

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

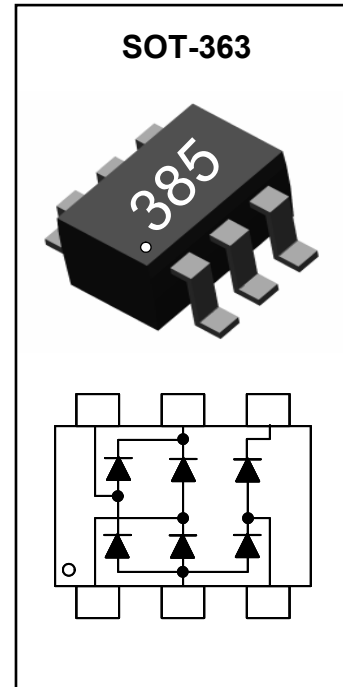
This highly integrated device is designed as rail to rail overvoltage protection clamp for up to 3 data lines. It is also ideal as a three-phase, full wave bridge. PanJit's PJ3L85 is ideal in portable applications where small form factors are required.

### FEATURES

- Very Low Reverse Leakage Current
- Fast Switching
- Ultra Small SOT-363 Package Utilizing Minimal Board Space
- MIL-883 HBM+/- 8KV, IEC-61000-4-2 LEVEL 4
- Lead free in Vt a d`]UbW`k ]l` 9l `Fc<G`&\$%#` ) #0l `X]fYW]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		385	
Reverse Voltage	$V_R$	85	V
Continuous Forward Current	$I_F$	160	mA
Non-Repetitive Surge Current, $t=1\text{s}$	$I_{FSM}$	500	mA
Power Dissipation (Note 1)	$P_D$	200	mW
Operating Junction Temperature Range	$T_J$	-65 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +150	$^\circ\text{C}$

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)	$V_{BR}$	85	-	-	V
Forward Voltage (Note 2)	$I_R = 100\mu\text{A}$	-	0.76	0.90	V
	$I_F = 1.0\text{mA}$	-	0.84	1.00	
	$I_F = 10\text{mA}$	-	0.92	1.10	
	$I_F = 150\text{mA}$	-	1.00	1.25	
Reverse Leakage Current (Note 2)	$I_R$	-	-	5.0	nA
		-	-	80	
Total Capacitance $V_R = 0\text{V}$ , $f = 1.0\text{ MHz}$	Per Element	-	1.25	2.0	pF
	Data Line to Ground	-	2.0	6	
	Between Data Lines	-	3.0	7	
Reverse Recovery Time	$t_{rr}$	-	-	3.0	us

Note 2: Short duration test pulse to minimize self heating

## ELECTRICAL CHARACTERISTIC CURVES (Each Diode)

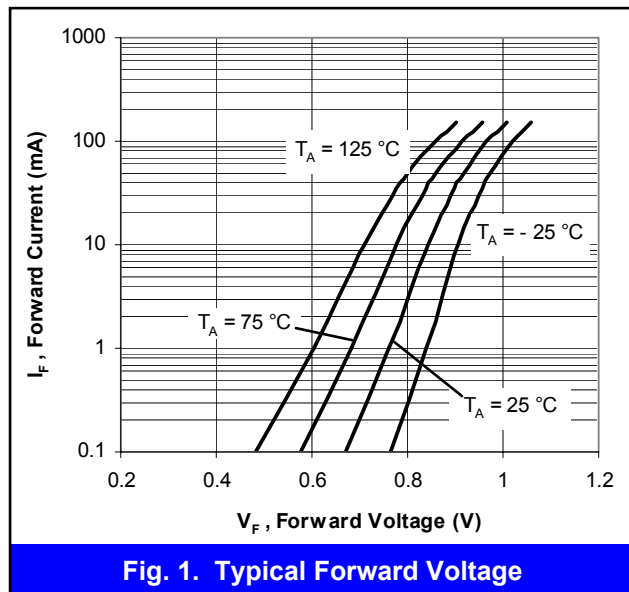


Fig. 1. Typical Forward Voltage

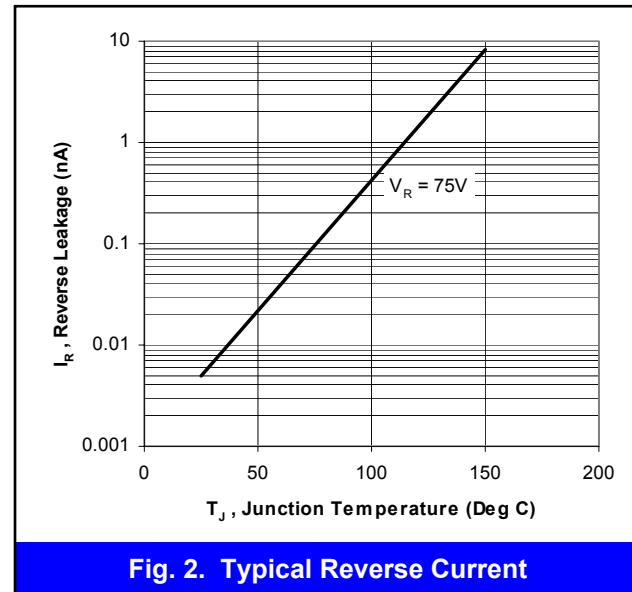
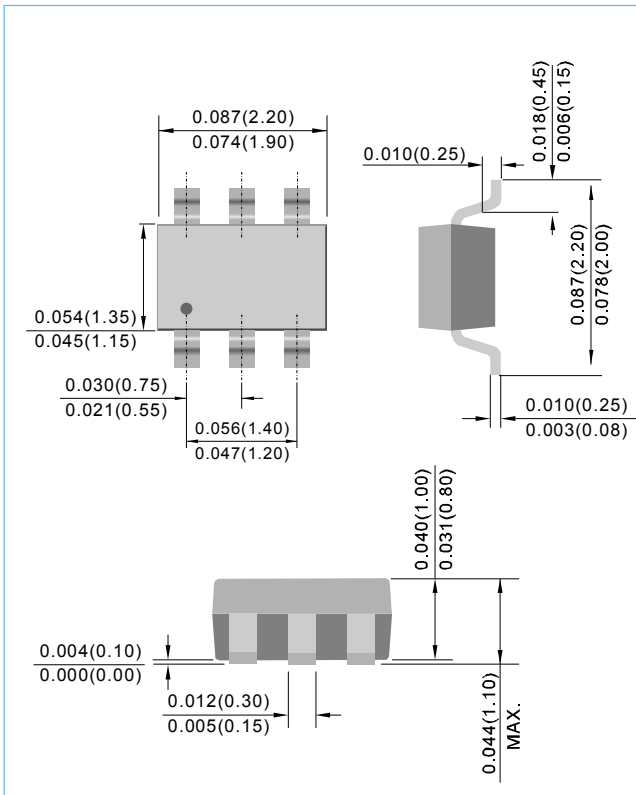


Fig. 2. Typical Reverse Current

## PACKAGE LAYOUT AND SUGGESTED PAD DIMENSIONS

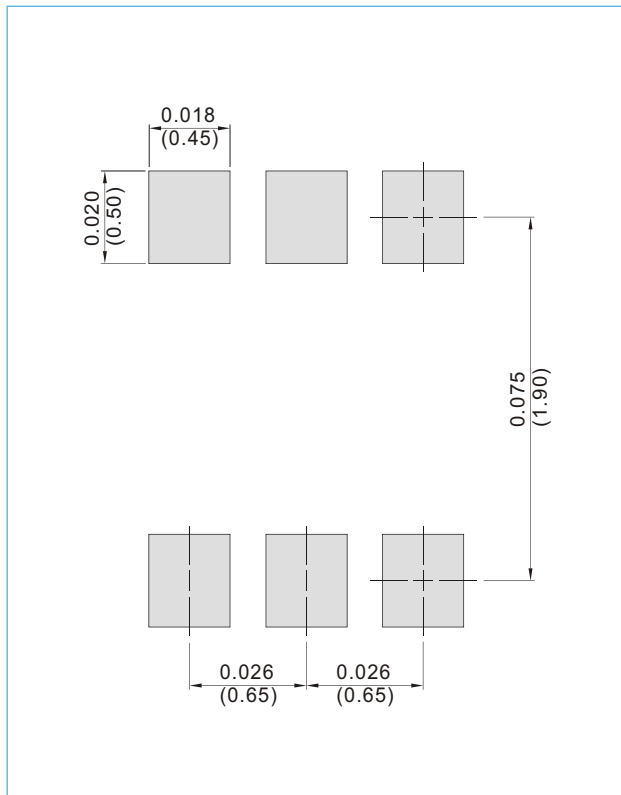
### SOT-363

Unit : inch(mm)



### SOT-363

Unit : inch(mm)



## ORDERING INFORMATION

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

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

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).



# PJ3L85

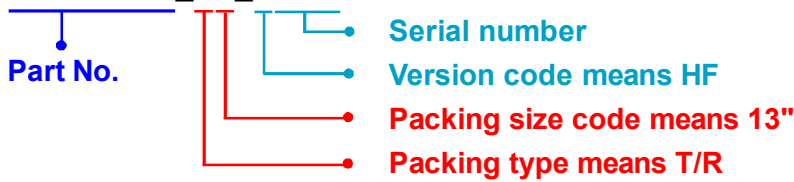
## Part No\_packing code\_Version

PJ3L85\_R1\_00001

PJ3L85\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



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



## PJ3L85

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