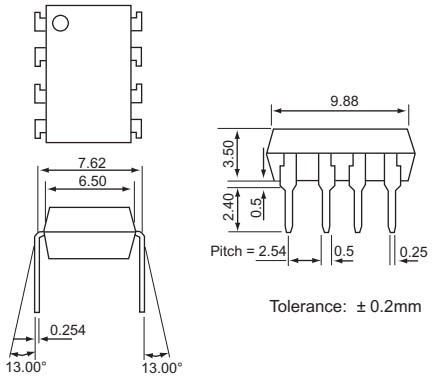
USR/CNR Listed (File # 223387)
VDE (File # 40009585)

Features

1. High current transfer ratio.
   (CTR: MIN. 300% at I_F = 1.6mA)
2. High speed response.
   (t_{PHL}: TYP. 0.2uS at R_L = 2.2kohms)
3. Instantaneous common mode rejection voltage. (CM_H: TYP. 500V/uS)
4. TTL compatible output. Overseas standard model.
5. Available package types: DIP(shown)/ SMD/ H (Page: 148).
   Part Numbering System: Page 2. **Part Marking System:** Page 3.

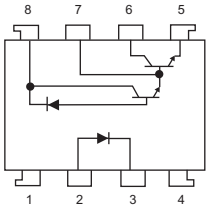
Outside Dimension: Unit (mm)



Tolerance: ± 0.2mm

Applications

1. Interfaces for computer peripherals.
2. Electronic calculators, measuring instruments, control equipment.
3. Telephone sets.
4. Signal transmission between circuits of different potentials and impedances.



1. NC
2. Anode
3. Cathode
4. NC
5. Ground
6. V_O
7. V_B
8. V_{CC}

Absolute Maximum Ratings

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	20	mA
	Peak transient forward current[1]	I_{FM}	1	A
	Reverse voltage	V_R	5	V
	Power dissipation	P_D	35	mW
Output	Supply voltage	V_{CC}	-0.5 to +7	V
	Output voltage	V_O	-0.5 to +7	V
	Emitter-base reverse with-stand voltage (PIn 5 to 7)	V_{EBO}	0.5	mA
	Average output current [2]	I_O	60	mA
Power dissipation		P_O	100	mW
Isolation voltage[3]		Viso	2500	Vrms
Operating temperature		Topr	0 to +70	°C
Storage temperature		Tstg	-55 to +125	°C
Soldering temperature 10 seconds		Tsol	260	°C

1. Pulse width <=1uS, 300 pulse/sec. Peak forward current, 40mA, 50% duty cycle, Pulse width 1mS.
2. Decreases at the rate of 0.7mA/°C if the external temperature is more than 25°C or more.
3. 40 to 60% RH, AC for 1 minute.

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Electro-optical Characteristics

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Current transfer ratio[1]	CTR	I_F = 1.6mA, V_O = 0.4V, V_{CC} = 4.5V	300	1600	-	%
Logic (0) output voltage	V_{OL}	I_F = 1.6mA, I_O = 4.8mA, V_{CC} = 4.5V	-	0.1	0.4	V
Logic (1) output current	I_{OH}	I_F = 0, V_{CC} = V_O = 7V	-	0.1	250	uA
Logic (0) supply current	I_{CCL}	I_F = 1.6mA, V_{CC} = 5V, V_O = open	-	0.5	-	mA
Logic (1) supply current	I_{CCH}	I_F = 0, V_{CC} = 5V, V_O = open	-	10	-	nA
Input forward voltage	V_F	Ta = 25°C, I_F = 1.6mA	-	1.5	1.7	V
Input forward voltage temperature coefficient	$\Delta V_F / \Delta Ta$	I_F = 1.6mA	-	-1.9	-	mV/ °C
Input reverse voltage	BV_R	Ta = 25°C, I_R = 10uA	5.0	-	-	V
Input capacitance	C_{IN}	V_F = 0, f = 1MHz	-	60	-	pF
Leak current (input-output)[2]	I_{I-0}	V_{I-0} = 3kV DC, 45%RH, t = 5s, Ta = 25°C	-	-	1.0	uA
Isolation resistance (input-output)[2]	R_{I-0}	V_{I-0} = 500V DC	-	10^{12}	-	Ω
Capacitance (input-output)[2]	C_{I-0}	f = 1MHz	-	0.6	-	pF

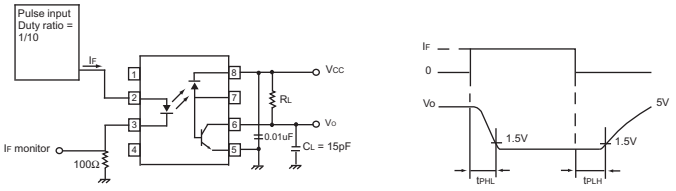
1. Current transfer ratio is the ratio of input current and output current expressed in %.
2. Measured as 2-pin element (Short 1, 2, 3, 4 and 5, 6, 7, 8).

Switching Characteristics

(Ta = 25°C, Vcc = 5V, IF = 16mA)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Propagation delay time[3] Output (1) → (0)	tPHL	R_L = 2.2kohms, I_F = 1.6mA	-	2	10	uS
Propagation delay time[3] Output (0) → (1)	tPLH	R_L = 2.2kohms, I_F = 1.6mA	-	7	35	uS
Instantaneous common mode rejection voltage[1, 2, 4] Output (1)	CM_H	I_F = 0, V_{CM} = $10V_{p-p}$, R_L = 2.2kohms	-	500	-	V/uS
Instantaneous common mode rejection voltage[1, 2, 4] Output (0)	CM_L	I_F = 1.6mA, V_{CM} = $10V_{p-p}$, R_L = 2.2kohms	-	-500	-	V/uS

1. Instantaneous common mode rejection voltage "output(1)" represents a common voltage variation that can hold the output above(1) level (Vo > 2.0V).
2. Instantaneous common mode rejection voltage "output (0)" represents a common voltage variation that can hold the output above (0) level (Vo < 0.8V).
3. Tset Circuit Propagation Delay Time



4. Tset Circuit for Instantaneous Common Mode Rejection Voltage