

	YONGYAO ENSEI ELECTRONICS(SHANGQIU)CO., LTD. [ENSEI ELECTRONICS HENAN FACTORY]	P.T.SHARP SEMICONDUCTOR INDONESIA [SSI]
Place of origin country	CHINA	INDONESIA
Business dealing name	PC410LENIP0F	PC410L0NIP0F
SHARP internal model-number	PC410LENIP02	PC410L0NIP07
Approved Model No. of safety standard	SAME PC410L	
Outline dimensions	<p>[Unit : mm]</p> <p>Pin-Number and internal connection diagram</p> <p>Vo V_{CC} (Open collector) GND</p> <p>① Anode ③ Cathode</p> <p>⑥ ⑤ ④</p> <p>1.27±0.25 1.27±0.25</p> <p>3.6±0.3</p> <p>4.4±0.2</p> <p>0.4±0.1</p> <p>SHARP mark</p> <p>Date code</p> <p>Model No.</p> <p>Anode mark</p> <p>Rank mark</p> <p>Factory identification mark</p>	<p>[Unit : mm]</p> <p>Pin-Number and internal connection diagram</p> <p>Vo V_{CC} (Open collector) GND</p> <p>① Anode ③ Cathode</p> <p>⑥ ⑤ ④</p> <p>1.27±0.25 1.27±0.25</p> <p>3.6±0.3</p> <p>4.4±0.2</p> <p>0.4±0.1</p> <p>Model No.</p> <p>SHARP mark</p> <p>Anode mark</p> <p>Date code</p> <p>Factory identification mark</p> <p>Rank mark</p>
Date code	Daily code	Monthly code
Factory identification mark	H	△
Rank mark	E	Rank mark shall be or shall not be marked.
Process flowchart	Changed. Heat cycle, high temperature storage and high temperature test are deleted.	-
Reliability	SAME	
Packaging	Changed.	-
Outer packing appearance	SAME 12,000pcs (Taping : 3,000pcs/reel×4stair)	

● Absolute maximum ratings

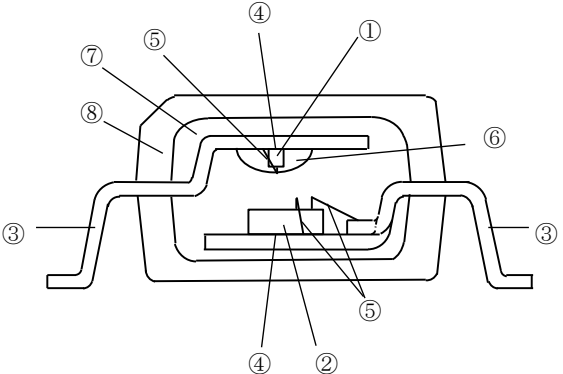
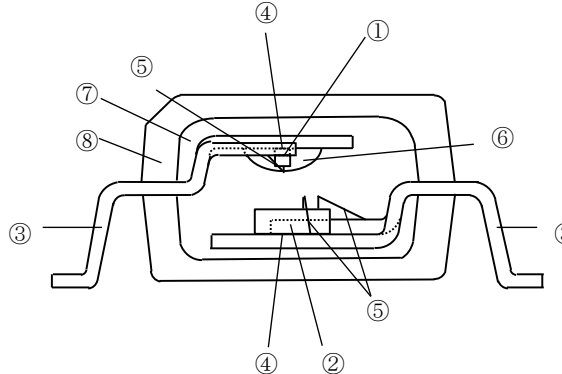
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SHARP internal model-number		PC410LENIP0F		PC410L0NIP0F			
Parameter		PC410LENIP02		PC410L0NIP07			
Symbol		Rating		Rating			
Input	Forward current	I_F	20mA	SAME			
	Reverse voltage	V_R	5V				
	Power dissipation	P	40mW				
Output	Supply voltage	V_{CC}	7V				
	High level output voltage	V_{OH}	7V				
	Low level output current	I_{OL}	50mA				
	Output collector power dissipation	P_C	85mW				
※1 Isolation voltage		$V_{iso(rms)}$	3.75kV				
Operating temperature		T_{opr}	-40°C to +85°C				
Storage temperature		T_{stg}	-40°C to +125°C				
※2 Soldering temperature		T_{sol}	270°C				

※1 : AC for 1 min, 40 to 60%RH

※2 : For 10s

● Electro-optical characteristics

Parameter		Symbol		YONGYAO ENSEI ELECTRONICS(SHANGQIU)CO., LTD. [ENSEI ELECTRONICS HENAN FACTORY]				P.T.SHARP SEMICONDUCTOR INDONESIA [SSI]											
Condition		MIN.		TYP.		MAX.		Unit		Condition		MIN.		TYP.		MAX.		Unit	
Input	Forward voltage	V_F	$I_F=10mA$	1.4	1.6	1.9	V	SAME											
	Reverse current	I_R	$V_R=5V$	-	-	10	μA												
	Terminal capacitance	C_t	$V_F=0, f=1MHz$	-	60	150	pF												
Output	Low level output voltage	V_{OL}	$I_{OL}=13mA, V_{CC}=5.5V, I_F=5mA$	-	0.4	0.6	V												
	High level output current	I_{OH}	$V_{CC}=V_O=5.5V, I_F=250\mu A$	-	0.02	100	μA												
	Low level supply current	I_{CCL}	$V_{CC}=5.5V, I_F=10mA$	-	7	13	mA												
	High level supply current	I_{CCH}	$V_{CC}=5.5V, I_F=0mA$	-	5	10	mA												
Transfer Characteristics	"H→L" threshold input current	I_{FHL}	$V_{CC}=5V, V_O=0.8V, R_L=350\Omega$	-	2.5	5	mA												
	Isolation resistance	R_{ISO}	DC500V 40 to 60%RH	5×10^{10}	10^{11}	-	Ω												
	Floating capacitance	C_f	$V=0, f=1MHz$	-	0.6	-	pF												
	Response time	"H→L" propagation time	t_{PHL}	$V_{CC}=5V, I_F=7.5mA, R_L=350\Omega, C_L=15pF$	25	48	75	ns											
		"L→H" propagation time	t_{PLH}		25	50	75												
		Fall time	t_f		-	10	-												
		Rise time	t_r		-	20	-												
		Distortion of pulse Width	Δtw		-	-	35												
CMR	Instantaneous common mode rejection voltage (High level output)	CM_H	$I_F=0, V_O(MIN)=2V$	$V_{CC}=5V, V_{CM}=1kV(p-p), R_L=350\Omega$	10	20	-	kV/ μs											
	Instantaneous common mode rejection voltage (Low level output)	CM_L	$I_F=0, V_O(MAX)=2V$		-10	-20	-												

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SHARP internal model-number	PC410LENIP02	PC410L0NIP07
Construction drawing		
Parts		
① Infrared Light Emitting Diode Chip	Gallium-Aluminium-Arsenic (Type A)	Gallium-Aluminium-Arsenic (Type B)
② Optical IC Chip	Silicon (H Company)	Silicon (G company)
③ Lead Frame	Cu Alloy [New Design] Pin finish: Palladium (Au flash plating)	Cu Alloy Pin finish: Palladium (Au flash plating)
④ Paste	SAME	Silver-Epoxy
⑤ Wire	SAME	Gold
⑥ Transparent Compound	Silicone (Color : White)	Silicone (Color : Clear)
⑦ Semitransparent Compound	SAME	Epoxy
⑧ Opaque Compound	SAME	Epoxy (UL flammability grade:94V-0)

※ The content of comparison table is subject to change without prior notice.

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