

**Date code (2 digit)**

1st digit		2nd digit	
Year of production		Month of production	
A.D.	Mark	Month	Mark
2000	0	1	1
2001	1	2	2
2002	2	3	3
2003	3	4	4
2004	4	5	5
2005	5	6	6
2006	6	7	7
2007	7	8	8
2008	8	9	9
2009	9	10	X
2010	0	11	Y
:	:	12	Z

repeats in a 10 year cycle

**Country of origin**

Japan, Indonesia or Philippines  
(Indicated on the packing case)

## ■ Absolute Maximum Ratings (T<sub>a</sub>=25°C)

Parameter		Symbol	Rating	Unit
Input	*1 Forward current	I <sub>F</sub>	50	mA
	*1, 2 Peak forward current	I <sub>FM</sub>	1	A
	Reverse voltage	V <sub>R</sub>	6	V
	Power dissipation	P	75	mW
Output	Supply voltage	V <sub>CC</sub>	-0.5 to +17	V
	Output current	I <sub>O</sub>	50	mA
	Power dissipation	P <sub>O</sub>	250	mW
Operating temperature		T <sub>opr</sub>	-25 to +85	°C
Storage temperature		T <sub>stg</sub>	-40 to +100	°C
*3 Soldering temperature		T <sub>sol</sub>	260	°C

\*1 The derating factors of absolute maximum ratings due to ambient temperature are shown in Fig. 1, 2, 3

\*2 Pulse width ≤ 100μs, Duty ratio=0.01

\*3 For 5s or less

## ■ Electro-optical Characteristics (T<sub>a</sub>=25°C)

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit	
Input	Forward voltage	V <sub>F</sub>	I <sub>F</sub> =5mA	-	1.1	1.4	V	
	Reverse current	I <sub>R</sub>	V <sub>R</sub> =3V	-	-	10	μA	
Output	Operating supply voltage	V <sub>CC</sub>	-	4.5	-	17	V	
	Low level output voltage	V <sub>OL</sub>	V <sub>CC</sub> =5V, I <sub>OL</sub> =16mA, I <sub>F</sub> =0	-	0.15	0.4	V	
	High level output voltage	V <sub>OH</sub>	V <sub>CC</sub> =5V, I <sub>F</sub> =5mA	4.9	-	-	V	
	Low level supply current	I <sub>CCL</sub>	V <sub>CC</sub> =5V, I <sub>F</sub> =0	-	1.7	3.8	mA	
	High level supply current	I <sub>CCH</sub>	V <sub>CC</sub> =5V, I <sub>F</sub> =5mA	-	0.7	2.2	mA	
Transfer characteristics	*4 "Low→High" threshold input current	I <sub>FLH</sub>	V <sub>CC</sub> =5V	-	1	5	mA	
	*5 Hysteresis	I <sub>FHL</sub> /I <sub>FLH</sub>	V <sub>CC</sub> =5V	0.55	0.75	0.95	-	
	*6 Response time	"Low→High" Propagation delay time	t <sub>PLH</sub>	V <sub>CC</sub> =5V, I <sub>F</sub> =5mA, R <sub>L</sub> =280Ω	-	3	9	μs
		"High→Low" Propagation delay time	t <sub>PHL</sub>		-	5	15	
		Rise time	t <sub>r</sub>		-	0.1	0.5	
		Fall time	t <sub>f</sub>		-	0.05	0.5	

\*4 I<sub>FLH</sub> represents forward current when output goes from "Low" to "High".

\*5 I<sub>FHL</sub> represents forward current when output goes from "High" to "Low".

\*6 Test circuit for response time is shown in Fig.12.