Xiamen Hualian Electronics Co.,Ltd.

Specification on Product

DESCRIPTION:Reflective Sensor

MODEL: HRS500

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● General:

The HRS500 has a compact construction where the emitting-light source and the detector are arranged in the same direction to sense the presence of an object by using the reflective IR beam from the object. The operating wavelength is 940 mm. The detector consists of a phototransistor.

● Features：

- ◆ Package height: 6.6 mm
- ◆ Snap-in construction for PCB mounting
- ◆ Compact Reflective Model with a Plastic polycarbonate housing

● Application

- ◆ Position sensor for shaft encoder
- ◆ Detection of reflective material such as paper,IBM cards, magnetic tapes etc
- ◆ Limit switch for mechanical motions in VCR

● Absolute Maximum Ratings (Ta=25°C)

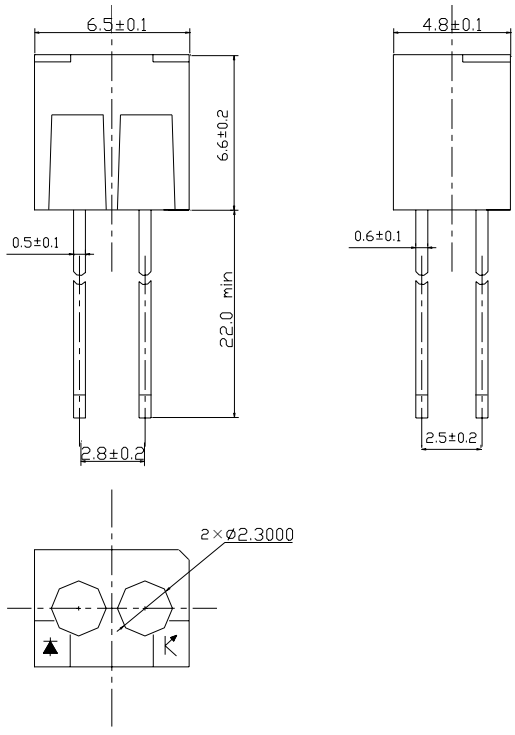
Parameters		Symbol	Rated value	Unit
Emitter	Forward Current	I_F	60	mA
	Pulse Forward Current*	I_{PF}	600	mA
	Reverse Voltage	V_R	5	V
	Power Dissipation	P_D	90	mW
Detector	Collector-Emitter Voltage	V_{CEO}	30	V
	Emitter-Collector Voltage	V_{ECO}	5	V
	Collector Current	I_C	50	mA
	Powers Dissipation	P_C	100	mW
Storage Temp.		T_{stg}	-25~+80	°C
Operation Temp.		T_{opr}	-25~+80	°C
Soldering Temp.（10s）		T_{sol}	+260	°C

*The pulse width is 100 μs maximum with a frequency of 100 Hz

● Opto-electric characteristics (Ta=25°C)

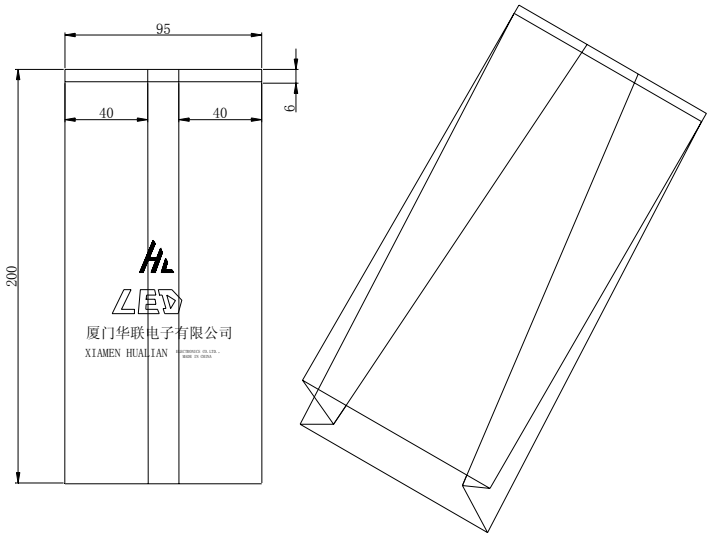
Parameters		Symbol	Test condition	MIN.	TYP.	MAX.	Unit
Emitter	Forward Voltage	V_F	I_F＝10mA	1.0	1.15	1.3	V
	Reverse Current	I_R	V_R＝5V			10	μA
Detector	Collector-Emitter Voltage	BV_{CEO}	I_C=0.5mA	30			V
	Emitter-Collector Voltage	BV_{ECO}	I_E=0.1mA	5			V
	Collector Dark Current	I_D	V_{CE}=10V E=0mW/cm^2			100	nA
Collector Current		I_C	I_F=10mA V_{CE}=5V d=5mm	500			μA
Collector-Emitter Saturated Voltage		$V_{CE(sat)}$	I_C=0.5mA I_F=20mA d=5mm			0.4	V
Leakage Current		I_{LEAK}	I_F=10mA， V_{CE}=5V No Reflection			50	μA
Rising Time/Falling Time		t_r/t_f	V_{CE}=5V I_C=1mA R_L=1000Ω		15/15		μs

● Outline

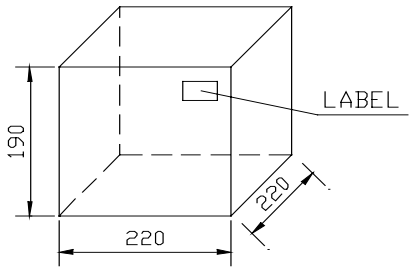


● Packing

■ Internally packed with 95×200mm^2 plastic bags,500pcs/bag.



■ Externally Packed with 220×220×190mm^3 cartons, 8000pcs/carton.



■ Label