PRODUCT SPECIFICATION

DATE：01/28/2010

cosmo ELECTRONICS CORPORATION	Photocoupler： KPC815H	NO.62P20008	REV. 1
		SHEET 1 OF 6	

High Reliability Photocoupler

● Features

1. Current transfer ratio
   (CTR：Min. 600% at IF=1mA V_{CE}=2V)
2. High isolation voltage between input and output
   (Viso：5000Vrms)
3. Compact long creepage distance type package.

● Application：

1. System appliances, measuring instruments.
2. Industrial robots.
3. Copiers, automatic vending machines.
4. Signal transmission between circuits of different potentials and impedances.

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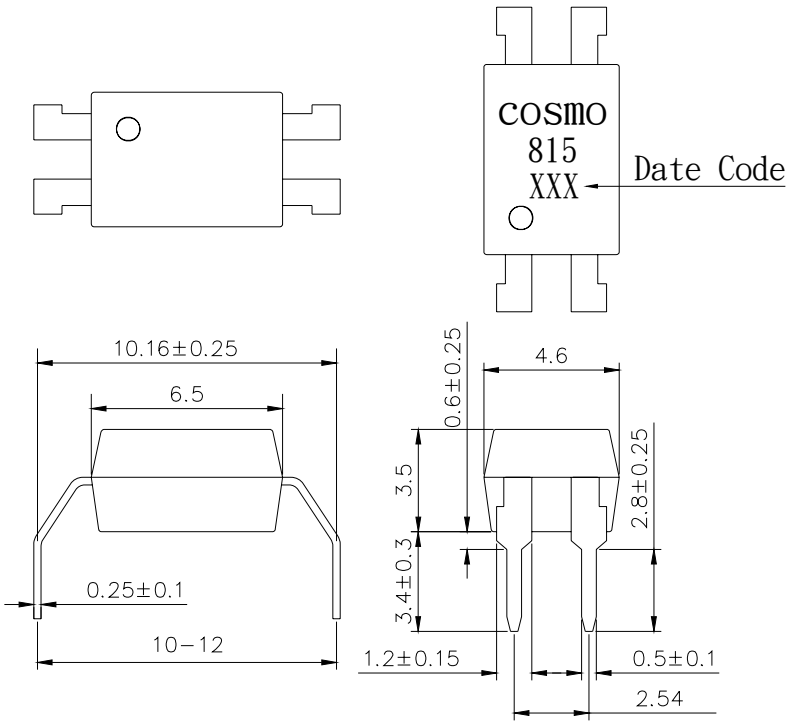
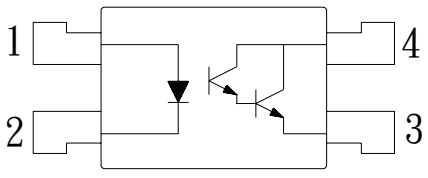
● Outside Dimension：Unit (mm)



TOLERANCE：±0.2mm

● Schematic：Top View



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

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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}	35	V
	Emitter- collector voltage	V_{ECO}	6	V
	Collector current	I_C	80	mA
	Collector power dissipation	P_C	150	mW
	Total power dissipation	P_{tot}	200	mW
	Isolation voltage 1 minute	V_{iso}	5000	Vrms
	Operating temperature	T_{opr}	-55 to +100	℃
	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_F	I_F=20mA	-	1.2	1.4	V
	Peak forward voltage	V_{FM}	I_{FM}=0.5A	-	-	3.5	V
	Reverse current	I_R	V_R=4V	-	-	10	uA
	Terminal capacitance	C_t	V=0, f=1KHz	-	30	-	pF
Output	Collector dark current	I_{CEO}	V_{CE}=10V, I_F=0	-	-	1.0	μA
Transfer characteristics	Current transfer ratio	CTR	I_F=1mA, V_{CE}=2V	600	-	7500	%
	Collector-emitter saturation	$V_{CE(sat)}$	I_F=8mA, I_C=2mA	-	-	1.0	V
	Isolation resistance	R_{iso}	DC500V	$5x10^{10}$	-	-	Ω
	Floating capacitance	C_f	V=0, f=1MHz	-	0.6	1.0	pF
	Cut-off frequency	f_C	V_{CC}=5V, I_C=2mA, R_L=100Ω	-	7	-	KHz
	Response time (Rise)	t_r	V_{CE}=10V, I_C=50mA, R_L=100Ω	-	5	40	μs
	Response time (Fall)	t_f		-	60	100	μs

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Fig.1 **Forward Current vs. Ambient Temperature**

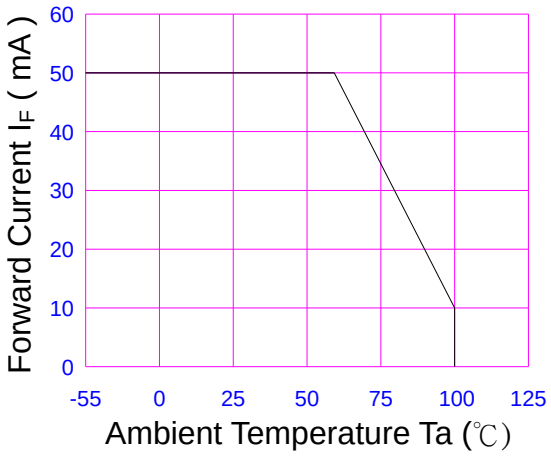

Fig.2 **Collector Power Dissipation vs. Ambient Temperature**

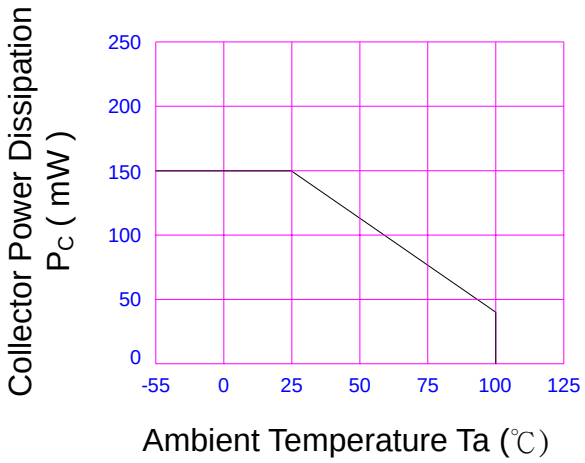

Fig.3 **Collector-Emitter Saturation Voltage vs. Forward Current**

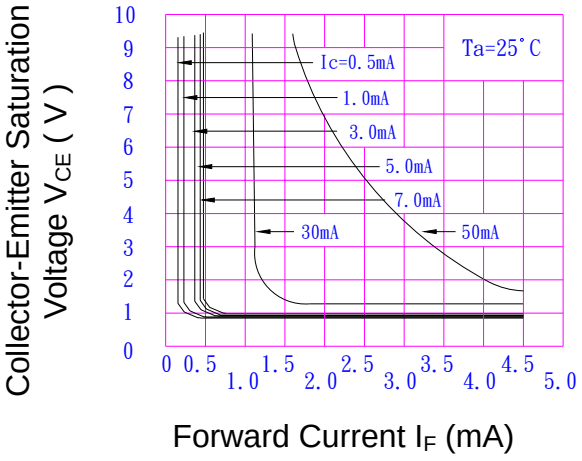

Fig.4 **Forward Current vs. Forward Voltage**

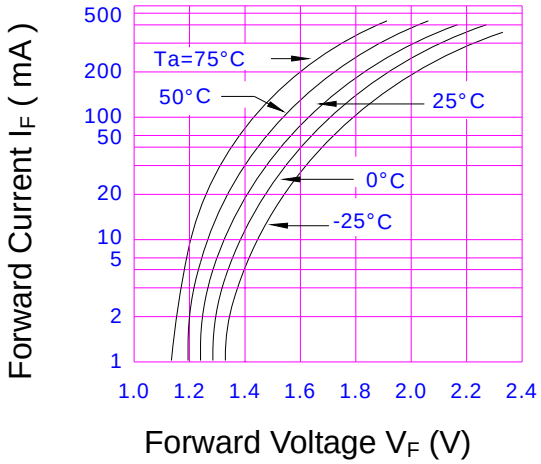

Fig.5 **Current Transfer Ratio vs. Forward Current**

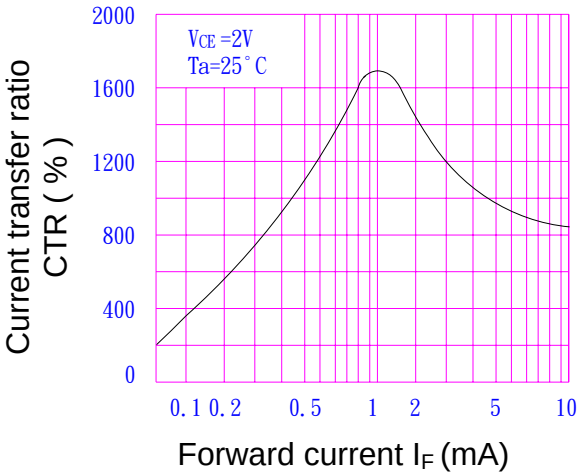

Fig.6 **Collector Current vs. Collector-Emitter Voltage**

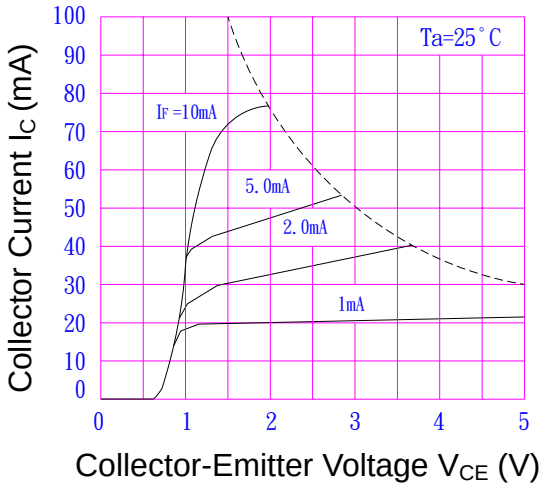

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Fig.7 **Relative Transfer Ratio vs. Ambient Temperature**

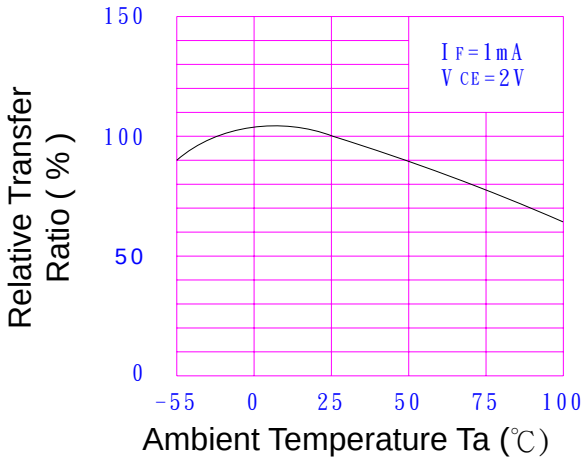


Fig.8 **Collector-Emitter Saturation Voltage vs. Ambient Temperature**

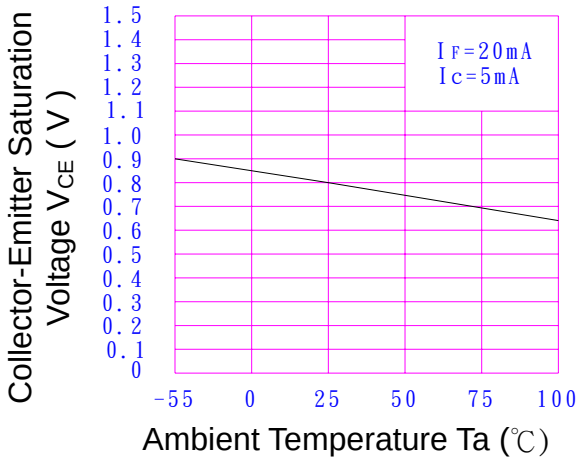


Fig.9 **Collector Dark Current vs. Ambient Temperature**

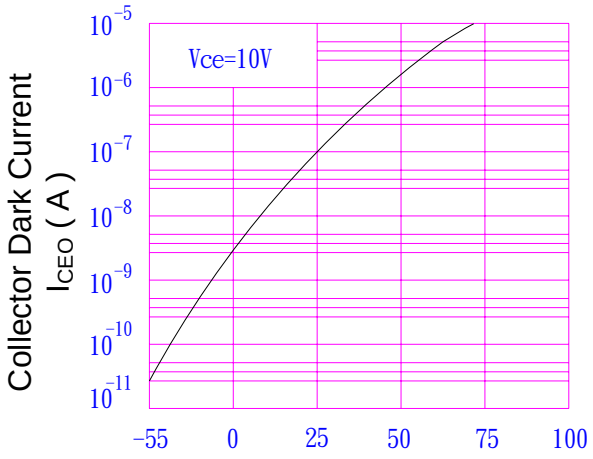
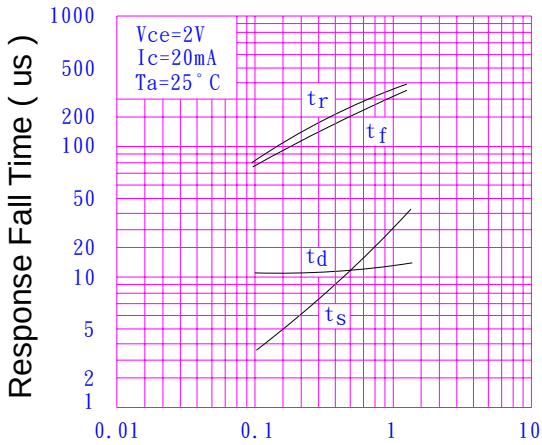


Fig.10 **Response Time vs. Load Resistance**



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