PRODUCT SPECIFICATION

DATE:05/14/2007

cosmo ELECTRONICS CORPORATION	Photocoupler : KP2210	NO.60P01020	REV. 2
		SHEET 1 OF 6	

High Reliability Photocoupler

●Features

1.Current transfer ratio (CTR : 50~600% at I_F=5mA Vce=5V)

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

3.Compact dual-in-line package.

●Applications

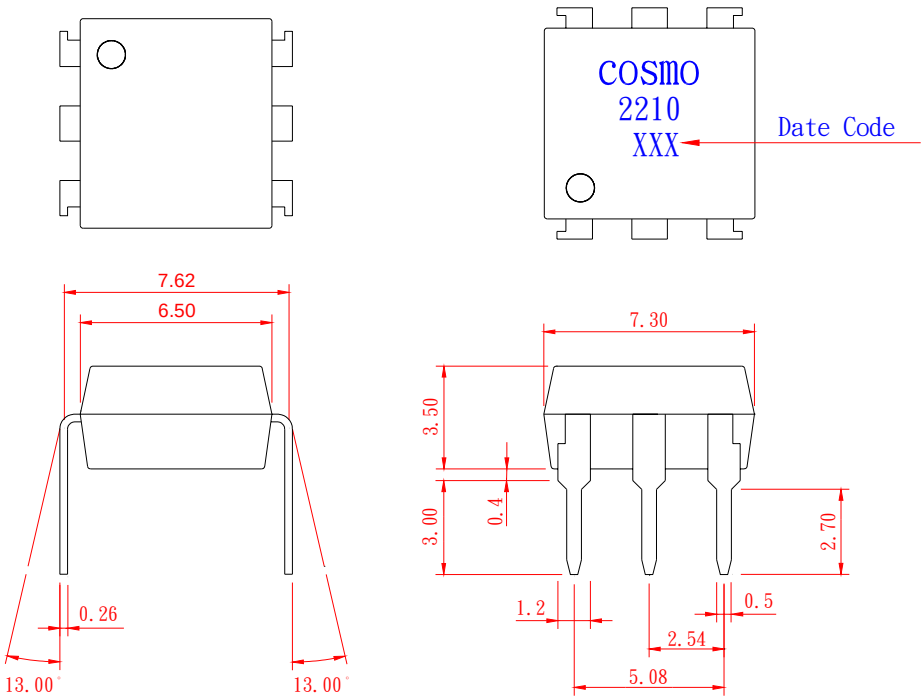
1. Registers, copiers, automatic vending machines.
2. System appliances, measuring instruments.
3. Computer terminals, programmable controllers.
4. Communications, telephone, etc.
5. Electric home appliances, such as oil fan heaters, Microwave oven , Washer, Refrigerator, Air conditioner, etc.
6. Medical instruments, physical and chemical equipment.
7. Signal transmission between circuits of different potentials and impedances.
8. Facsimile equipment, Audio, Video
9. Switching power supply, Laser beam printer.

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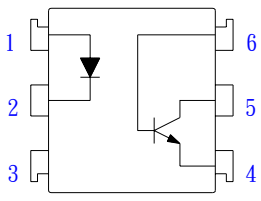
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1. OUTSIDE DIMENSION : UNIT (mm)



TOLERANCE : ±0.2mm

2. SCHEMATIC : TOP VIEW



1. Anode
2. Cathode
3. NC
4. Emitter
5. Collector
6. Base

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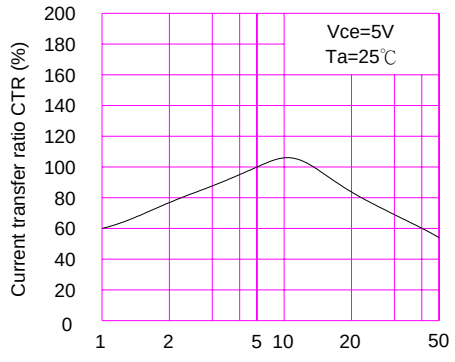
●Absolute Maximum Ratings

Parameter		Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Peak forward current	I_{FM}	1	A
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	70	mW
Output	Collector-emitter voltage	V_{CEO}	350	V
	Emitter-collector voltage	V_{ECO}	7	V
	Collector current	I_C	50	mA
	Collector power dissipation	P_C	150	mW
Total power dissipation		Ptot	200	mW
Isolation voltage 1 minute		Viso	5000	Vrms
Operating temperature		Topr	-55 to +115	℃
Storage temperature		Tstg	-55 to +125	℃
Soldering temperature 10 second		Tsol	260	℃

●Electro-optical Characteristics

Parameter		Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	V_F	IF=10mA	1.0	1.2	1.3	V
	Peak forward voltage	V_{FM}	IFM=0.5A	-	-	3.0	V
	Reverse current	I_R	VR=5V	-	-	10	uA
	Terminal capacitance	Ct	V=0, f=1MHz	-	30	-	pF
Output	Collector dark current	I_{CEO}	V_{CE}=300V	-	10	200	nA
Transfer charac-teristics	Current transfer ratio	CTR	I_F=5mA, V_{CE}=5V	50	-	600	%
	Collector-emitter saturation voltage	V_{CE}(sat)	I_F=8mA, Ic=2.4mA	-	-	0.4	V
	Isolation resistance	Riso	DC500V	$5x10^{10}$	10^{11}	-	ohm
	Floating capacitance	C_f	V=0, f=1MHz	-	0.6	1.0	pF
	Cut-off frequency	fc	Vcc=5V,Ic=2mA,RL=100ohm	-	80	-	kHz
	Response time (Rise)	tr	Vcc=10V,Ic=2mA,RL=100ohm	-	2	-	us
	Response time (Fall)	tf		-	3	-	us

Fig. 1 Current Transfer Ratio Vs. Forward Current



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Fig.2 Collector Power Dissipation vs. Ambient Temperature

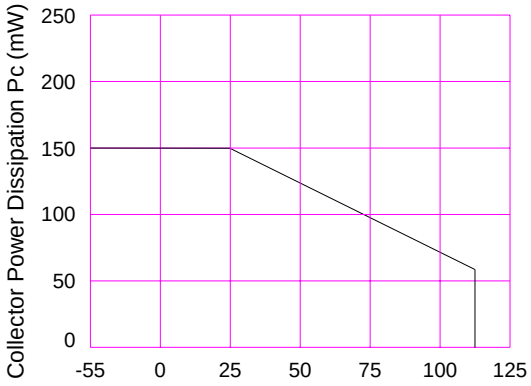


Fig.3 Collector Dark Current vs. Ambient Temperature

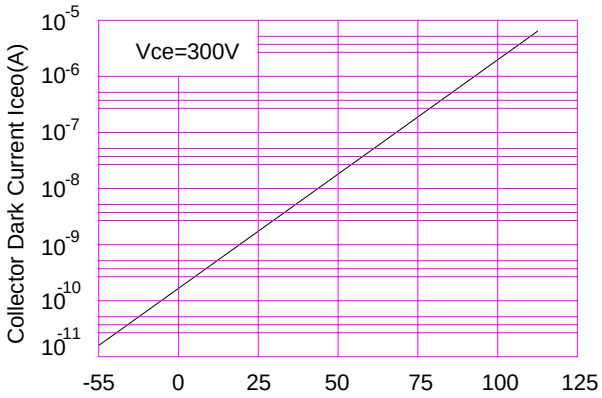


Fig.4 Forward Current vs. Ambient Temperature

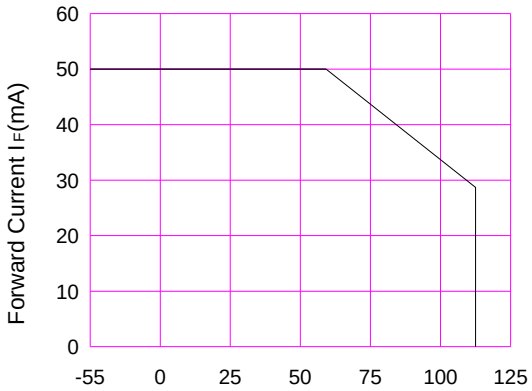


Fig.5 Forward Current vs. Forward Voltage

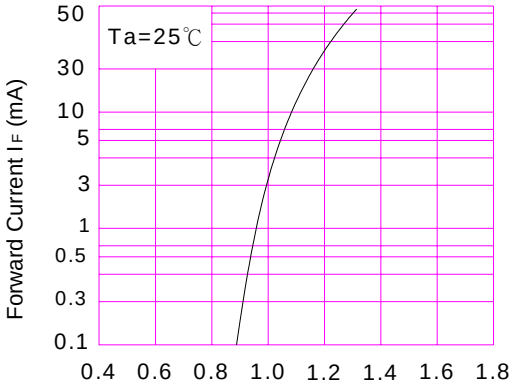


Fig.6 Collector Current vs. Collector-emitter Voltage

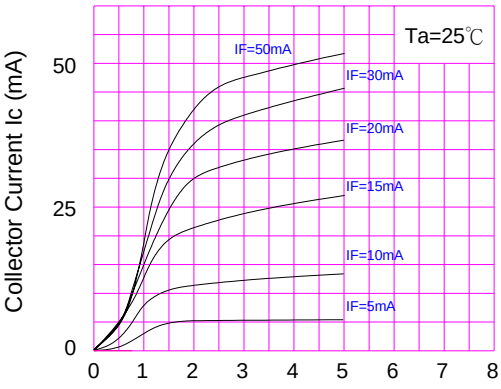
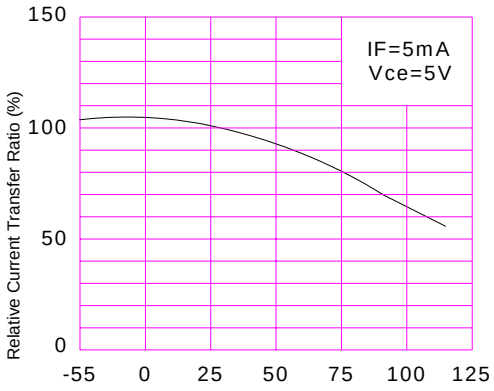


Fig.7 Relative Current Transfer Ratio vs. Ambient Temperature



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Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

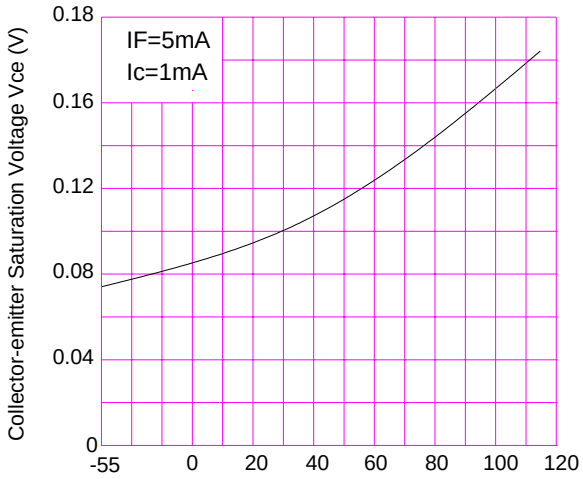


Fig.9 Collector-emitter Saturation Voltage vs. Forward Current

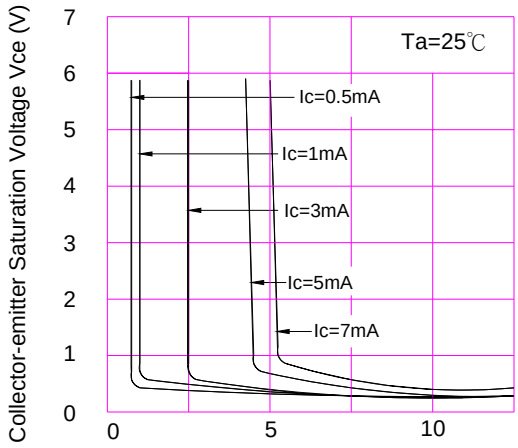


Fig.10 Response Time vs. Load Resistance

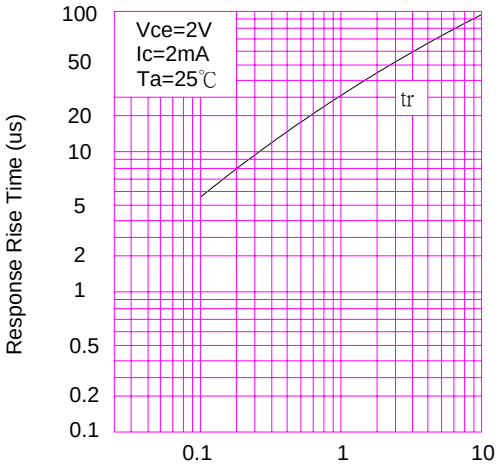
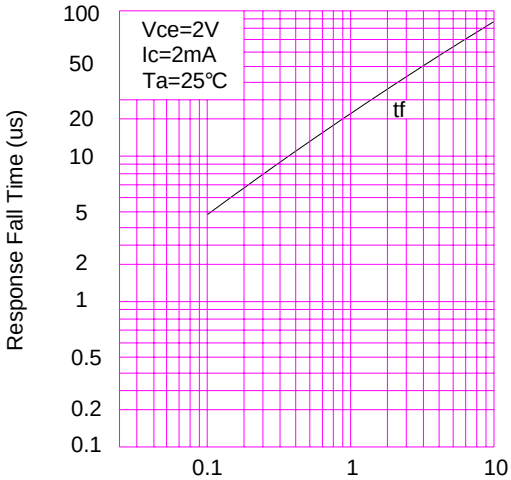


Fig.11 Response Time vs. Load Resistance



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