

DO-15 Plastic-Encapsulate Diodes

FR201 THRU FR207 Fast Recovery Rectifier Diodes

Features

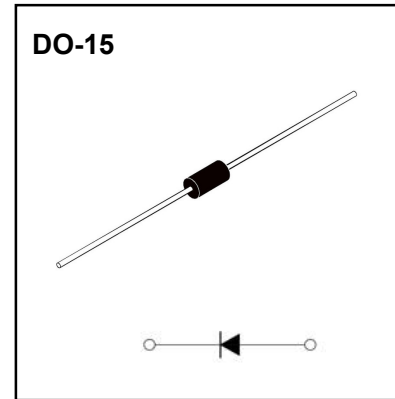
- $I_{F(AV)}$ 2.0A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- FR20X
X : From 1 To 7



Limiting Values(Absolute Maximum Rating)

| Item | Symbol | Unit | Test Conditions | FR | | | | | | |
|--|----------------|------------------|---|------------|-----|-----|-----|-----|-----|------|
| | | | | 201 | 202 | 203 | 204 | 205 | 206 | 207 |
| Repetitive Peak Reverse Voltage | V_{RRM} | V | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Maximum RMS Voltage | V_{RMS} | V | | 35 | 70 | 140 | 280 | 420 | 560 | 700 |
| Maximum DC Blocking Voltage | V_{DC} | V | | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Forward Current | $I_{F(AV)}$ | A | 60Hz Half-sine wave, Resistance load, $T_L=75^\circ\text{C}$ | 2 | | | | | | |
| Surge(Non-repetitive)Forward Current | I_{FSM} | A | 60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$ | 70 | | | | | | |
| Operation Junction and Storage Temperature Range | T_J, T_{STG} | $^\circ\text{C}$ | | -55 ~ +150 | | | | | | |

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

| Item | Symbol | Unit | Test Condition | FR | | | | | | |
|------------------------------|------------------|--------------------|---|-------------------------|-----|-----|-----|-----|-----|-----|
| | | | | 201 | 202 | 203 | 204 | 205 | 206 | 207 |
| Maximum Peak Forward Voltage | V_{FM} | V | $I_{FM}=2.0A$ | 1.3 | | | | | | |
| Maximum Peak Reverse Current | I_{RRM2} | μA | $V_{RM}=V_{RRM}$ | $T_a=25^\circ\text{C}$ | | | | | | |
| | I_{RRM1} | | | $T_a=125^\circ\text{C}$ | | | | | | |
| Reverse Recovery time | t_{rr} | ns | $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ | 150 | | | 250 | 500 | | |
| Typical junction capacitance | C_J | pF | Measured at 1MHz and applied reverse voltage of 4.0V D.C. | 40 | | | | | | |
| Thermal Resistance(Typical) | $R_{\theta J-A}$ | $^\circ\text{C/W}$ | Between junction and ambient | 40 | | | | | | |
| | $R_{\theta J-L}$ | | Between junction and lead | 25 | | | | | | |

Notes:

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

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

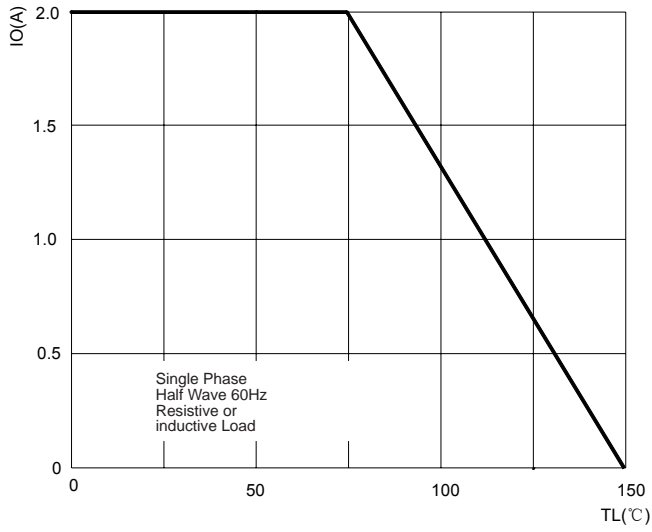


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

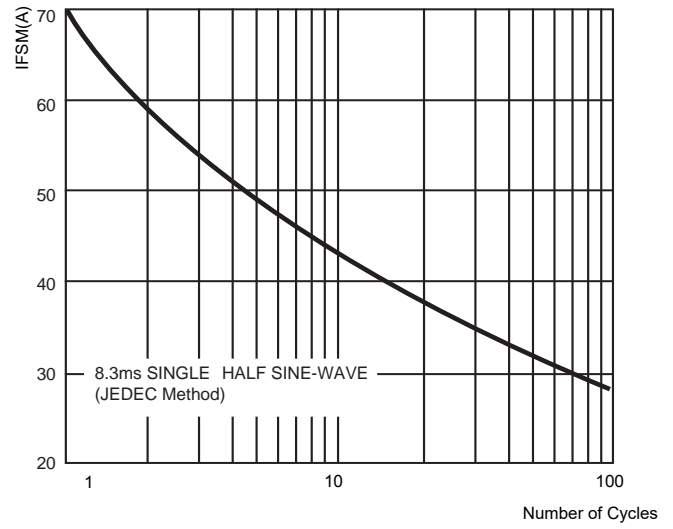


FIG.3: TYPICAL FORWARD CHARACTERISTICS

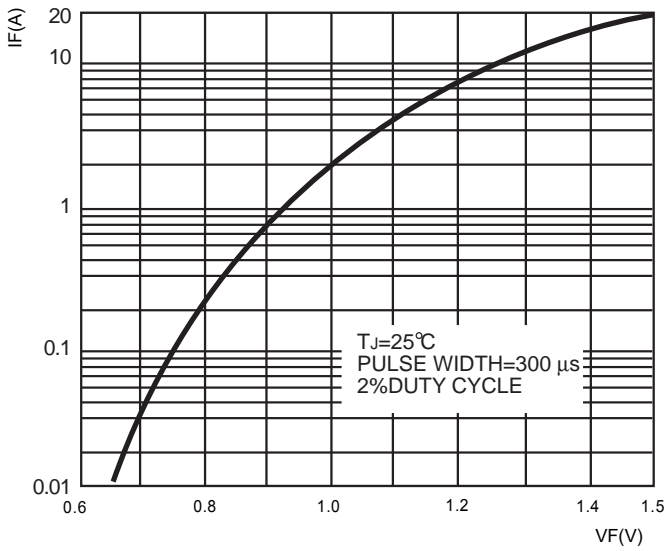


FIG.4: TYPICAL REVERSE CHARACTERISTICS

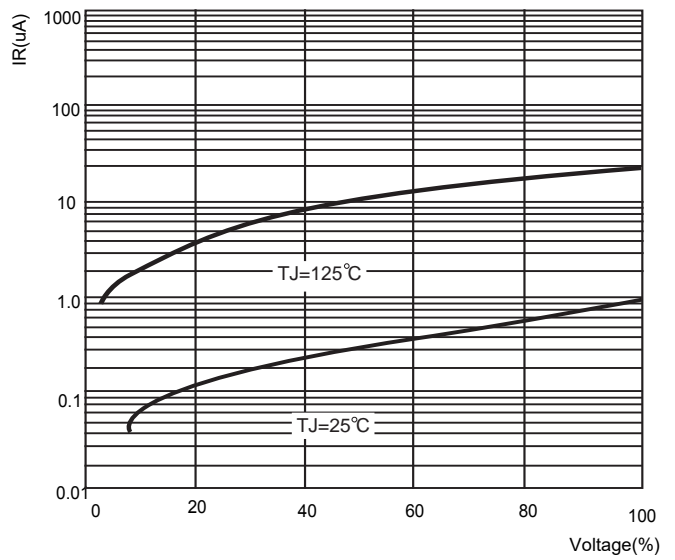
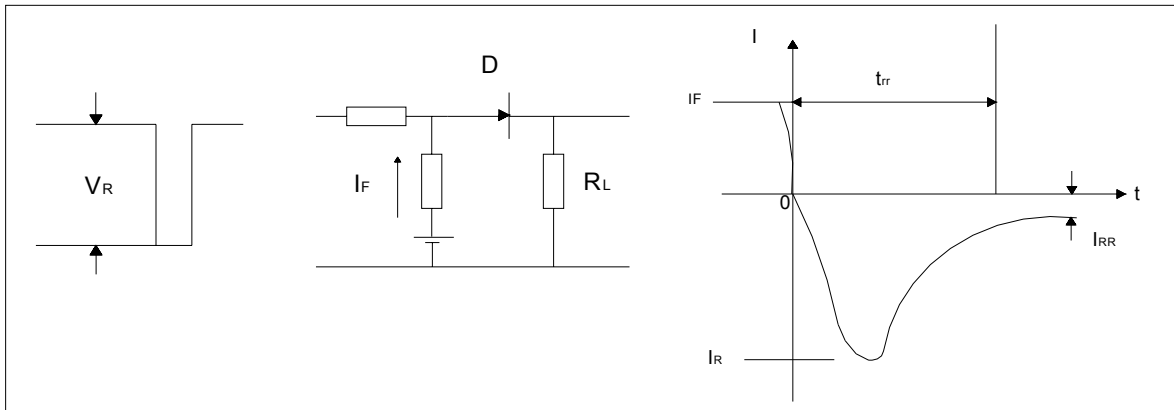
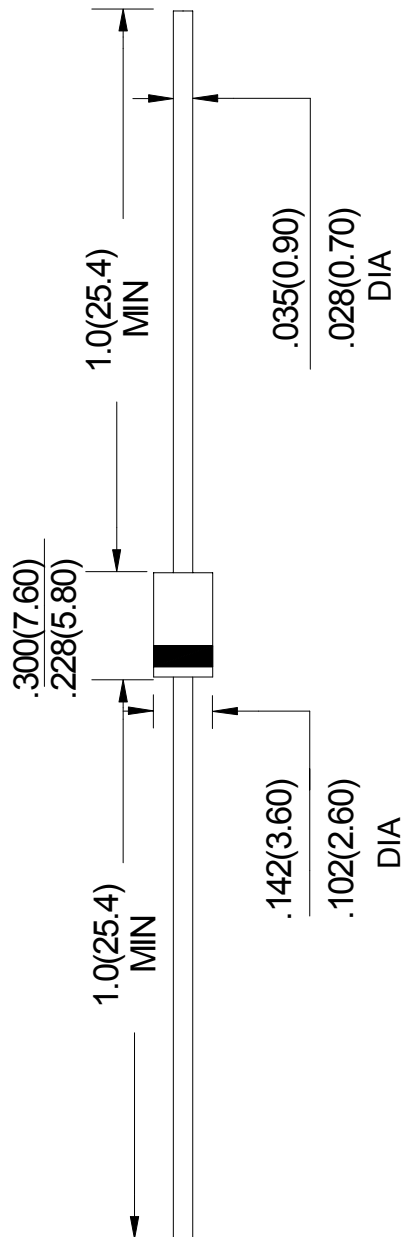


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



DO- 15 Package Outline Dimensions



Unit: in inches (millimeters)

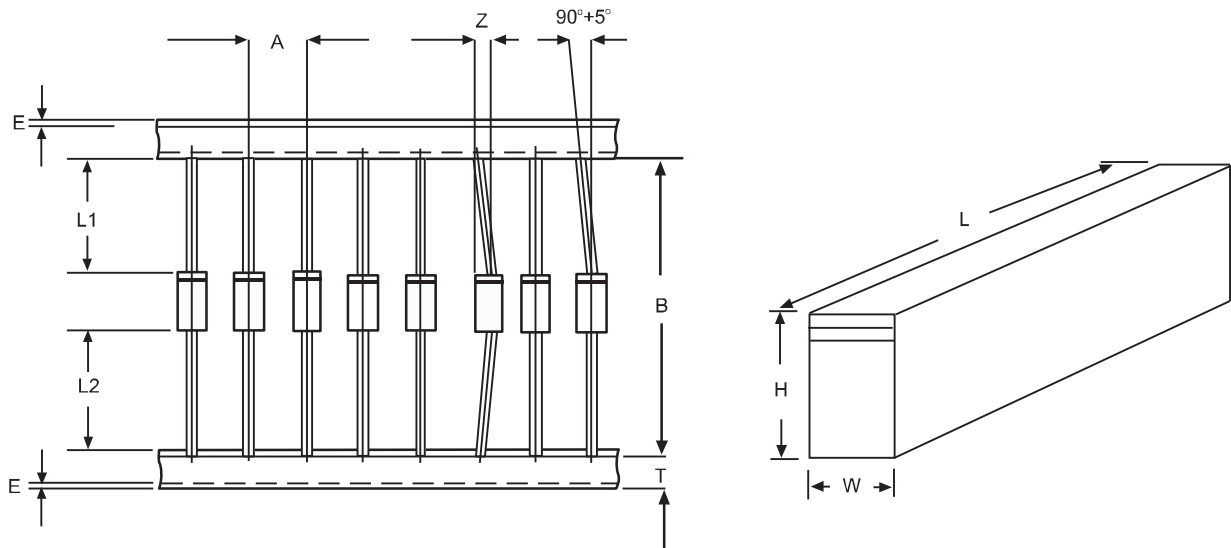
NOTICE

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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 ± 0.4 | 0.236 ± 0.016 |
| Exposed adhesive | E | 0.8max | 0.032max |
| Body eccentricity | IL1-L2I | 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'')