

QUAD SCHOTTKY DATA LINE BUS TERMINATOR

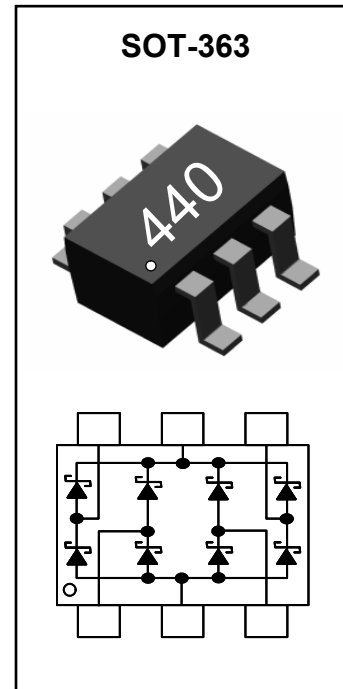
This highly integrated device is designed as rail to rail overvoltage protection clamp for up to four high frequency data lines. It is ideal in portable applications where small form factors are required.

FEATURES

- Low Forward Voltage Drop for Improved Voltage Protection
- Very Fast Switching
- Ultra Small SOT-363 Package Utilizing Minimal Board Space
- Lead free in Wet and Unwettable Ink 91 Fc < G & \$ % #) # I X j Y W i j Y
- Green molding compound as per IEC61249 Std. . (Halogen Free)

APPLICATIONS

- PDAs
- Portable Computers



MAXIMUM RATINGS $T_A = 25^\circ\text{C}$, unless otherwise noted

| Rating | Symbol | Value | Units |
|---|-----------|-------------|------------------|
| Marking Code | | 440 | |
| Reverse Voltage | V_R | 30 | V |
| Continuous Forward Current | I_F | 200 | mA |
| Non-Repetitive Surge Current, $t=1\text{s}$ | I_{FSM} | 600 | mA |
| Power Dissipation (Note 1) | P_D | 200 | mW |
| Operating Junction Temperature Range | T_J | -55 to +125 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -65 to +125 | $^\circ\text{C}$ |

Note 1: Device mounted on FR-4 board 1.0 inch x 0.85 inch x 0.062 inch, with minimum pad layout

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Value | Units |
|---|------------|-------|--------------------|
| Thermal Resistance, Junction to Ambient | R_{thja} | 625 | $^\circ\text{C/W}$ |

ELECTRICAL CHARACTERISTICS (Each Diode)
 $T_J = 25^\circ\text{C}$, unless otherwise noted

| Characteristic | | Symbol | Min | Typ | Max | Units |
|--|--|----------|-----|-------|-------|---------------|
| Reverse Breakdown Voltage (Note 2) | $I_R = 100\mu\text{A}$ | V_{BR} | 30 | - | - | V |
| Forward Voltage (Note 2) | $I_F = 0.1\text{mA}$ | V_F | - | 0.225 | 0.280 | V |
| | $I_F = 1.0\text{mA}$ | | - | 0.280 | 0.350 | |
| | $I_F = 10\text{mA}$ | | - | 0.350 | 0.450 | |
| | $I_F = 30\text{mA}$ | | - | 0.390 | 0.550 | |
| | $I_F = 100\text{mA}$ | | - | 0.460 | 1.0 | |
| Reverse Leakage Current (Note 2) | $V_R = 25\text{V}$ | I_R | - | - | 2.0 | μA |
| Total Capacitance $V_R = 0\text{V}$, $f = 1.0\text{MHz}$ | Data Line to Ground | C_T | - | 19 | - | pF |
| | Between Data Lines | | - | 12 | - | |
| Reverse Recovery Time | $I_F = I_R = 10\text{mA}$ $I_{rr} = 1.0\text{mA}$, $R_L = 100\text{Ohm}$ | t_{rr} | - | - | 5.0 | ns |

Note 2: Short duration test pulse to minimize self heating



PJ4L40

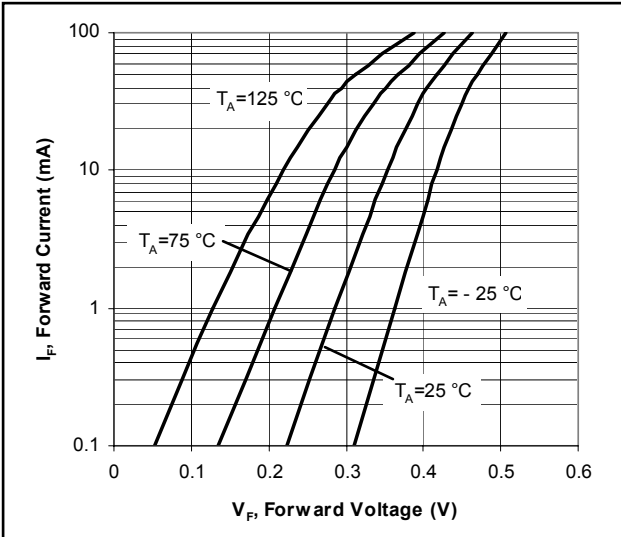


Fig. 1. Typical Forward Voltage

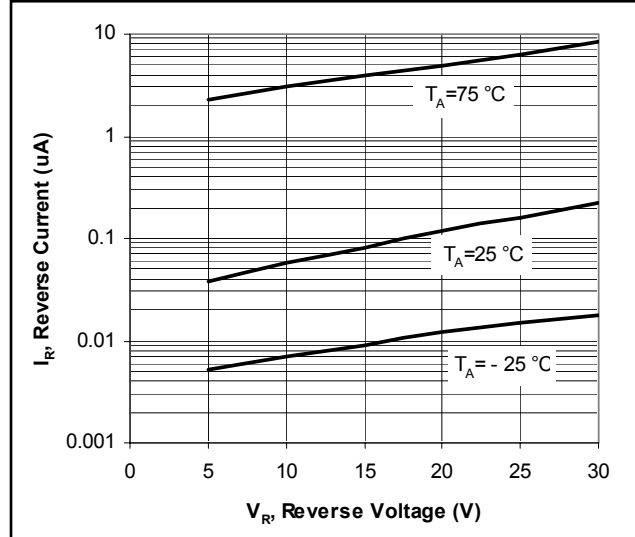


Fig. 2. Typical Reverse Current

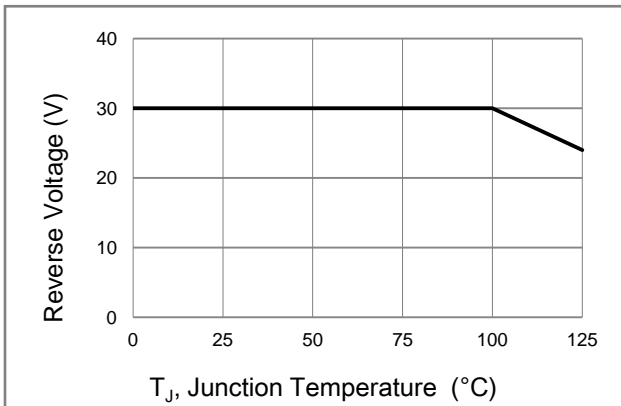
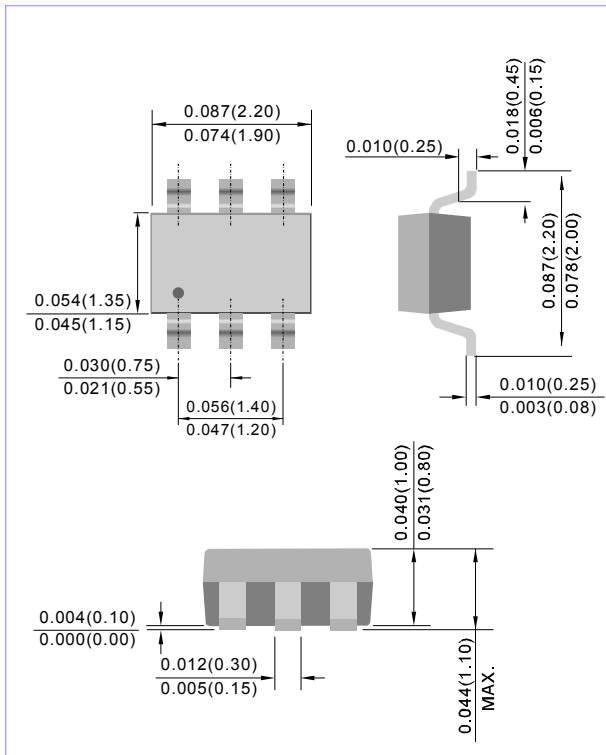


Fig. 3. Operating Temperature Derating Curve

PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS

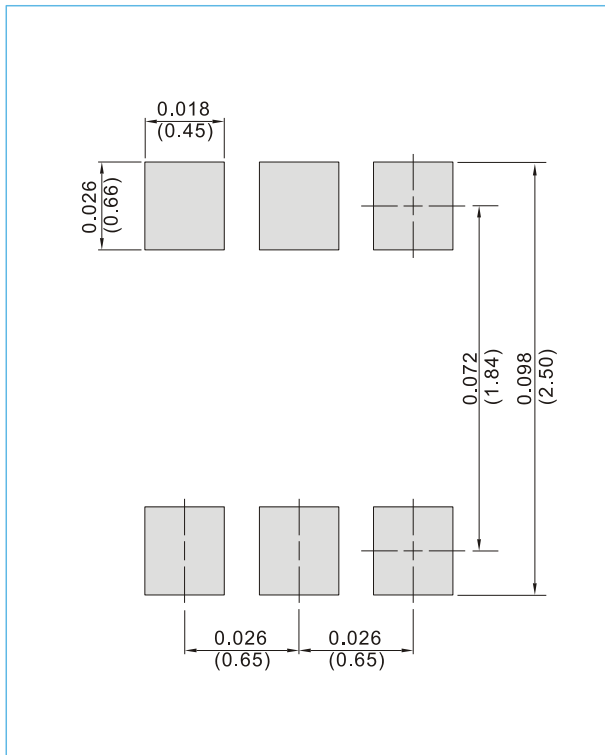
SOT-363

Unit : inch(mm)



SOT-363

Unit : inch(mm)



ORDERING INFORMATION

PJ4L40 T/R7 - 7 inch reel, 3K units per reel

PJ4L40 T/R13 - 13 inch reel, 10K units per reel

Note :

- To protect data lines and the power line, connect pins 2 and 3 directly to the positive supply rail (V_{CC}). In this configuration the data lines are referenced to the supply voltage. An external TVS diode may be added between the supply rail and ground in order to prevent over-voltage on the supply rail.
- In applications where no positive supply reference is available, or complete supply isolation is desired, an external TVS diode may be used as the reference. The steering diodes will begin to conduct when the voltage on the protected line exceeds the working voltage of the TVS (plus one diode drop).



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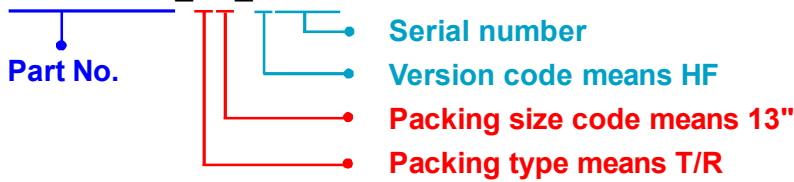
Part No_packing code_Version

PJ4L40_R1_00001

PJ4L40_R2_00001

For example :

RB500V-40_R2_00001



| Packing Code XX | | | | Version Code XXXXX | | |
|--------------------------------------|----------------------|----------------------------------|----------------------|---------------------------|----------------------|---------------------------------------|
| Packing type | 1 st Code | Packing size code | 2 nd Code | HF or RoHS | 1 st Code | 2 nd ~5 th Code |
| Tape and Ammunition Box (T/B) | A | N/A | 0 | HF | 0 | serial number |
| Tape and Reel (T/R) | R | 7" | 1 | RoHS | 1 | serial number |
| Bulk Packing (B/P) | B | 13" | 2 | | | |
| Tube Packing (T/P) | T | 26mm | X | | | |
| Tape and Reel (Right Oriented) (TRR) | S | 52mm | Y | | | |
| Tape and Reel (Left Oriented) (TRL) | L | PANASERT T/B CATHODE UP (PBCU) | U | | | |
| FORMING | F | PANASERT T/B CATHODE DOWN (PBCD) | D | | | |



PJ4L40

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