

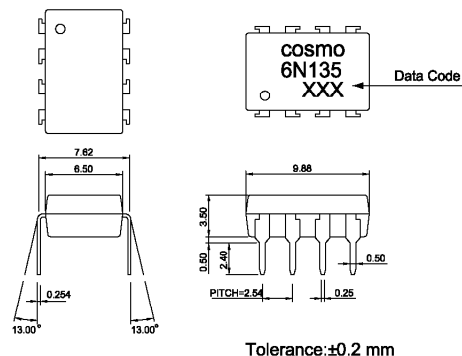
Features

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

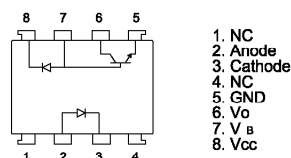
Applications

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 _F	25
	*1 Peak forward current	I _F	50
	*2 Peak transient forward current	I _{FM}	1
	Reverse voltage	V _R	5
	Power dissipation	P	45
Output	Supply voltage	V _{CC}	-0.5 to 15
	Output voltage	V _O	-0.5 to 15
	Emitter-base reverse with-stand voltage (Pin 5 to 7)	V _{EB0}	5
	Average output current	I _O	8
	Peak output current	I _{OP}	16
	Base current (Pin 7)	I _B	5
	Power dissipation	P _O	100
*3 Isolation voltage 1 minute		V _{ISO}	2500
Operating temperature		T _{OPR}	-55 to +100
Storage temperature		T _{STG}	-55 to +125
*4 Soldering temperature		T _{SOI}	260

*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 , I _F =16mA Vo = 0.4V , Vcc = 4.5V	7	40	-	%
	CTR (2)	I _F =16mA Vo = 0.5V , Vcc = 4.5V	5	43	-	%
Logic (0) output voltage	VoL	*6 Vcc = 4.5V, I _F =16mA	-	0.1	0.4	V
Logic (1) output current	I _{OH} (1)	Ta= 25°C , I _F =0 Vo = open , Vcc = 5.5V	-	3.0	500	nA
	I _{OH} (2)	Ta= 25°C , I _F =0 Vo = Vcc = 15V	-	0.01	1.0	uA
	I _{OH} (3)	Vcc = Vo = 15V, I _F =0	-	-	50	uA
Logic (0) supply current	I _{CCL}	I _F =16mA Vo = open , Vcc = 15V	-	200	-	uA
Logic (1) supply current	I _{CCH} (1)	Ta= 25°C , Io=0 V _F = open , Vcc = 15V	-	0.02	1.0	uA
	I _{CCH} (2)	Io=0 Vo = open , Vcc = 15V	-	-	2.0	uA
Input forward voltage	V _F	Ta= 25°C , I _F = 16mA	-	1.7	1.95	V
Input forward voltage temperature coefficient	ΔV _F /ΔTa	I _F = 16mA	-	-1.9	-	mV/°C
Input reverse voltage	BAR	Ta= 25°C , I _R =10uA	5.0	-	-	V
Input capacitance	C _{IN}	V _F =0 , f=1MHz	-	60	-	pF
*7 Leak current(input-output)	I _{I-O}	Ta= 25°C , 45 % RH V _{I-O} =3kVDC , t = 5s	-	-	1.0	uA
*7 Isolation resistance(input-output)	R _{I-O}	V _{I-O} =500VDC	-	10 ¹²	-	Ω
*7 Capacitance(input-output)	C _{I-O}	f=1MHz	-	0.6	-	pF
Transistor current amplification factor	h _{FE}	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, I_F=16mA)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*8 Propagation delay time Output (1)→(0)	t _{PHL}	R _L = 4.1kΩ	-	0.3	1.5	uS
*8 Propagation delay time Output (0)→(1)	t _{PLH}	R _L = 4.1kΩ	-	0.4	1.5	uS
*10 Instantaneous common mode rejection voltage "Output (1)"	CMH	I _F =0, V _C =M10V _{p-p}	-	1000	-	V/uS
*10 Instantaneous common mode rejection voltage "Output (0)"	CML	I _F =16mA, V _{CM} =10V _{p-p}	-	-1000	-	V/uS
*12 Bandwidth	BW	R _L = 100Ω	-	2.0	-	MHz

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

*10 Instantaneous common mode rejection voltage "output(1)" represents

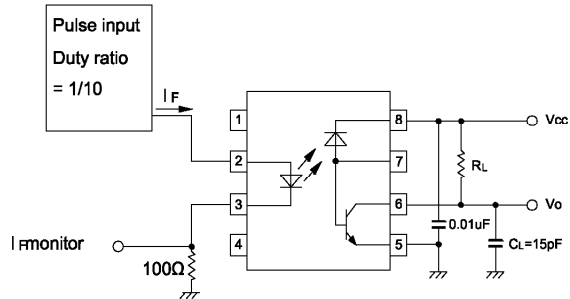
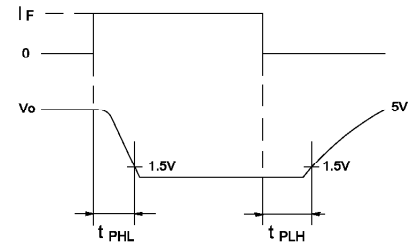
a common mode voltage variation that can hold the output above (1) level (Vo > 2.0V)

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

