CNC7H001

Optoisolator

■ Features

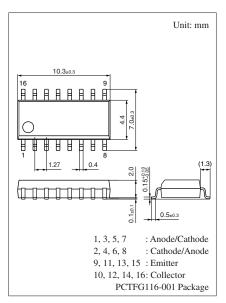
- Housed in a surface mount package alternative to mini-flat package of 1.27 mm pitch
- Double molded package
- 2.5 kV isolation voltage
- UL approved (File No. E79920)

■ Applications

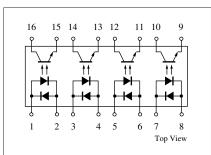
- Suited for interface circuits requiring high density mounting of parts, especially hybrid ICs and programmable controllers
- Signal transfer between circuits with different potentials and with impedances

■ Absolute Maximum Ratings $T_a = 25$ °C

	Symbol	Rating	Unit		
Input (light	Forward current (DC)	I_F	±50	mA	
emitting diode)	Pulse forward current *1	I_{FP}	±1	A	
	Power dissipation *2	P_{D}	75	mW/ch	
Output (photo	Collector current	I_C	50	mA	
transistor)	Collector-emitter voltage	V_{CEO}	80	V	
	Emitter-collector voltage	V _{ECO}	7	V	
	Collector power dissipation *3	P _C	120	mW/ch	
Isolation voltage, input to output *4		V _{ISO}	2500	V[rms]	
Operating amb	Topr	-30 to +100	°C		
Storage temper	T _{stg}	-55 to +125	°C		



Pin Connection



Note) *1: Pulse repetition rate = 100 pps. Pulse wide \leq 100 μs

- *2: Above 25°C ambient temperature, derate dissipation at the rate of 0.75 mW/°C.
- *3: Above 25°C ambient temperature, derate dissipation at the rate of 1.2 mW/°C.
- *4: AC voltage (t = 1.0 min., RH < 60%)

■ Electrical Characteristics $T_a = 25$ °C ± 3 °C

	Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Input	Forward voltage	V_{F}	$I_F = \pm 50 \text{ mA}$		1.35	1.5	V
diode	Capacitance	C _t	$V_R = 0 V, f = 1 MHz$		15		pF
Output	Collector-emitter dark current	I_{CEO}	$V_{CE} = 20 \text{ V}$		5	100	nA
transistor	Collector-emitter voltage	V _{CEO}	$I_C = 100 \mu A$	80			V
	Emitter-collector voltage	V _{ECO}	$I_E = 10 \mu A$	7			V
	Collector capacitance	C_{C}	$V_{CE} = 10 \text{ V}, \text{ f} = 1 \text{ MHz}$		10		pF
Coupled	Current transfer ratio *1	CTR	$V_{CE} = 5 \text{ V}, I_F = \pm 5 \text{ mA}$	100		600	%
	Capacitance	C _{ISO}	f = 1 MHz		0.6		pF
	Resistance	R _{ISO}	$V_{\rm ISO} = 500 \text{ V}$	1011			Ω
	Rise time *2	t _r	$V_{CC} = 10 \text{ V}, I_{C} = 2 \text{ mA}$		4		μs
	Fall time *3	$t_{\rm f}$	$R_L = 100 \Omega$		3		
	Saturation voltage	V _{CE(sat)}	$I_F = \pm 20 \text{ mA}, I_C = 1 \text{ mA}$		0.1	0.2	V
	Collector current ratio *4	I _{C(Ratio)}	$V_{CE} = 5 \text{ V}, I_F = \pm 5 \text{ mA}$	0.33	1	3.0	_

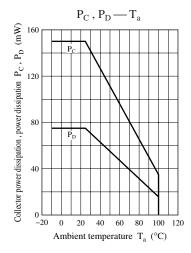
Note) *1: CTR = $I_C / I_F \times 100\%$

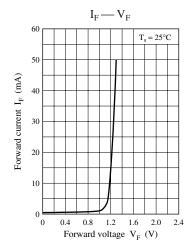
*3: Fall time is defined as the time required for the collector current to decrease from 90% to 10% of peak value.

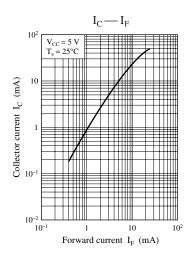
*4:
$$I_{C(Ratio)} = \frac{I_{C2} (I_F = I_{F2}, V_{CE} = 5 V)}{I_{C1} (I_F = I_{F1}, V_{CE} = 5 V)}$$

Input and output are practiced by electricity.

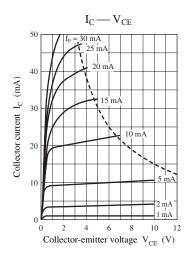
The device is designed be disregarded radiation.

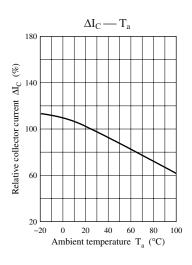


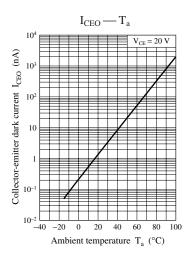


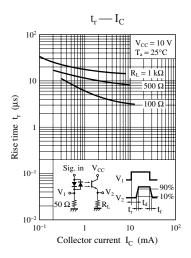


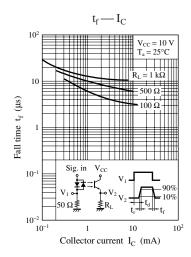
^{*2:} Rise time is defined as the time required for the collector current to rise from 10% to 90% of peak value.

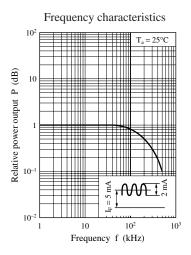












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Therefore, do not burn, destroy, cut, crush, or chemically decompose the product, since gallium arsenide material in powder or vapor form is harmful to human health.

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