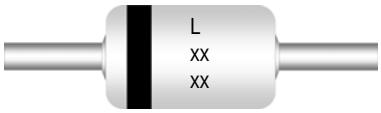
TAK CHEONG®

SEMICONDUCTOR

# 500 mW DO-35 Hermetically Sealed Glass Fast Switching Diodes

AXIAL LEAD
DO35

DEVICE MARKING DIAGRAM




L : Logo
TC1Nxxxx : Device Code

## Absolute Maximum Ratings

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $P_D$ | Power Dissipation | 500 | mW |
| $T_{STG}$ | Storage Temperature Range | -65 to +150 | °C |
| $T_J$ | Operating Junction Temperature | +175 | °C |
| $W_{IV}$ | Working Inverse Voltage | 75 | V |
| $I_O$ | Average Rectified Current | 150 | mA |
| $I_{FM}$ | Non-repetitive Peak Forward Current | 450 | mA |
| $I_{FSURGE}$ | Peak Forward Surge Current (Pulse Width = 1.0 µsecond) | 2 | A |

These ratings are limiting values above which the serviceability of the diode may be impaired.

## Specification Features:

- Fast Switching Device ($T_{RR}$ <4.0 nS)
- DO-35 Package (JEDEC)
- Through-Hole Device Type Mounting
- Hermetically Sealed Glass
- Compression Bonded Construction
- All External Surfaces Are Corrosion Resistant And Leads Are Readily Solderable
- RoHS Compliant
- Solder Hot Dip Tin (Sn) Terminal Finish
- Cathode Indicated By Polarity Band


ELECTRICAL SYMBOL

## Electrical Characteristics

$T_A$ = 25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Limits | | Unit |
|---|---|---|---|---|---|
| | | | Min | Max | |
| $B_V$ | Breakdown Voltage | $I_R$=100µA | 100 | | Volts |
| | | $I_R$=5µA | 75 | | |
| $I_R$ | Reverse Leakage Current | $V_R$=20V | | 25 | nA |
| | | $V_R$=75V | | 5 | µA |
| $V_F$ | Forward Voltage TC1N4448, TC1N914B | $I_F$=5mA | 0.62 | 0.72 | |
| | TC1N4148 | $I_F$=10mA | | 1.0 | Volts |
| | TC1N4448, TC1N914B | $I_F$=100mA | | 1.0 | |
| $T_{RR}$ | Reverse Recovery Time | $I_F$=10mA, $V_R$=6V | | | |
| | | $R_L$=100Ω | | 4 | nS |
| | | $I_{RR}$=1mA | | | |
| C | Capacitance | $V_R$=0V, f=1$M_{HZ}$ | | 4 | pF |

## Typical Characteristics

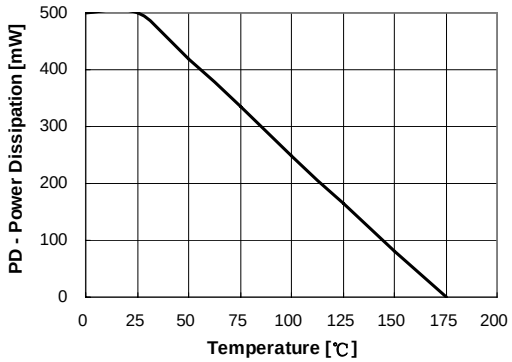



**Figure 1. Power Dissipation vs Ambient Temperature**
**Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature**

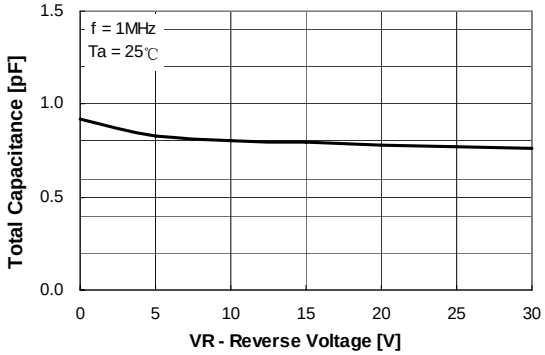



**Figure 2. Total Capacitance**

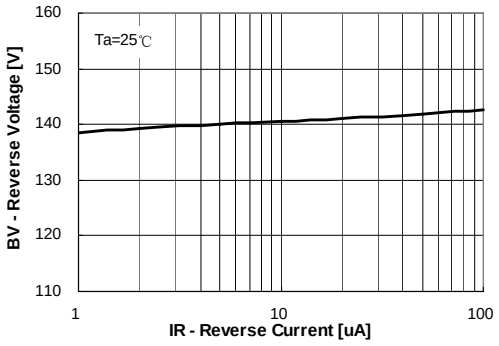



**Figure 3. Reverse Voltage vs Reverse Current**
**BV – 1.0uA to 100uA**

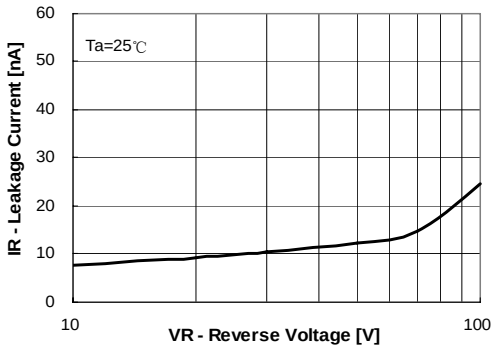



**Figure 4. Reverse Current vs Reverse Voltage**
**IR – 10V to 100V**

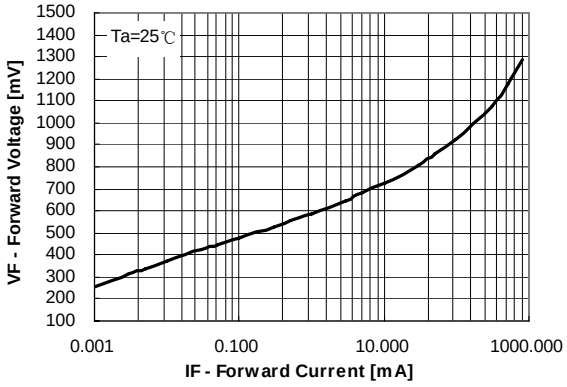



**Figure 5. Forward Voltage vs Forward Current**
**VF – 0.001mA to 800mA**

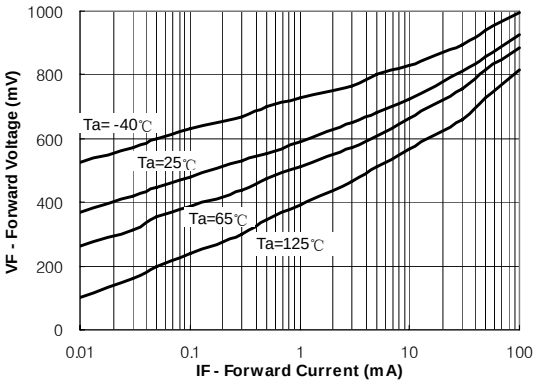
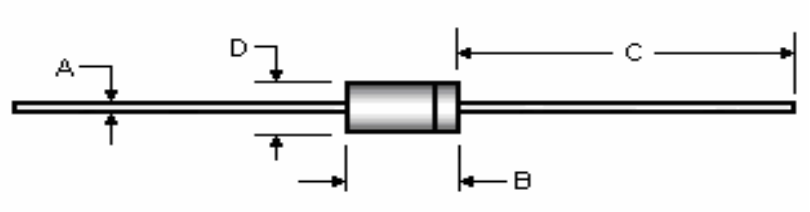



**Figure 6. Forward Voltage vs Ambient Temperature**
**VF – 0.01mA to 100mA (-40 to +125 Deg C)**

## Package Outline

| Package | Case Outline |
|---|---|

DO-35




| DIM | DO-35 | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min | Max | Min | Max |
| **A** | 0.46 | 0.55 | 0.018 | 0.022 |
| **B** | 3.05 | 4.00 | 0.120 | 0.157 |
| **C** | 25.40 | 38.10 | 1.000 | 1.500 |
| **D** | 1.53 | 2.00 | 0.060 | 0.079 |

**Notes:**

1. All dimensions are within JEDEC standard.
2. DO35 polarity denoted by cathode band.

# NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damagers resulting from such improper use of sale.

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