**UL** 1577 (File No.E169586) **VDE** 0884 / 0860 / 0805 (File No.101347)

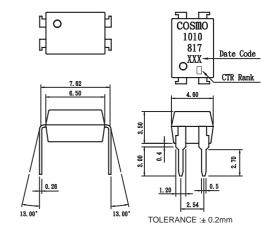
#### **Features**

- Current transfer ratio (CTR:MIN.50% at IF=5mA Vce=5V)
- High isolation voltage between input and output (Viso:5000Vrms).
- 3. Compact dual-in-line package.
- 4. Available package : DIP/ SMD/ H. (For Package Dimension please refer to page 82)

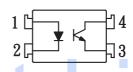
### **Applications**

- 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.
- Signal transmission between circuits of different potentials and impedances.
- 8. Facsimile equipment, Audio, Video.
- 9. Switching power supply, Laser beam printer.

#### **Outside Dimension: Unit (mm)**



#### **Schematic: Top View**



- Anode
  Cathode
- 3. Emitter
- 4. Collector

(Ta=25°C)

## **Absolute Maximum Ratings**

Parameter Rating Unit Symbol Forward current Input Peak forward current Α Reverse voltage ۷ĸ 6 Power dissipation PD 70 mW Output Collector-emitter voltage VCEO 60 Emitter-collector voltage VECO 6 Collector current Ic 50 mΑ Pc 150 mW Collector power dissipation 200 mW Ptot Total power dissipation 5000 Isolation voltage 1 minute Viso Vrms -30 to +100 °C Operating temperature Topr °C Storage temperature Tstg -55 to +125 Soldering temperature 10 second Tsol 260 °С

# **Electro-optical Characteristics**

(Ta=25°C)

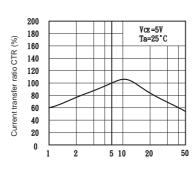
	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF =20mA	-	1.2	1.4	V
	Peak forward voltage	VFM	IFM =0.5A	-	_	3.0	V
	Reverse current	IR	VR =4V	_	_	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	-	30	_	pF
Output	Collector dark current	ICEO	VCE =20V	-	_	0.1	uA
Transfer	Current transfer ratio	CTR	IF=5mA, VCE =5V	50	_	600	%
charac-	Collector-emitter saturation voltage	VcE(sat)	IF=20mA, IC=1mA	<b>-</b>	0.1	0.2	V
teristics	Isolation resistance	Riso	DC500V	5X10 <sup>10</sup>	10 <sup>11</sup>	_	ohm
	Floating capacitance	Cf	V=0, f=1MHz	-	0.6	1.0	pF
	Cut-off frequency	fc	Vcc=5V, Ic=2mA, RL=100ohm	-	80	_	kHz
	Respone time(Rise)	tr	VCE=2V, IC=2mA, RL=100ohm	_	4	18	us
	Respone time(Fall)	tf		_	3	18	us

cosmo K1010

Classification table of current transfer ratio is shown below.

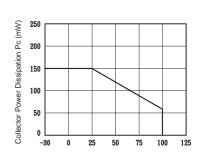
Model NO.	CTR (%)			
A	80 TO 160			
В	130 TO 260			
С	200 TO 400			
D	300 TO 600			
E	50 TO 600			

Fig.1 Current Transfer Ratio vs. Forward Current



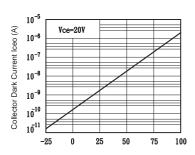
Forward Current IF (mA)

Fig.2 Collector Power Dissipation vs. Ambient Temperature



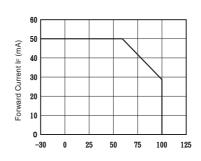
Ambient Temperature Ta (°C)

Fig.3 Collector Dark Current vs. Ambient Temperature



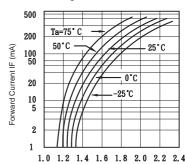
Ambient Temperature Ta (°C)

Fig.4 Forward Current vs. Ambient Temperature



Ambient Temperature Ta (°C)

Fig.5 Forward Current vs. Forward Voltage

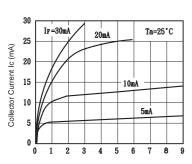


Forward Voltage VF (V)

IF=20mA

Ic=1mA





Collector-emitter Voltage VcE (V)

Fig.9 Collector-emitter Saturation

Fig.7 Relative Current Transfer Ratio 150 I F=5mA V CE=5V

Relative Current Transfer Ratio (%) 50 0 -25 0 25 50 75

