USR/CNR Listed (File # 223387)

Features

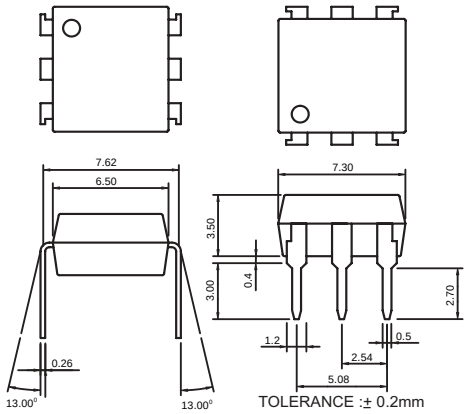
1. High sensitivity.
2. TTL and LSTTL compatible output.
3. Operating supply voltage range.
   (Vcc 4.5V to 17V)
4. Output form pull-up resistor built-in type.
5. Low output current dissipation.
   (IccL: MAX. 3.8mA)
6. High isolation voltage between input and output.
   (Viso: 5000V_{RMS})
7. Available package types: DIP(shown)/ SMD/ H (Page: 137).

Part Numbering System: Page 3. **Part Marking System:** Page 4.

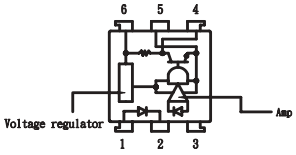
Applications

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

Outside Dimension: Unit (mm)



Schematic: Top View



1. Anode
2. Cathode
3. NC
4. Vo
5. GND
6. Vcc

Absolute Maximum Ratings

(Ta=25°C)

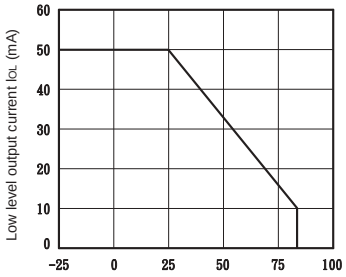
Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Supply voltage	V_{CC}	-0.5+0.17	A
	Output current	I_O	50	A
	Power dissipation	P_D	150	mW
Total power dissipation		Ptot	170	mW
Isolation voltage 1 minute		Viso	5000	Vrms
Operating temperature		Topr	-25 to +85	°C
Storage temperature		Tstg	-40 to +125	°C
Soldering temperature		Tsol	260	°C

Electro-optical Characteristics

(Ta=25°C)

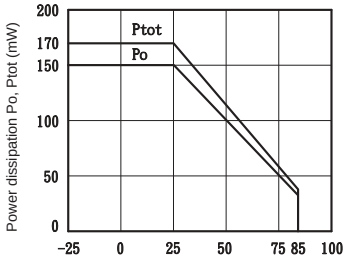
Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input		Forward voltage	V_F	I_F =10mA	—	1.2	1.4	V
		Peak forward voltage	V_{FM}	I_{FM} =0.5A	—	—	3.5	V
		Reverse current	I_R	V_R =4V	—	—	10	uA
		Terminal capacitance	Ct	V =0, f=1kHz	—	30	—	pF
Output		Operating supply voltage	V_{CC}		4.5	—	17	V
		Low level output voltage	V_{OL}	I_{OL} =16mA, V_{CC}=5V, I_F=4mA	—	0.15	0.4	V
		High level output voltage	V_{OH}	V_{CC} =5V, I_F=0	3.5	—	—	V
		Low level supply current	I_{CCL}	V_{CC} =5V, I_F=1mA	—	1.7	3.8	mA
		High level supply current	I_{CCH}	V_{CC} =5V, I_F=0	—	0.7	2.2	mA
Transfer charac-teristics		"High-Low" Threshold input current	I_{FHL}	V_{CC} =5V, R_L=280ohm	—	0.5	1.0	mA
		" Low-High " Threshold input current	I_{FLH}	V_{CC} =5V, R_L=280ohm	0.1	0.4	—	mA
		Hysteresis	I_{FLH} /I_{FHL}	V_{CC} =5V, R_L=280ohm	—	0.8	—	—
		Isolation resistance	Riso	Ta =25°C, DC500V	$5x10^{10}$	10^{11}	—	ohm
	Respose time	"High-Low" propagation delay time	t_{PHL}	Ta=25°C, V_{CC}=5V, I_F =1mA, R_L =280ohm	—	3	9	us
		" Low -High " propagation delay time	t_{PLH}		—	5	15	
		Fall time	tf		—	0.05	0.5	
		Rise time	tr		—	0.1	0.5	

Fig.1 Low Level Output Current vs. Ambient Temperature



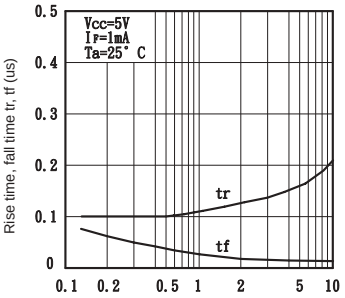
Ambient Temperature Ta (°C)

Fig.2 Power Dissipation vs. Ambient Temperature



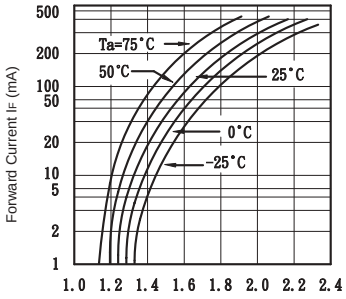
Ambient Temperature Ta (°C)

Fig.3 Rise Time, Fall Time vs. Load Resistance



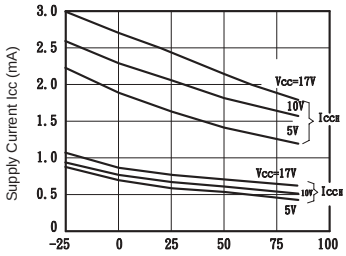
Load resistance RL (K Ý)

Fig.4 Forward Current vs. Forward Voltage



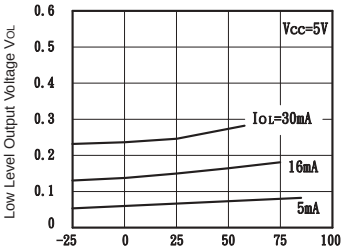
Forward Voltage VF (V)

Fig.5 Supply Current vs. Ambient Temperature



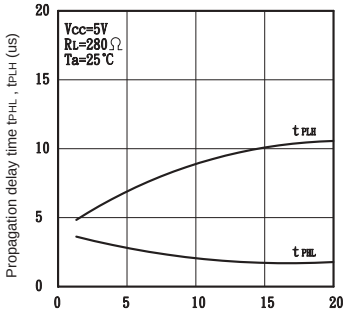
Ambient Temperature Ta (°C)

Fig.6 Low Level Output Voltage vs. Ambient Temperature



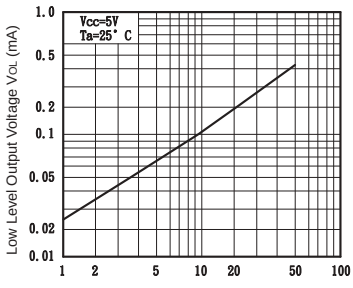
Ambient Temperature Ta (°C)

Fig.7 Propagation Delay Time vs. Forward Current



Forward Current IF (mA)

Fig.8 Low Level Output Voltage vs. Low Level Output Current



Low Level Output Current IOL (mA)