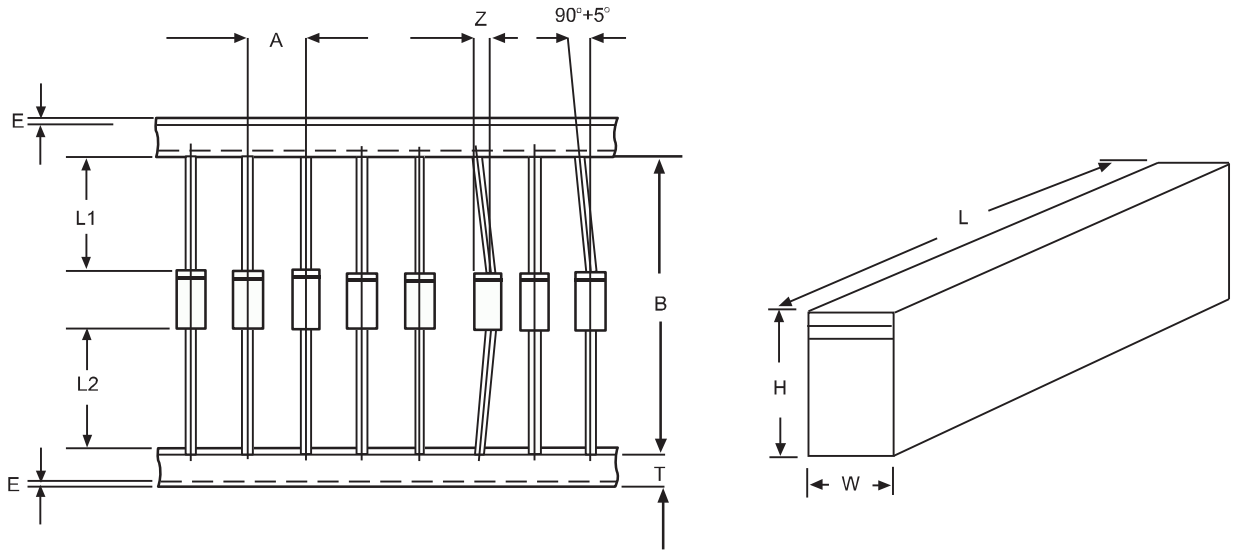



Unit: in inches (millimeters)

# 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``)