

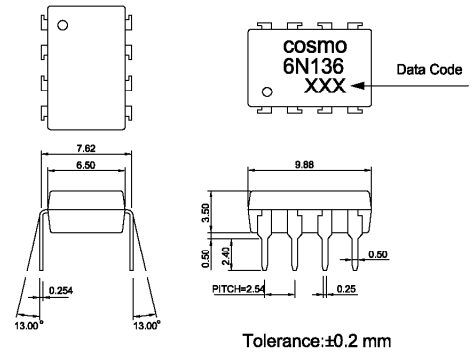
Features

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.

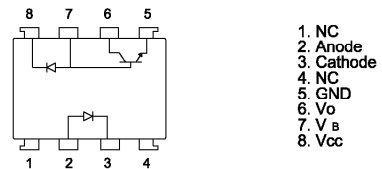
Applications

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



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

Absolute Maximum Ratings

(Ta=25°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 _{OP} | -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 1.6mA/°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 | 19 | 40 | - | % |
| | CTR (2) | IF= 16mA Vo = 0.5V , Vcc = 4.5V | 15 | 43 | - | % |
| Logic (0) output voltage | VOL | *6Vcc = 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 | ICCL | 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 | ΔVf/ΔTa | 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 VI-O= 3kVDC , t = 5s | - | - | 1.0 | uA |
| *7 Isolation resistance(input-output) | RI-O | VI-O= 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 Instantaneous common mode rejection voltage "Output (1)" | CMH | IF=0,VCM=10Vp-p | - | 1000 | - | V/uS |
| *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 |

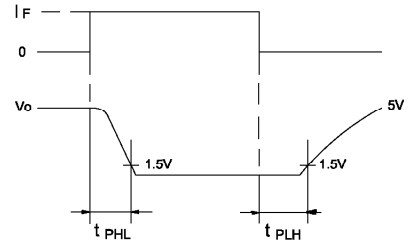
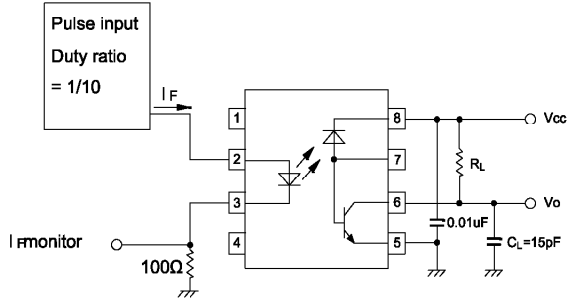
*8 RL=1.9kΩ is equivalent to one LSTTL and 5.6kΩ pull-up resistor.

*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

