

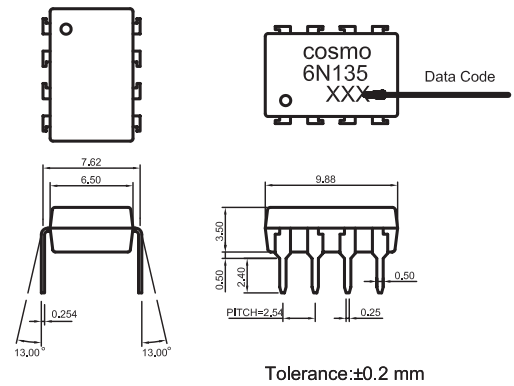
**Features**

1. High speed response  $t_r, t_{PHL,PLH}$   
(MAX.1.5us at  $R_L=4.1k\Omega$ )
2. High common mode reiection voltage  
(CM:TYP.1kV/us)
3. Standard dual-in-line package

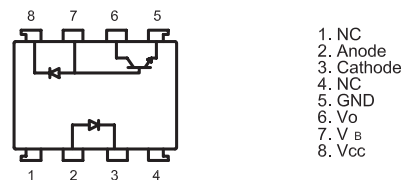
**Applications**

1. Computers,measuring instruments,control equipment.
2. High speed line receivers high speed logic.
3. Telephone sets.
4. Signal transmission between circuits of different potentials and impedances.

**Outside Dimension:Unit (mm)**



**Schematic:Top View**



**Absolute Maximum Ratings**

(Ta=25°C)

Parameter		Symbol	Rating	Unit
Input	Forward current	I <sub>F</sub>	25	mA
	*1 Peak forward current	I <sub>F</sub>	50	mA
	*2 Peak transient forward current	I <sub>FM</sub>	1	A
	Reverse voltage	V <sub>R</sub>	5	V
	Power dissipation	P	45	mW
Output	Supply voltage	V <sub>cc</sub>	-0.5 to 15	V
	Output voltage	V <sub>o</sub>	-0.5 to 15	V
	Emitter-base reverse with-stand voltage (Pin 5 to 7)	V <sub>EBO</sub>	5	V
	Average output current	I <sub>o</sub>	8	mA
	Peak output current	I <sub>op</sub>	16	mA
	Base current ( Pin 7 )	I <sub>B</sub>	5	mA
	Power dissipation	P <sub>o</sub>	100	mW
*3 Isolation voltage 1 minute		V <sub>iso</sub>	2500	V <sub>rms</sub>
Operating temperature		T <sub>opr</sub>	-55 to +100	°C
Storage temperature		T <sub>stg</sub>	-55 to +125	°C
*4 Soldering temperature		T <sub>sol</sub>	260	°C

\*1 50% duty cycle,Pulse width : 1mS  
Decreases at the rate of 1.6mA/°C if the external temperature is 70°C or more.

\*2 Pulse width<=1uS,300pulse/sec

\*3 40 to 60% RH,AC for 1 minute

\*4 For 10 seconds

### Electro-optical Characteristics

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

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*5 Current transfer ratio	CTR (1)	Ta= 25°C , IF=16mA Vo = 0.4V , Vcc = 4.5V	7	40	-	%
	CTR (2)	IF=16mA Vo = 0.5V , Vcc = 4.5V	5	43	-	%
Logic (0) output voltage	VOL	*6 Vcc = 4.5V, IF=16mA	-	0.1	0.4	V
Logic (1) output current	I OH(1)	Ta= 25°C , IF=0 Vo = Vcc = 5.5V	-	3.0	500	nA
	I OH(2)	Ta= 25°C , IF=0 Vo = Vcc = 15V	-	0.01	1.0	uA
	I O (β)	Vcc = Vo = 15V, IF = 0	-	-	50	uA
Logic (0) supply current	I CCL	IF = 16mA Vo = open , Vcc = 15V	-	200	-	uA
Logic (1) supply current	I CCH(1)	Ta= 25°C , IO=0 Vf = open , Vcc = 15V	-	0.02	1.0	uA
	I CCH(2)	IO=0 Vo = open , Vcc = 15V	-	-	2.0	uA
Input forward voltage	Vf	Ta= 25°C , IF = 16mA	-	1.7	1.95	V
Input forward voltage temperature coefficient	ΔVf/ΔTa	IF = 16mA	-	-1.9	-	mV/°C
Input reverse voltage	BAR	Ta= 25°C , IR=10uA	5.0	-	-	V
Input capacitance	CIN	Vf=0 , f=1MHz	-	60	-	pF
*7 Leak current(input-output)	I IO	Ta= 25°C , 45 % RH VI-O= 3kVDC , t = 5s	-	-	1.0	uA
*7 Isolation resistance(input-output)	RI-O	VI-O= 500VDC	-	10 <sup>12</sup>	-	Ω
*7 Capacitance(input-output)	CI-O	f=1MHz	-	0.6	-	pF
Transistor current amplification factor	hFE	Vo = 5V , Io = 3mA	-	70	-	

\*5 Current transfer ratio is the ratio of input current and output current expressed in %

\*6 Io = 1.1mA

\*7 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
*8 Propagation delay time Output (1)→(0)	t PHL	RL= 4.1kΩ	-	0.3	1.5	uS
*8 Propagation delay time Output (0)→(1)	t PLH	RL= 4.1kΩ	-	0.4	1.5	uS
*10 Instantaneous common mode rejection voltage "Output (1)"	CMH	IF=0,V C=M10V p-p	-	1000	-	V/uS
*10 Instantaneous common mode rejection voltage "Output (0)"	CML	IF=16mA,VCM=10Vp-p	-	-1000	-	V/uS
*12 Bandwidth	BW	RL= 100Ω	-	2.0	-	MHz

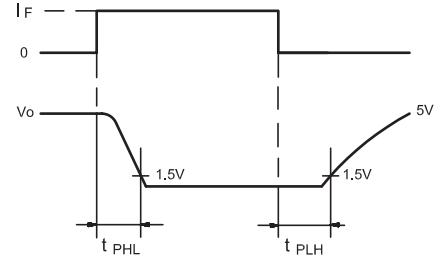
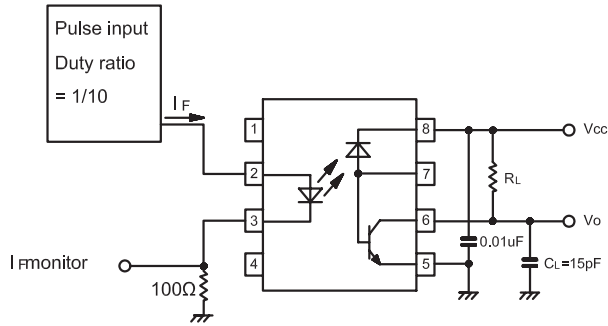
\*8 R =4.1kΩ is equivalent to one LSTTL and 6.1kΩ pull-up resistor.

\*10 Instantaneous common mode rejection voltage "output(1)" represents a common mode voltage variation that can hold the output above (1) level (Vo > 2.0V)

Instantaneous common mode rejection voltage "output(0)" represents a common mode voltage variation that can hold the output above (0) level (Vo < 0.8V)

\*12 Bandwidth represents a point where AC input goes down by 3dB.

\*9 Tset Circuit Propagation Delay Time



\*11 Tset Circuit for Instantaneous Common Mode Rejection Voltage

