DIGITRON™ Semiconductors

High-reliability discrete products
and engineering services since 1977

# BY228

## STANDARD RECOVERY RECTIFIER

### 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 ($T_A$ = 25°C unless otherwise noted)

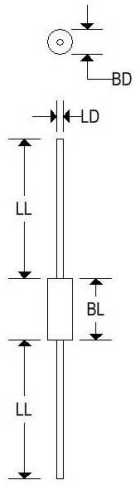
| Parameter | Test condition | Symbol | Value | Unit |
|---|---|---|---|---|
| **Reverse voltage** | | $V_R$ | 1500 | V |
| **Repetitive peak reverse voltage** | $I_R$ = 100µA | $V_{RRM}$ | 1650 | V |
| **Peak forward surge current** | $t_p$ = 10ms, half sinewave | $I_{FSM}$ | 50 | A |
| **Average forward current** | | $I_{FAV}$ | 3 | A |
| **Junction temperature** | | $T_J$ | 140 | °C |
| **Storage temperature range** | | $T_{stg}$ | -55 to +175 | °C |
| **Non repetitive reverse avalanche energy** | $I_{(BR)R}$ = 0.4A | $E_R$ | 10 | MJ |
| **Junction ambient** | On PC board with spacing 25mm | $R_{\theta JA}$ | 70 | K/W |

### ELECTRICAL CHARACTERISTICS

| Parameter | Test condition | Symbol | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Forward voltage** | $I_F$ = 5A | $V_F$ | | | 1.5 | V |
| **Reverse current** | $V_R$ = 1500V | $I_R$ | | 2 | 5 | µA |
| | $V_R$ = 1500V, $T_J$ = 140°C | $I_R$ | | | 140 | µA |
| **Total reverse recovery time** | $I_F$ = 1A, -di/dt = 0.05A/µs | $t_{rr}$ | | | 20 | µs |
| **Reverse recovery time** | $I_F$ = 0.5A, $I_R$ = 1A, $i_R$ = 0.25A | $t_{rr}$ | | | 2 | µs |

### MECHANICAL CHARACTERISTICS

| | |
|---|---|
| **Case** | SOD-64 |
| **Marking** | Body painted, alpha-numeric |
| **Polarity** | Cathode band |




| | SOD-64 | | | |
|---|---|---|---|---|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| BD | 0.169 | 0.250 | 4.300 | 6.350 |
| BL | - | 0.300 | - | 7.620 |
| LD | 0.048 | 0.053 | 1.219 | 1.350 |
| LL | 1.024 | 1.102 | 26.000 | 28.000 |

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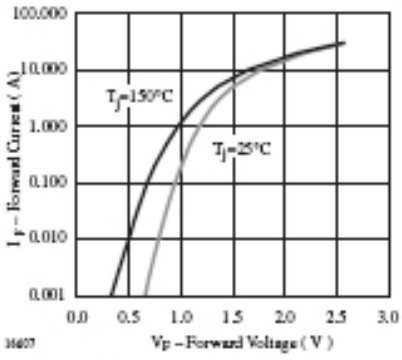
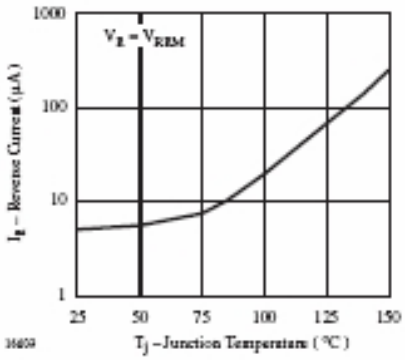
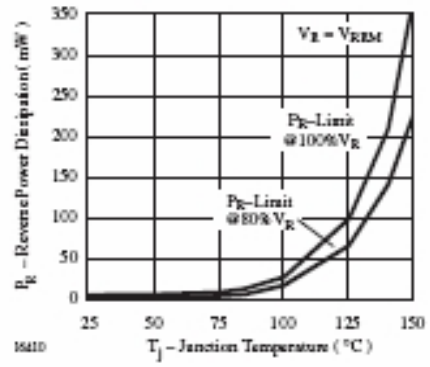


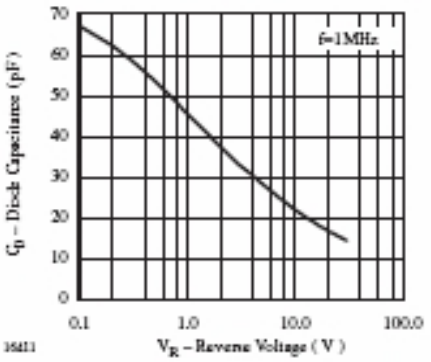

Forward Current vs. Forward Voltage



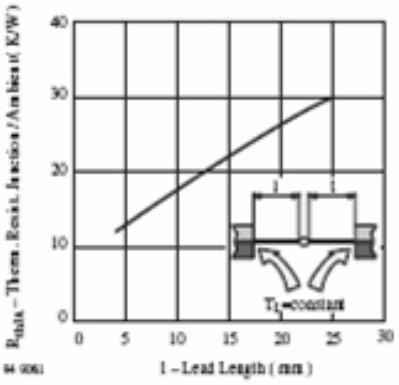

Reverse Current vs. Junction Temperature



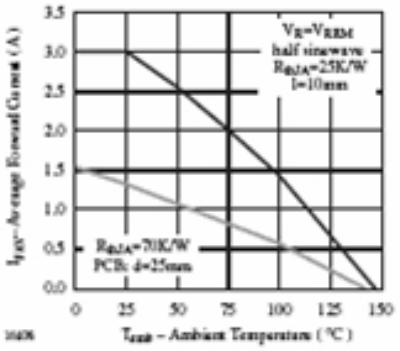

Max. Reverse Power Dissipation vs. Junction Temperature




Diode Capacitance vs. Reverse Voltage




Typ. Thermal Resistance vs. Lead Length




Max. Average Forward Current vs. Ambient Temperature