

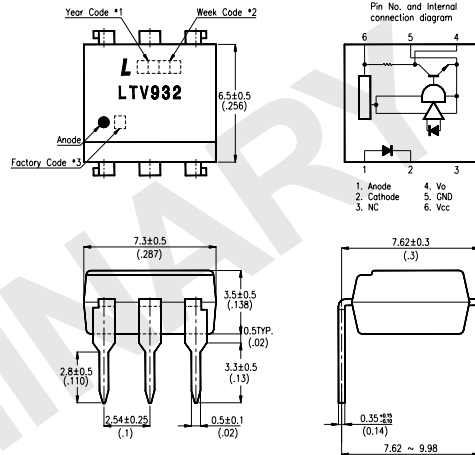
Features

- High sensitivity
(I_{FLH}, I_{FHL} : MAX. 1mA)
- TTL and LSTTL compatible output
- Operating supply voltage range
(V_{CC} : 4.5 to 15V)
- Low output current dissipation
(I_{CCL} : MAX. 3.8mA)
- High isolation voltage between input and output
(Viso : 5,000 V_{RMS})
- Options Available :
 - Leads with 0.4" (10.16mm) Spacing (M Type)
 - Lead Bends for Surface Mounting (S Type)
 - Tape and Reel of Type I for SMD (Add "-TA" Suffix)
 - Tape and Reel of Type II for SMD (Add "-TA1" Suffix)
 - VDE 0884 Approvals (Add "-V" Suffix)

Applications

1. Computer terminals
2. High speed line receivers
3. Interfaces with various data transmission equipment

Package Dimensions



NOTES :

1. Year date code.
2. 2-digit work week.
3. Factory code shall be marked (Z : Taiwan, Y : Thailand).
4. All dimensions are in millimeters (inches).
5. Tolerance is $\pm 0.25\text{mm}$ (.010") unless otherwise noted.
6. Specifications are subject to change without notice.

Ordering Information

Part Number	Package	Safety Standard Approval	Application part number
LTV-932 LTV-932M LTV-932S LTV-932S-TA LTV-932S-TA1	6-pin DIP 6-pin (leads with 0.4" spacing) 6-pin (lead bends for surface mount) 6-pin (tape and reel packaging of type I) 6-pin (tape and reel packaging of type II)	• UL approve in progress	LTV-932
LTV932-V LTV932M-V LTV932S-V LTV932STA-V LTV932STA1-V	6-pin DIP 6-pin (leads with 0.4" spacing) 6-pin (lead bends for surface mount) 6-pin (tape and reel packaging of type I) 6-pin (tape and reel packaging of type II)	• VDE approve in progress	LTV-932

Ratings and Characteristics Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward Current	IF	50	mA
	Reverse Voltage	VR	6	V
	Power Dissipation	P	70	mW
Output	Supply Voltage	VCC	16	V
	Low Level Output Current	IoL	30	mA
	Power Dissipation	PO	150	mW
Total Power Dissipation		Ptot	170	mW
*1.Isolation Voltage		Viso	5,000	Vrms
Operating Temperature		Topr	-25~+85	°C
Storage Temperature		Tstg	-40~+125	°C
*2.Soldering Temperature		Tsol	260	°C

*1. AC for 1 minute, R.H. = 40 ~ 60%

Isolation voltage shall be measured using the following method.

(1) Short between anode and cathode on the primary side and between collector and emitter on the secondary side.

(2) The isolation voltage tester with zero-cross circuit shall be used.

(3) The waveform of applied voltage shall be a sine wave.

*2. For 10 seconds

Electrical / Optical Characteristics

(Ta=0 to 70°C unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	unit	Conditions
Input	Forward Voltage	VF	—	1.1	1.4	V	IF=2mA
			0.55	0.95	—	V	IF=0.1mA
	Reverse Current	IR	—	—	10	μA	Ta=25°C, VR=3V
	Terminal Capacitance	Ct	—	30	250	pF	Ta=25°C, V=0, f=1KHz
Output	Operating Supply Voltage	VCC	4.5	—	15	V	
	Low Level Output Voltage	VoL	—	0.15	0.4	V	IoL=16mA, VCC=5V IF=1mA
	High Level Output Voltage	VoH	3.5	—	—	V	VCC=5V, IF=0
	Low Level Supply Current	IcCL	—	1.7	3.8	mA	VCC=5V, IF=1mA
	High Level Supply Current	IcCH	—	0.7	2.2	mA	VCC=5V, IF=0
Transfer Characteristics	“ High → Low ” *1 Threshold Input Current	IFHL	—	0.5	1.0	mA	VCC=5V, RL=280 Ω
	“ High → Low ” *2 Threshold Input Current	IFLH	0.1	0.4	—	mA	
	*3 Hysteresis	IFLH/IFHL	—	0.8	—	—	VCC=5V, RL=280 Ω
	Isolation Resistance	RISO	5 × 10 ¹⁰	1 × 10 ¹¹	—	Ω	Ta=25°C, DC500V 40~60% R.H.
	“ High → Low ” Propagation Delay Time	tPHL	—	3	9	μ s	Ta=25°C, VCC=5V IF=1mA, RL=280 Ω
	“ Low → High ” Propagation Delay Time	tPLH	—	5	15		
	Rise Time	tr	—	0.05	0.5		
Fall Time	tf	—	0.1	0.5			

*1 IFHL represents forward current when output goes from high to low.

*2 IFLH represents forward current when output goes from low to high.

*3 Hysteresis stands for IFLH / IFHL

Typical Electrical/Optical Characteristic Curves (25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Forward Current vs. Ambient Temperature

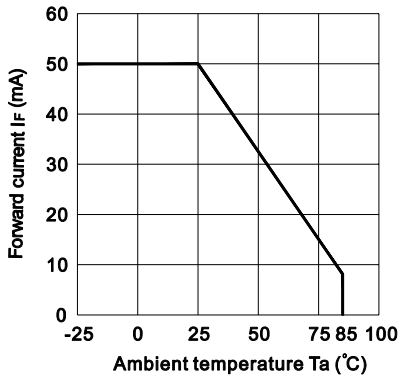


Fig.2 Collector Power Dissipation vs. Ambient Temperature

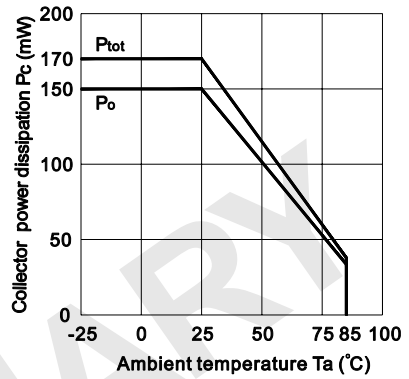


Fig.3 Low level output voltage vs. Low level output current

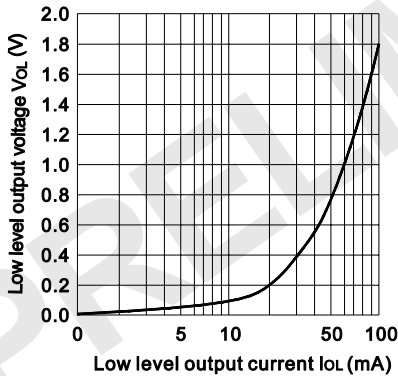


Fig.4 Forward Current vs. Forward Voltage

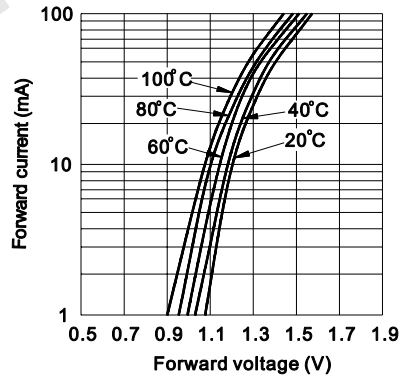


Fig.5 Relative Threshold Input Current vs. Supply Voltage

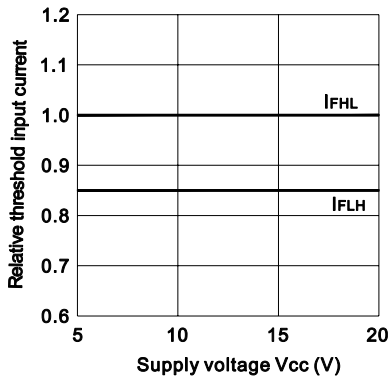


Fig.6 Relative Threshold Input Current vs. Ambient Temperature

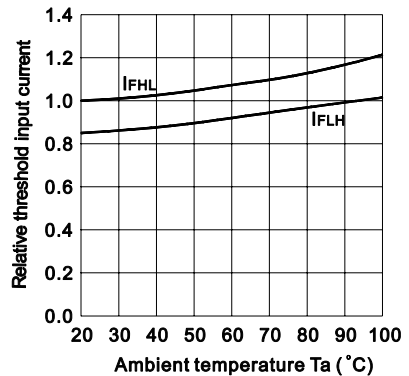


Fig.7 Low Level Output Voltage vs. Ambient Temperature

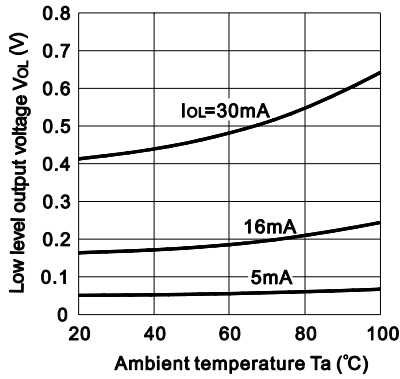


Fig.8-1 Supply Current vs. Supply Voltage

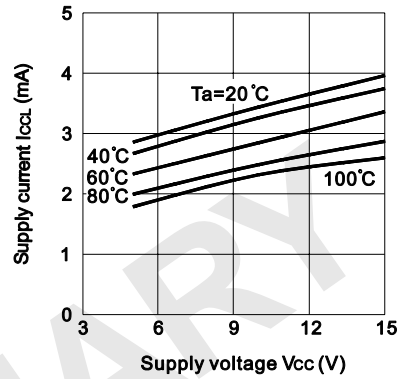


Fig.8-2 Supply Current vs. Supply Voltage

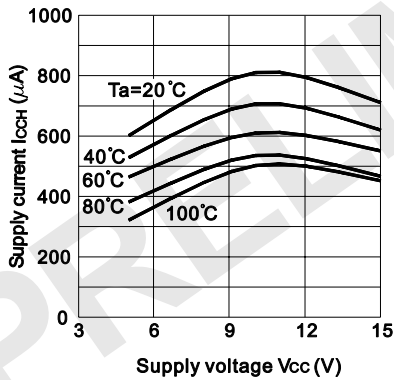


Fig.9 Propagation Delay Time vs. Forward Current

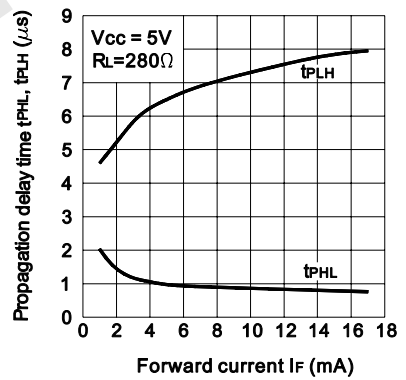
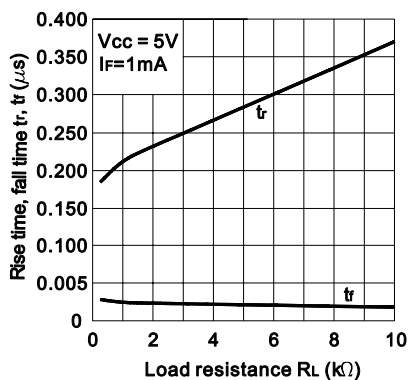


Fig.10 Rise Time, Fall Time vs. Load Resistance



Test Circuit for t_{PHL} , t_{PLH} , t_r , t_f

