

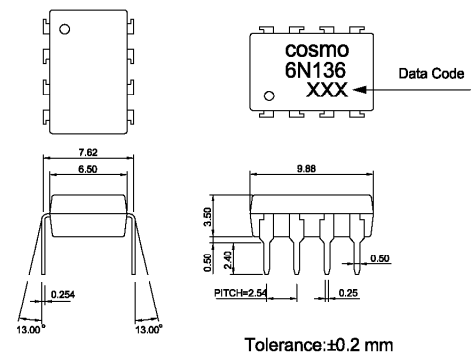
Features

1. High speed response t_{PLH} , t_{PHL}
(MAX.0.8us at $R_L=1.9k\Omega$)
2. High common mode rejection voltage
(CM:TYP.1kV/us)
3. Standard dual-in-line package
4. Recognized by UL, file No.

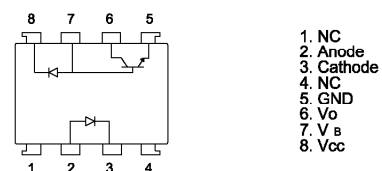
Applications

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

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

Parameter		Symbol	Rating	Unit
Input	Forward current	I _F	25	mA
	^{*1} Peak forward current	I _F	50	mA
	^{*2} Peak transient forward current	I _{FM}	1	A
	Reverse voltage	V _R	5	V
	Power dissipation	P	45	mW
Output	Supply voltage	V _{CC}	-0.5 to 15	V
	Output voltage	V _O	-0.5 to 15	V
	Emitter-base reverse with-stand voltage (Pin 5 to 7)	V _{EBO}	5	V
	Average output current	I _O	8	mA
	Peak output current	I _{OP}	16	mA
	Base current (Pin 7)	I _B	5	mA
	Power dissipation	P _O	100	mW
^{*3} Isolation voltage 1 minute		V _{ISO}	2500	V _{RMS}
Operating temperature		T _{OPR}	-55 to +100	°C
Storage temperature		T _{STG}	-55 to +125	°C
^{*4} Soldering temperature		T _{SOL}	260	°C

*1 50% duty cycle,Pulse width : 1mS

Decreases at the rate of $1.6\text{mA}/^{\circ}\text{C}$ if the external temperature is 70°C or more.

*2 Pulse width $\leq$ 1 μ S,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	19	40	-	%
	CTR (2)	IF= 16mA Vo = 0.5V , Vcc = 4.5V	15	43	-	%
Logic (0) output voltage	VOL	*6 Vcc = 4.5V, IF = 16mA	-	0.1	0.4	V
Logic (1) output current	IOH(1)	Ta= 25°C , IF= 0 Vo = Vcc = 5.5V	-	3.0	500	nA
	IOH(2)	Ta= 25°C , IF= 0 Vo = Vcc = 15V	-	0.01	1.0	uA
	IOH(3)	Vcc = Vo = 15V, IF = 0	-	-	50	uA
Logic (0) supply current	ICC	IF = 16mA Vo = open , Vcc = 15V	-	200	-	uA
Logic (1) supply current	ICCH(1)	Ta= 25°C , IO= 0 Vf = open , Vcc = 15V	-	0.02	1.0	uA
	ICCH(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	$\Delta V_f / \Delta T_a$	IF = 16mA	-	-1.9	-	mV/°C
Input reverse voltage	BVR	Ta = 25°C , IR = 10uA	5.0	-	-	V
Input capacitance	CIN	Vf=0 , f=1MHz	-	60	-	pF
*7 Leak current(input-output)	II-O	Ta = 25°C , 45 % RH VIO= 3kVDC , t = 5s	-	-	1.0	uA
*7 Isolation resistance(input-output)	RI-O	VIO= 500VDC	-	10 ¹²	-	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 = 2.4mA

*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)	tPHL	RL=1.9kΩ	-	0.3	0.8	uS
*8 Propagation delay time Output (0)→(1)	tPLH	RL=1.9kΩ	-	0.3	0.8	uS
*10 *11 Instantaneous common mode rejection voltage "Output (1)"	CMH	IF=0,VCM=10Vp-p	-	1000	-	V/uS
*10 *11 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 RL=1.9kΩ is equivalent to one LSTTL and 5.6kΩ pull-up resistor.

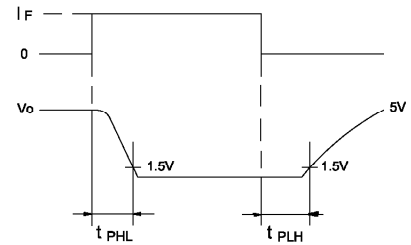
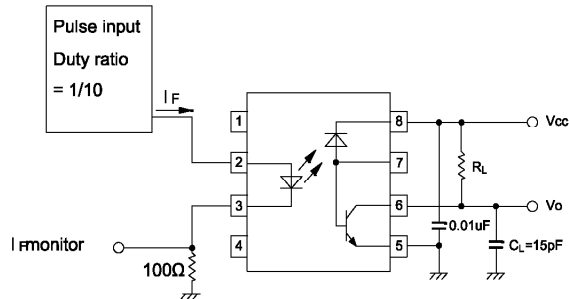
*10 Instantaneous common mode rejection voltage "output(1)" represents a common mode voltage variation that can hold the output above (1) level (Vo > 2.0V)

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

