PJ3L85

## DATA BUS TERMINATOR / 3-PHASE, FULL WAVE BRIDGE

This highly integrated device is designed as rail to rail overvoltage protection clamp for up to 3 data lines. It is also ideal as a three-phase, full wave bridge. PanJit's PJ3L85 is ideal in portable applications where small form factors are required.

FEATURES

- **Very Low Reverse Leakage Current**
- **Fast Switching**
- **Ultra Small SOT-363 Package Utilizing Minimal Board Space**
- **Lead Free Plating, 100% Matte Tin Finish, RoHS Compliant**
- **MIL-883 HBM+/- 8KV,IEC-61000-4-2 LEVEL 4**

APPLICATIONS

- **PDAs**
- **Portable Computers**

SOT-363

GREEN PRODUCTS
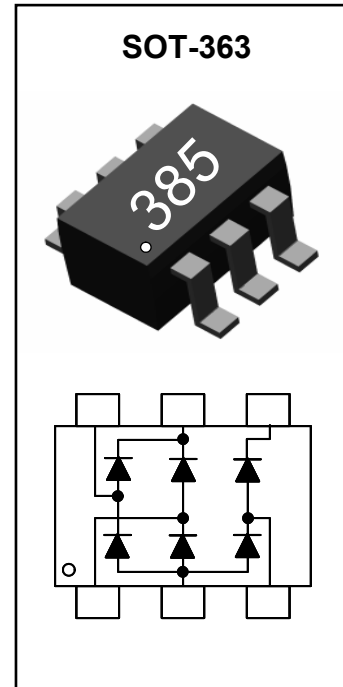
MAXIMUM RATINGS T_A = 25°C, unless otherwise noted

Rating	Symbol	Value	Units
Marking Code		385	
Reverse Voltage	V_R	85	V
Continuous Forward Current	I_F	160	mA
Non-Repetitive Surge Current, t=1s	I_{FSM}	500	mA
Power Dissipation (Note 1)	P_D	200	mW
Operating Junction Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{STG}	-65 to +150	°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	°C/W

ELECTRICAL CHARACTERISTICS (Each Diode) T_J = 25°C, unless otherwise noted

Characteristic		Symbol	Min	Typ	Max	Units
Reverse Breakdown Voltage (Note 2)	IR = 100uA	V_{BR}	85	-	-	V
Forward Voltage (Note 2)	IF = 1.0mA	V_F	-	0.76	0.90	V
	IF = 10mA		-	0.84	1.00	
	IF = 50mA		-	0.92	1.10	
	IF = 150mA		-	1.00	1.25	
Reverse Leakage Current (Note 2)	VR = 75V	I_R	-	-	5.0	nA
	VR = 75V, Tj = 150°C		-	-	80	
Total Capacitance VR = 0V, f = 1.0 MHz	Per Element	C_T	-	1.25	2.0	pF
	Data Line to Ground		-	2.0	6	
	Between Data Lines		-	3.0	7	
Reverse Recovery Time	IF = IR = 10mA Irr = 1.0mA, RL = 100 Ohm	t_{rr}	-	-	3.0	us

Note 2: Short duration test pulse to minimize self heating
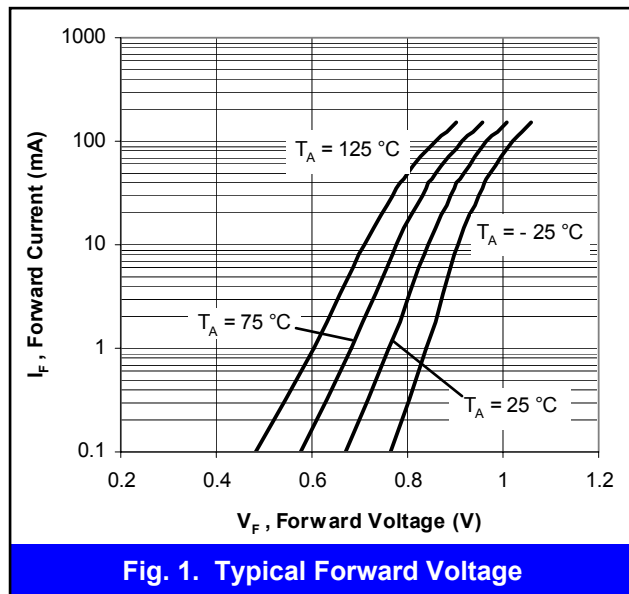
ELECTRICAL CHARACTERISTIC CURVES (Each Diode)
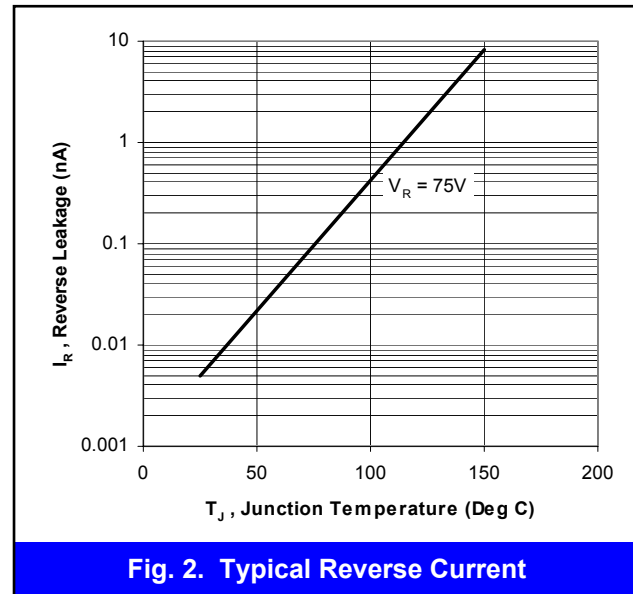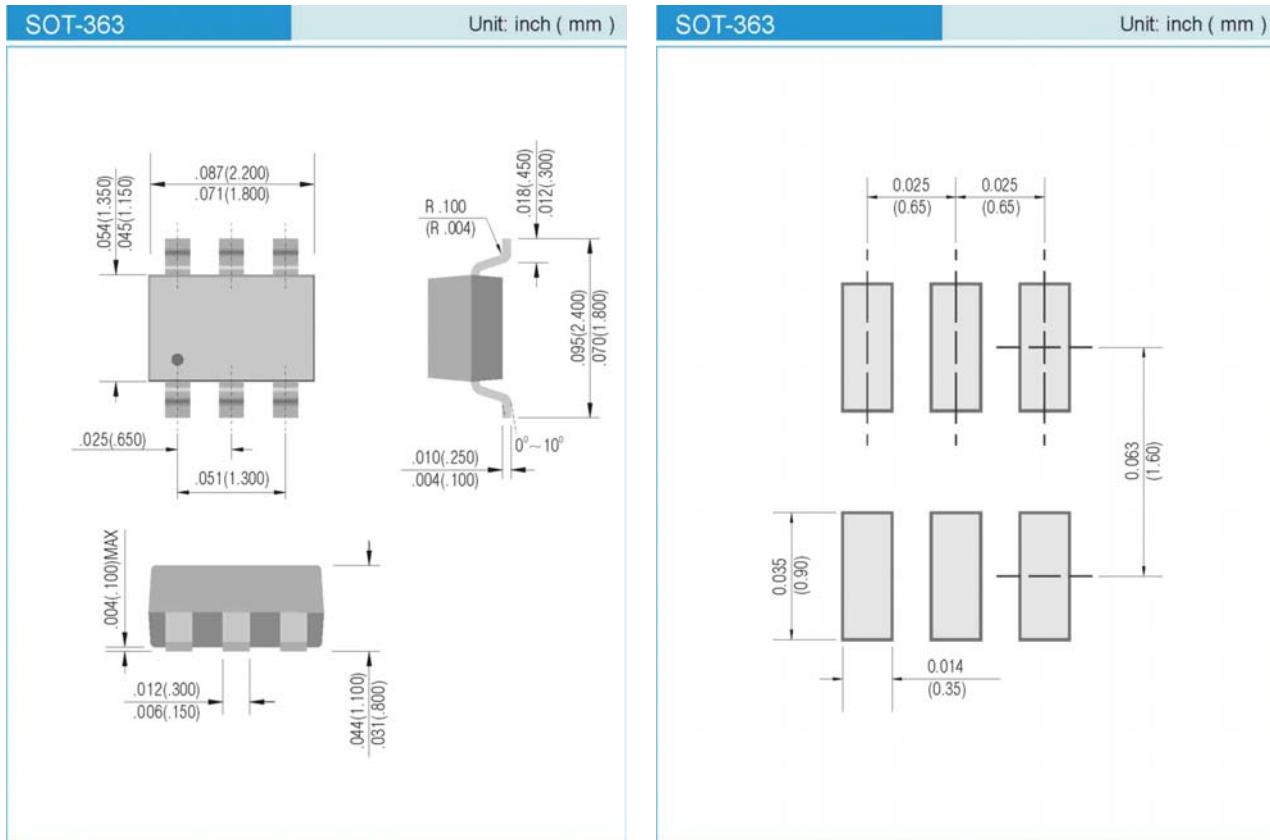

Fig. 1. Typical Forward Voltage

Fig. 2. Typical Reverse Current

PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS

SOT-363
Unit: inch (mm)
.087(2.200)
.071(1.800)
.054(1.350)
.045(1.150)
R .100
(R .004)
.018(.450)
.012(.300)
.095(2.400)
.070(1.800)
.025(.650)
.051(1.300)
.010(.250)
.004(.100)
0°~10°
.004(.100)MAX
.012(.300)
.006(.150)
.044(1.100)
.031(.800)

SOT-363
Unit: inch (mm)
0.025
(0.65)
0.025
(0.65)
0.063
(1.60)
0.035
(0.90)
0.014
(0.35)

ORDERING INFORMATION

PJ3L85 T/R7 - 7 inch reel, 3K units per reel

PJ3L85 T/R13 - 13 inch reel, 10K units per reel

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Note :

1. 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.
2. 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).