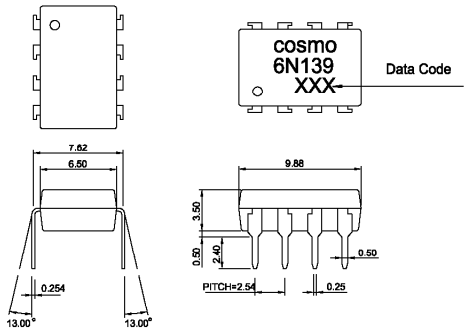
Features

1. High current transfer ratio
   (CTR:MIN.500% at I_F=1.6mA)
2. High speed response
   (t_{PHL}.TYP.0.2us at R_L=270Ω)
3. High common mode rejection
   voltage (CM_H.TYP500V/us)
4. TTL compatible output

Applications

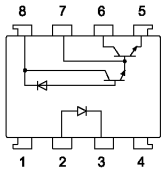
1. Interfaces for computer peripherals
2. Computers, measuring instruments,
   control equipment
3. Telephone sets.
4. Signal transmission between circuits of
   different potentials and impedances.

Outside Dimension:Unit (mm)



Tolerance:±0.2 mm

Schematic:Top View



1. NC
2. Anode
3. Cathode
4. NC
5. GND
6. Vo
7. V_B
8. Vcc

Absolute Maximum Ratings

(Ta=25℃)

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	20	mA
	*1 Peak forward current	I_F	40	mA
	*2 Peak transient forward current	I_{FM}	1	A
	Reverse voltage	V_R	5	V
	Power dissipation	P	35	mW
Output	Supply voltage	Vcc	-0.5 to 18	V
	Output voltage	Vo	-0.5 to 18	V
	Emitter-base reverse withstand voltage (Pin 5 to 7)	V_{EBO}	0.5	V
	*3 Average output current	Io	60	mA
	Power dissipation	Po	100	mW
*4 Isolation voltage		Viso	2500	Vrms
Operating temperature		Topr	0 to +70	°C
Storage temperature		Tstg	-55 to +125	°C
*5 Soldering temperature		Tsol	260	°C

*1 50% duty cycle,Pulse width : 1ms
*2 Pulse width<=1us,300pps
*3 Decreases at the rate of 0.7mA/℃ if the external temperature is more than 25℃.
*4 40 to 60% RH,AC for 1 minute
*5 For 10 seconds

Electro-optical Characteristics

(Ta=0 to +70℃ unless otherwise specified)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*6 Current transfer ratio	CTR(1)	I_F=0.5mA, Vo=0.4V, Vcc=4.5V	400	1800	-	%
	CTR(2)	I_F=1.6mA, Vo=0.4V, Vcc=4.5V	500	1600	-	%
Logic (0) output volage	V_{OL}(1)	I_F=6.4mA, Io=1.6mA, Vcc=4.5V	-	0.1	0.4	V
	V_{OL}(2)	I_F=5mA, Io=15mA, Vcc=4.5V	-	0.1	0.4	V
	V_{OL}(3)	I_F=12mA, Io=24mA, Vcc=4 5V	-	0.1	0.4	V
Logic (1) output current	I_{OH}	I_F=0, Vcc=Vo=18V	-	0.05	100	uA
Logic (0) supply current	I_{CCL}	I_F=1.6mA, Vcc=5V, Vo=open	-	0.5	-	mA
Logic (1) supply current	I_{CCH}	I_F=0, Vcc=5V, Vo=open	-	10	-	nA
Input forward voltage	V_F	I_F=1.6mA, Ta=25℃	-	1.5	1.7	V
Input forward voltage temperature coefficient	$\triangle V_F/\triangle Ta$	I_F=1.6mA	-	-1.9	-	mV/℃
Input reverse voltage	BV_R	I_R=10uA, Ta=25℃	5.0	-	-	V
Input capacitance	C_{IN}	V_F=0, f=1MHz	-	60	-	pF
*7 Leak current(input-output)	I_{I-O}	V_{I-O}=3kV DC, 45%RH, t=5s, Ta=25℃	-	-	1.0	uA
*7 Isolation resistance(input-output)	R_{I-O}	V_{I-O}=500V DC	-	10^{12}	-	Ω
*7 Capacitance(input-output)	C_{I-O}	f=1MHz	-	0.6	-	pF

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

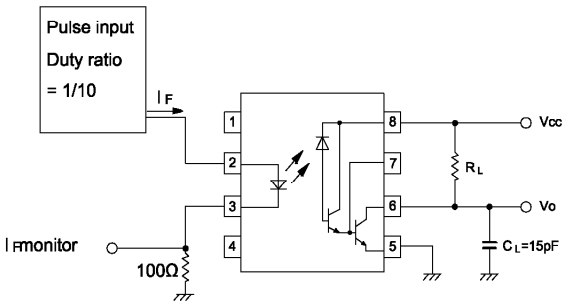
Switching Characteristics

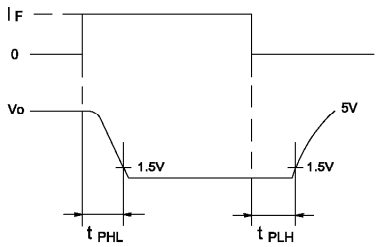
(Ta=25℃, Vcc=5V)

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
*8 Propagation delay time Output (1)-->(0)	t_{PHL}	R_L=4.7kΩ, I_F=0.5mA	-	5	25	uS
		R_L=270Ω, I_F=12mA	-	0.3	1	uS
*8 Propagation delay time Output (0)-->(1)	t_{PLH}	R_L=4.7kΩ, I_F=0.5mA	-	10	60	uS
		R_L=270Ω, I_F=12mA	-	1.5	7	uS
*9 *10 Instantaneous common mode rejection voltage "Output (1)"	CM_H	I_F=0, V_{CM}=10V_{p-p}, R_L=2.2kΩ	-	500	-	V/uS
*9 *10 Instantaneous common mode rejection voltage "Output (0)"	CM_L	I_F=1.6mA, V_{CM}=10V_{p-p}, R_L=2.2kΩ	-	-500	-	V/uS

*9 Instantaneous common mode rejection voltage "output(1)" represents a common voltage variation that can hold the output above (1) level (Vo>2.0V).
*10 Instantaneous common mode rejection voltage "output(1)" represents a common voltage variation that can hold the output above (0) level (Vo<0.8V).

*8 Tset Circuit Propagation Delay Time





*10 Tset Circuit for Instantaneous Common Mode Rejection Voltage