



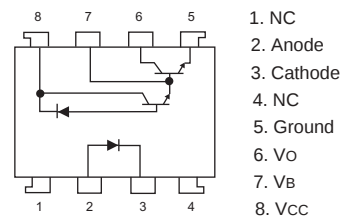
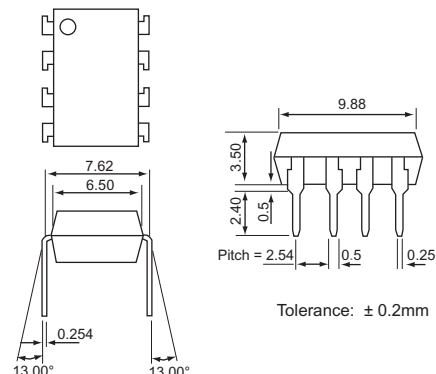
Features

1. High current transfer ratio.
(CTR: MIN. 500% at $I_F = 1.6\text{mA}$)
 2. High speed response.
(t_{PHL} : TYP. 0.2 μs at $R_L = 270\Omega$)
 3. High common mode rejection voltage. (CM_H : TYP. 500V/ μs)
 4. TTL compatible output.
 5. Available package types: DIP(shown)/ SMD/ H (Page: 148).
- Part Numbering System:** Page 2. **Part Marking System:** Page 3.

Applications

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

Outside Dimension: Unit (mm)



Absolute Maximum Ratings

($T_a = 25^\circ\text{C}$)

	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 +18	V
	Output voltage	V_O	-0.5 to +18	V
	Emitter-base reverse with-stand voltage (Pin 5 to 7)	V_{EBO}	0.5	V
	Average output current ²	I_O	60	mA
	Power dissipation	P_O	100	mW
	Isolation voltage ³	V_{iso}	2500	V_{rms}
	Operating temperature	T_{opr}	0 to +70	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$
	Soldering temperature 10 seconds	T_{sol}	260	$^\circ\text{C}$

1. Pulse width $\leq 1\mu\text{s}$, 300 pulse/sec. Peak forward current, 40mA, 50% duty cycle, Pulse width 1mS.
2. Decreases at the rate of 0.7mA/ $^\circ\text{C}$ if the external temperature is more than 25°C .
3. 40 to 60% RH, AC for 1 minute.

Electro-optical Characteristics

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Current transfer ratio ¹	CTR(1)	I _F = 0.5mA, V _O = 0.4V, V _{CC} = 4.5V	400	1800	-	%
	CTR(2)	I _F = 1.6mA, V _O = 0.4V, V _{CC} = 4.5V	500	1600	-	%
Logic (0) output voltage	V _{OL} (1)	I _F = 6.4mA, I _O = 1.6mA, V _{CC} = 4.5V	-	0.1	0.4	V
	V _{OL} (2)	I _F = 5mA, I _O = 15mA, V _{CC} = 4.5V	-	0.1	0.4	V
	V _{OL} (3)	I _F = 12mA, I _O = 24mA, V _{CC} = 4.5V	-	0.1	0.4	V
Logic (1) output current	I _{OH}	I _F = 0, V _{CC} = V _O = 18V	-	0.05	100	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	T _a = 25°C, I _F = 1.6mA	-	1.5	1.7	V
Input forward voltage temperature coefficient	ΔV _F / ΔT _a	I _F = 1.6mA	-	-1.9	-	mV/°C
Input reverse voltage	BV _R	T _a = 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-O}	V _{I-O} = 3kV DC, 45%RH, t = 5s, T _a = 25°C	-	-	1.0	uA
Isolation resistance (input-output) ²	R _{I-O}	V _{I-O} = 500V DC	-	10 ¹²	-	Ω
Capacitance (input-output) ²	C _{I-O}	f = 1MHz	-	0.6	-	pF

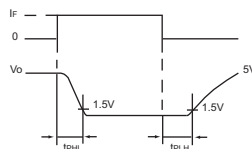
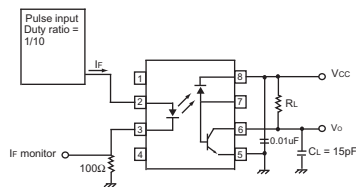
1. Current transfer ratio is the ratio of input current and output current expressed in %.
2. Measured as 2-pin element (Short 1, 2, 3, 4 and 5, 6, 7, 8).

Switching Characteristics

($T_a = 25^\circ\text{C}$, $V_{cc} = 5\text{V}$, $I_F = 16\text{mA}$)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Propagation delay time ³ Output (1) → (0)	tPHL	RL = 4.7kohms, IF = 0.5mA	-	5	25	uS
		RL = 270ohms, IF = 12mA	-	0.3	1	uS
Propagation delay time ³ Output (0) → (1)	tPLH	RL = 4.7kohms, IF = 0.5mA	-	10	60	uS
		RL = 270ohms, IF = 12mA	-	1.5	7	uS
Instantaneous common mode rejection voltage ^{1, 2, 4} Output (1)	CMH	IF = 0, VCM = 10VP-P, RL = 2.2kohms	-	500	-	V/uS
Instantaneous common mode rejection voltage ^{1, 2, 4} Output (0)	CML	IF = 1.6mA, VCM = 10VP-P, RL = 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 ($V_o > 2.0V$).
2. Instantaneous common mode rejection voltage "output(0)" represents a common voltage variation that can hold the output above (0) level ($V_o < 0.8V$).
3. Tset Circuit Propagation Delay Time



4. Tset Circuit for Instantaneous Common Mode Rejection Voltage

