

Semiconductors
High-reliability discrete products and engineering services since 1977

## 1N5615-1N5623

## FAST RECOVERY RECTIFIERS

## FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

| Operating Temperature | $-65^{\circ} \mathrm{C}$ to $+175^{\circ} \mathrm{C}$ |
| :--- | :--- |
| Storage Temperature: | $-65^{\circ} \mathrm{C}$ to $+200^{\circ} \mathrm{C}$ |
| Thermal Resistance: | $-38^{\circ} \mathrm{C} / \mathrm{W}$ |
| Surge Current: | 25 A |

ELECTRICAL CHARACTERISTICS ( $\mathrm{T}_{\mathrm{A}}=25^{\circ} \mathrm{C}$ unless otherwise specified)

| Type | Peak Inverse Voltage max. PIV | Breakdown Voltage min. Bv @ 50~A | Average Rectified Current Io |  | Forward Voltage max. $V_{F} @ 3 A$ | Reverse Current max. IR @ PIV |  | Capacitance max. C @ -12V | Surge <br> Current <br> max. (Note 1) <br> $\mathbf{I}_{\mathrm{F}}$ (surge) | Reverse <br> Recovery max. <br> (Note 2) <br> $t_{r r}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volts | Volts | Amps |  | Volts | $\mu \mathrm{A}$ |  | pF | Amps | n sec |
|  |  |  | $55^{\circ} \mathrm{C}$ | $100^{\circ} \mathrm{C}$ |  | $25^{\circ} \mathrm{C}$ | $100^{\circ} \mathrm{C}$ |  |  |  |
| 1N5615 | 200 | 220 | 1.0 | . 750 | $\begin{gathered} 0.8 \mathrm{~min} \text { to } \\ 1.6 \mathrm{max} \end{gathered}$ | . 5 | 25 | 45 | 25 | 150 |
| 1N5617 | 400 | 440 | 1.0 | . 750 |  | . 5 | 25 | 35 | 25 | 150 |
| 1N5619 | 600 | 660 | 1.0 | . 750 |  | . 5 | 25 | 25 | 25 | 250 |
| 1N5621 | 800 | 880 | 1.0 | . 750 |  | . 5 | 25 | 20 | 25 | 300 |
| 1N5623 | 1000 | 1100 | 1.0 | . 750 |  | . 5 | 25 | 15 | 25 | 500 |

Note 1: $\mathrm{T}_{\mathrm{A}}=100^{\circ} \mathrm{C}, \mathrm{f}=60 \mathrm{~Hz}, \mathrm{l}_{\mathrm{o}}=750 \mathrm{~mA}, 10-8 \mathrm{msec}$ surges $@ 1 /$ minute
Note 2: $\mathrm{I}_{\mathrm{F}}=0.5 \mathrm{~A}, \mathrm{I}_{\mathrm{Rm}}=1 \mathrm{~A}, \mathrm{i}_{\mathrm{R}(\mathrm{REC})}=.250 \mathrm{~A}$


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MECHANICAL CHARACTERISTICS

| Case: | Digi DD |
| :--- | :--- |
| Marking: | Alpha-numeric |
| Polarity: | Cathode band |

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|  | Digi DD |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Inches |  |  | Millimeters |  |
|  | Min | Max | Min | Max |  |
|  | - | 0.110 | - | 2.794 |  |
| BL | 0.125 | 0.205 | 3.175 | 5.207 |  |
| LD | 0.026 | 0.033 | 0.660 | 0.838 |  |
| LL | 1.000 | 1.500 | 25.400 | 38.100 |  |

BL includes slugs and uncontrolled area of the leads

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FIGURE 2
MAXIMUM CURRENT vs LEAD TEMPERATURE


FIGURE 4 MAXIMUM POWER vs. LEAD TEMPERATURE


FIGURE 3
TYPICAL REVERSE CURRENT
vs. PIV


FIGURE 5
TYPICAL FORWARD VOLTAGE vs. FORWARD CURRENT

