

PHOTOTRANSISTOR

TYPE: LS07-A

SENBA OPTICAL ELECTRONIC CO., LTD.

LS07-A

Production Specification

- Replacement of CdS Photoresistor
- Control of backlight brightness
- Switch for lighting equipments and Toys
- Testing for daylight.

◆ CHARACTERISTICS

Characteristics	Symbol	Max	Unit
Power Dissipation	P_D	10	Mw
Collector-emitter Breakdown Voltage	$V_{(BR) CEO}$	30	V
Operating temperature range	Topr	-35 to 85	°C
Storage temperature range	Tstg	-35 to 85	°C

◆ ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta= 25°C)

Parameter	Symbol	Test Conditions	Min	Type	Max	Unit
Collector-emitter Breakdown Voltage	BV_{CEO}	$I_C=100\ \mu A, I_B=0$	30		100	V
Emitter-collector Breakdown Voltage	BV_{ECO}	$I_E=100\ \mu A, I_B=0$	5			V
Collector dark current	I_{CEO}	$V_{CE}=20V, H=0mw/cm^2$			100	nA
Collector-emitter Saturation Voltage	$V_{CE(S)}$	$I_C=2mA, I_B=100\ \mu A$			0.4	V
Rise/fall time	T_R/T_F	$V_{CE}=5V$ $I_C=1Ma, R_L=1000\ \Omega$		15/15		μS
Current gain	h_{FE}	$V_{CE}=5V, I_C=2Ma$	500			
Collector-base Capacitance	C_{CB}	$F=1MHZ, V_{CB}=3V$	5.4	6.4	7.4	PF
Photo Current	H_L	$V_{DD}=5V, E_V=10LUX$	80		130	μA

Fig 1. Collector Power Dissipation vs Ambient Temperature

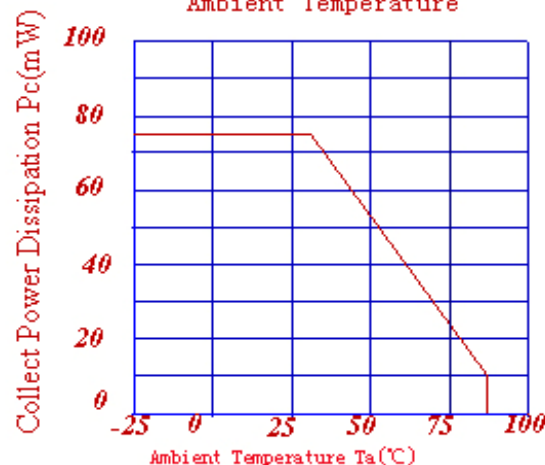


Fig 2. Collector Power Dark Current vs Ambient Temperature

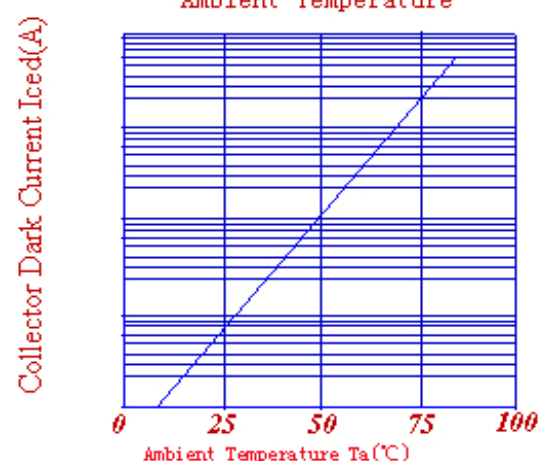


Fig 3. Relative Collector Current vs Ambient Temperature

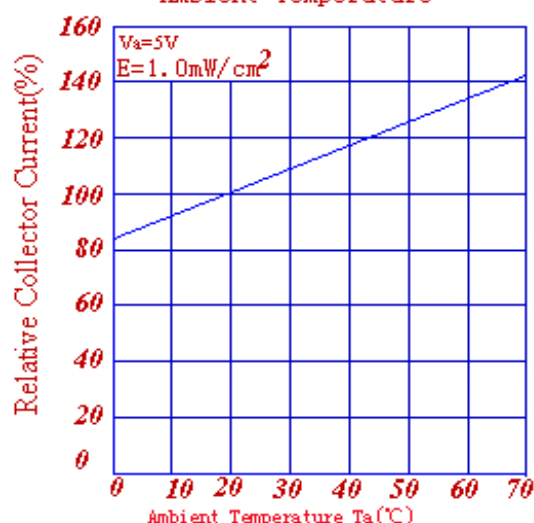


Fig 4. Collector Current vs Irradiance

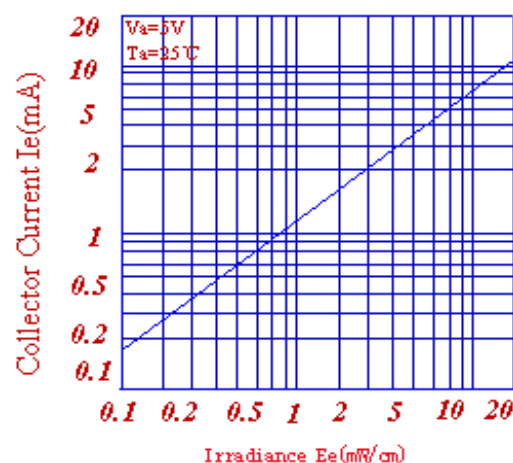


Fig 5. Spectral Sensitivity

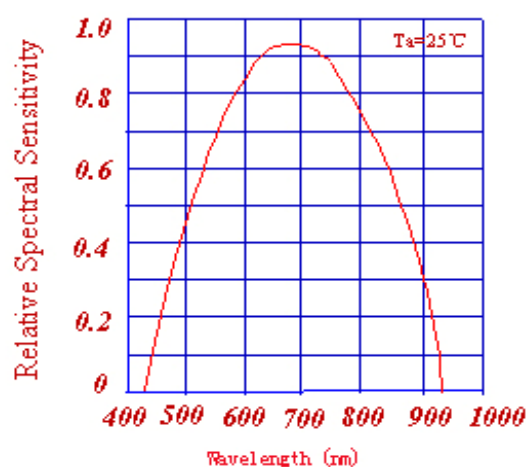
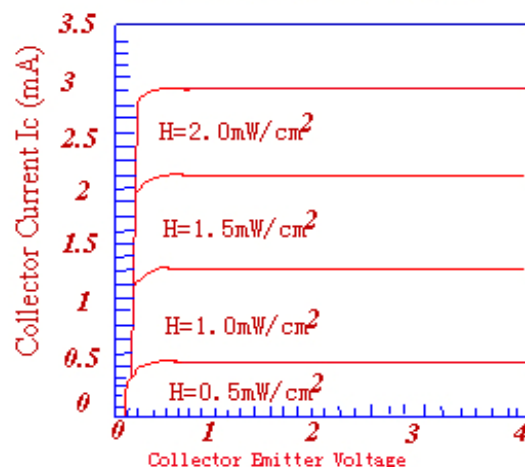


Fig 6. Collector Current vs Collector Emitter Voltage



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