## Features

- Diffused Junction
- Low Forward Voltage Drop
- High Current Capability
- High Reliability
- High Surge Current Capability


## Mechanical Data

- Case: DO-15, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.40 grams (approx.)
- Mounting Position: Any
- Marking: Type Number
- Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4



## Maximum Ratings and Electrical Characteristics $@ T_{A}=25^{\circ} \mathrm{C}$ unless otherwise specified

Single Phase, half wave, 60 Hz , resistive or inductive load.
For capacitive load, derate current by $20 \%$.

| Characteristic | Symbol | FR151 | FR152 | FR153 | FR154 | FR155 | FR156 | FR157 | Unit |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | VRRM <br> VRWM <br> VR | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $\mathrm{VR}(\mathrm{RMS})$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Average Rectified Output Current (Note 1) @ $\mathrm{T}_{\text {A }}=55^{\circ} \mathrm{C}$ | Io | 1.5 |  |  |  |  |  |  | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | IFSM | 60 |  |  |  |  |  |  | A |
| Forward Voltage $\quad$ @ $\mathrm{I}_{\mathrm{F}}=1.5 \mathrm{~A}$ | VFM | 1.2 |  |  |  |  |  |  | V |
| Peak Reverse Current <br> $@ T_{A}=25^{\circ} \mathrm{C}$ <br> At Rated DC Blocking Voltage <br> $@ T_{A}=100^{\circ} \mathrm{C}$ | IRM | $\begin{aligned} & 5.0 \\ & 100 \end{aligned}$ |  |  |  |  |  |  | $\mu \mathrm{A}$ |
| Reverse Recovery Time (Note 2) | $\mathrm{t}_{\text {r }}$ | 150 |  |  |  | 250 |  | 0 | nS |
| Typical Junction Capacitance (Note 3) | CJ | 30 |  |  |  |  |  |  | pF |
| Typical Thermal Resistance Junction to Ambient (Note 1) Typical Thermal Resistance Junction to Lead (Note 1) | Rө JA Rө JL | $\begin{aligned} & 45 \\ & 20 \end{aligned}$ |  |  |  |  |  |  | ${ }^{\circ} \mathrm{C} / \mathrm{W}$ |
| Operating Temperature Range | TJ | -65 to +125 |  |  |  |  |  |  | ${ }^{\circ} \mathrm{C}$ |
| Storage Temperature Range | Tstg | -65 to +150 |  |  |  |  |  |  | ${ }^{\circ} \mathrm{C}$ |

Note: 1. Leads maintained at ambient temperature at a distance of 9.5 mm from the case.
2. Measured with $I_{F}=0.5 \mathrm{~A}, \mathrm{I}_{\mathrm{R}}=1.0 \mathrm{~A}, \mathrm{I}_{\mathrm{R}}=0.25 \mathrm{~A}$.
3. Measured at 1.0 MHz and Applied Reverse Voltage of 4.0 V D.C.



NUMBER OF CYCLES AT 60Hz
Fig. 3 Forward Surge Current Derating Curve



Fig. 4 Typical Reverse Characteristics


MARKING INFORMATION


## PACKAGING INFORMATION

TAPE \& REEL


TAPE \& BOX


BULK


| Packaging | Reel Diameter / <br> Box Size (mm) | Quantity <br> $($ PCS $)$ | Carton Size <br> $(\mathrm{mm})$ | Quantity <br> $($ PCS $)$ | Approx. Gross Weight <br> (KG) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TAPE \& REEL | 330 | 4,000 | $370 \times 370 \times 420$ | 20,000 | 12.0 |
| TAPE \& BOX | $255 \times 75 \times 150$ | 3,000 | $400 \times 273 \times 415$ | 30,000 | 15.0 |
| BULK | $200 \times 85 \times 25$ | 1,000 | $459 \times 214 \times 256$ | 40,000 | 17.5 |

Note: 1. Paper reel, white or gray color. Core material: plastic or metal.
2. Components are packed in accordance with EIA standard RS-296-E.

ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
| :--- | :---: | :---: |
| FR15x-T3 | DO-15 | $4000 /$ Tape \& Reel |
| FR15x-TB | DO-15 | 3000/Tape \& Box |
| FR15x | DO-15 | 1000 Units/Box |

Products listed in bold are WTE Preferred devices.
2. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
3. To order RoHS I Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, FR151-TB-LF.

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WARNING: DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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