DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

# 1N5614-1N5622

## STANDARD 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. Part numbers listed indicate a tolerance of ±20% with guaranteed limits on only, VZ, IR and

**MAXIMUM RATINGS**

| Rating | Value |
|---|---|
| **Thermal resistance** | 38°C/W junction to lead at 3/8" lead length from body |
| **Thermal impedance** | 4.5°C/W @ 10ms heating time |
| **Average rectified forward current** | 1.0A @ $T_A$ = 55°C and 0.75A @ TA = 100°C |
| **Forward surge current** | 30A @ 8.3ms half sine |
| **Solder temperatures** | 260°C for 10 s maximum |
| **Junction and storage temperature** | -65 to +200°C |

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise specified)

| Part number | Working peak reverse voltage | Minimum breakdown voltage | Average rectified current(1) | | Maximum forward voltage | | Maximum reverse current | | Maximum surge current(2) | Reverse recovery(3) |
|---|---|---|---|---|---|---|---|---|---|---|
| | $V_{RWM}$ | $V_{BR}$ @ 50µA | $I_O$ @ $T_A$ | | $V_F$ @ 3A | | $I_R$ @ $V_{RWM}$ | | $I_{FSM}$ | $t_{rr}$ |
| | Volts | Volts | Amps | | Volts | | µA | | Amps | µs |
| | | | 55°C | 100°C | Min | Max | 25°C | 100°C | | |
| **1N5614** | 200 | 220 | 1.00 | 0.750 | 0.8 | 1.30 | 0.5 | 25 | 30 | 2.0 |
| **1N5616** | 400 | 440 | 1.00 | 0.750 | 0.8 | 1.30 | 0.5 | 25 | 30 | 2.0 |
| **1N5618** | 600 | 660 | 1.00 | 0.750 | 0.8 | 1.30 | 0.5 | 25 | 30 | 2.0 |
| **1N5620** | 800 | 880 | 1.00 | 0.750 | 0.8 | 1.30 | 0.5 | 25 | 30 | 2.0 |
| **1N5622** | 1000 | 1100 | 1.00 | 0.750 | 0.8 | 1.30 | 0.5 | 25 | 30 | 2.0 |

Note 1: From 1 Amp at $T_A$ = 55°C, derate linearly at 5.56mA/°C to 0.75 Amp at $T_A$ = 100°C, from $T_A$ = 100°C derate linearly at 7.5mA/°C to 0 Amps at $T_A$ = 200°C. These ambient ratings are for PC boards where thermal resistance from mounting point to ambient is sufficiently controlled where $T_{J(max)}$ does not exceed 175°C.

Note 2: $T_A$ = 100°C, f = 60Hz, IO = 750mA for ten 8.3ms surges @ 1 minute intervals.

Note 3: $I_F$ = 0.5A, $I_{RM}$ = 1A, $I_{R(REC)}$ = 0.250A

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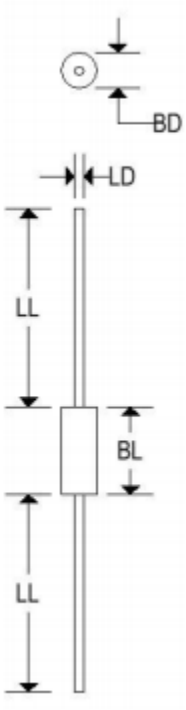
**MECHANICAL CHARACTERISTICS**

| | |
|---|---|
| **Case:** | Digi A |
| **Marking:** | Alpha-numeric |
| **Polarity:** | Cathode band |




| | Digi A | | | |
|---|---|---|---|---|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| BD | 0.060 | 0.095 | 1.524 | 2.413 |
| 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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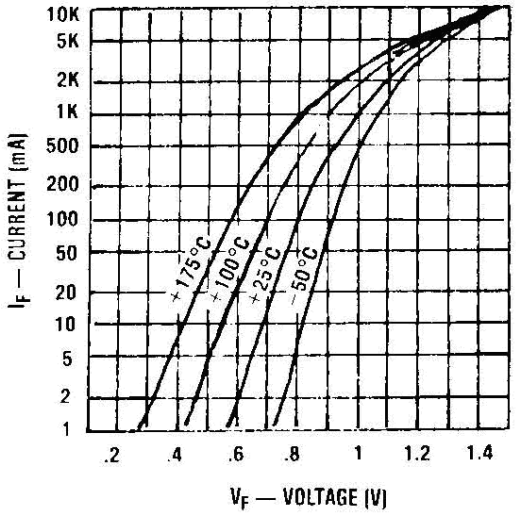
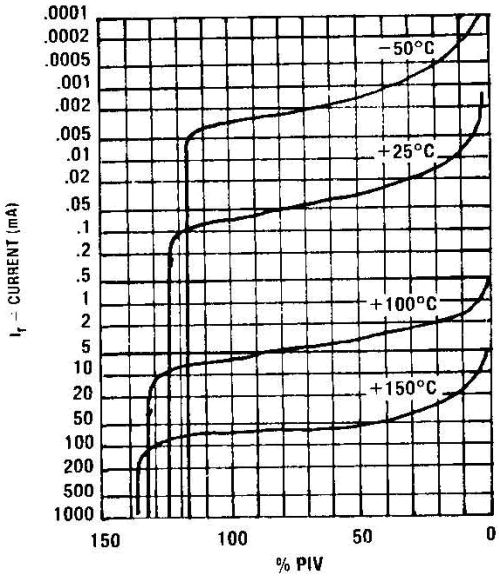
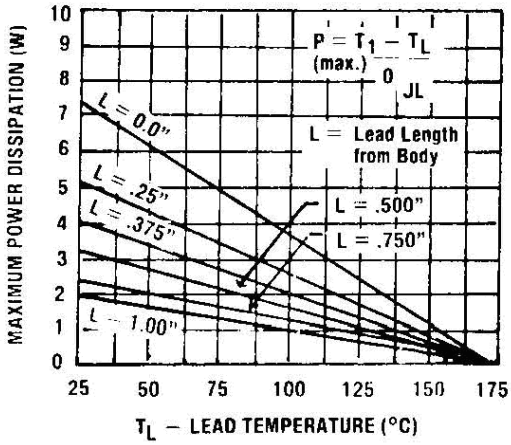


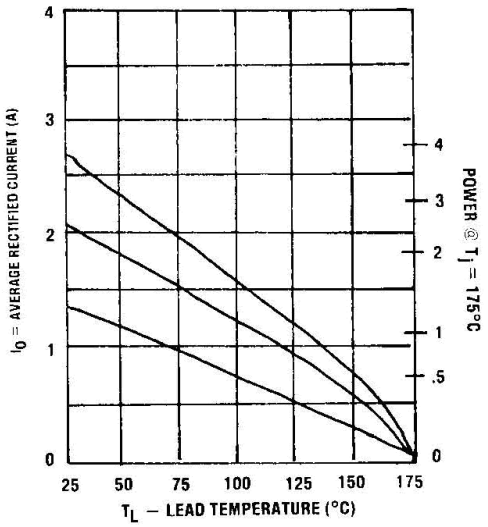

**TYPICAL FORWARD VOLTAGE VS FORWARD CURRENT**




**TYPICAL REVERSE CURRENT VS PIV**




**MAXIMUM POWER DISSIPATION VS LEAD TEMPERATURE**




**MAXIMUM CURRENT VS LEAD TEMPERATURE**