PRODUCT SPECIFICATION

DATE:09/19/2005

cosmo ELECTRONICS CORPORATION	Photocoupler : KP1410	NO.60P00038	PRELIMINARY
		SHEET 1 OF 4	

High Reliability Photocoupler

●Features

1.Low input current type (I_F=1.0mA).

2.Current transfer ratio (CTR : 50~400% at I_F=1.0mA Vce=5V).

3.High collector-emitter voltage(Vceo:80V).

4.High isolation voltage between input and output (Viso:5000Vrms).

5.Compact dual-in-line package.

●Applications

1. Computer terminals, programmable controllers.
2. Facsimile equipment, Audio, Video.
3. Communications, telephone, etc..

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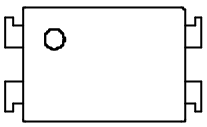
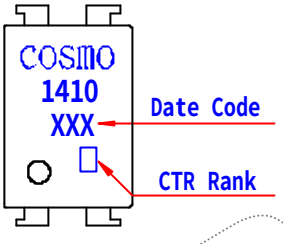
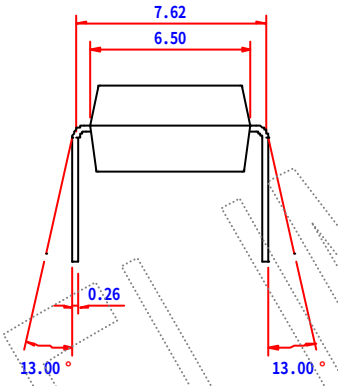
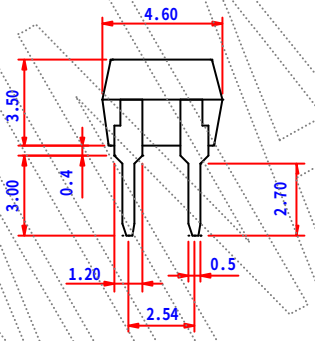
		SHEET 2 OF 4	

1. OUTSIDE DIMENSION : UNIT (mm)



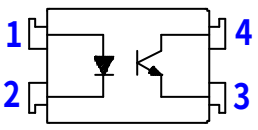






TOLERANCE : ±0.2mm

2. SCHEMATIC : TOP VIEW



1. Anode
2. Cathode
3. Emitter
4. Collector

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		SHEET 3 OF 4	

●Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	10	mA
	Peak forward current	I_{FM}	200	mA
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	15	mW
Output	Collector-emitter voltage	V_{CEO}	80	V
	Emitter-collector voltage	V_{ECO}	7	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		P_{tot}	170	mW
Isolation voltage 1 minute		V_{iso}	5000	Vrms
Operating temperature		T_{opr}	-30 to +115	℃
Storage temperature		T_{stg}	-55 to +125	℃
Soldering temperature 10 second		T_{sol}	260	℃

●Electro-optical Characteristics

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_{FM}	I_F=10mA	–	1.2	1.4	V
	Reverse current	I_R	VR=4V	–	–	10	uA
	Terminal capacitance	Ct	V=0, f=1MHz	–	30	250	pF
Output	Collector dark current	I_{CEO}	V_{CE}=50V, I_F=0	–	-	100	nA
Transfer charac-teristics	Current transfer ratio	CTR	I_F=1.0mA, V_{CE}=5V	50	–	400	%
	Collector-emitter saturation voltage	V_{CE}(sat)	I_F=10mA, Ic=1mA	–	-	0.2	V
	Isolation resistance	Riso	DC500V,40 to 60%RH	$5x10^{10}$	$1x10^{11}$	–	ohm
	Floating capacitance	Cf	V=0, f=1MHz	–	0.6	1.0	pF
	Response time (Rise)	tr	Vcc=2V,Ic=2mA,RL=100ohm	–	4	18	us
	Response time (Fall)	tf		–	3	18	us

Classification table of current transfer ratio is shown below.

Model NO.	CTR Rank	CTR(%)
KP1410	A	80 TO 160
KP1410	B	130 TO 260
KP1410	C	200 TO 400
KP1410	E	50 TO 400

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		SHEET 4 OF 4	

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-- Space application.
-- Telecommunication equipment (trunk lines).
-- Nuclear power control equipment.

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