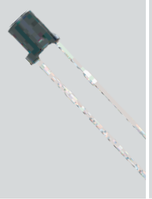
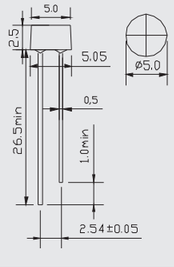
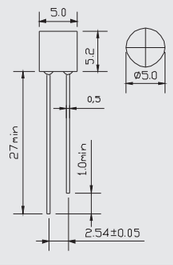
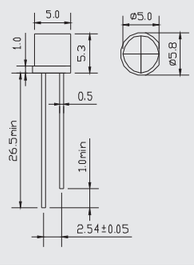
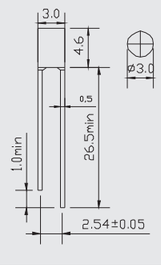
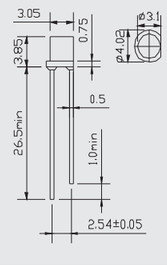
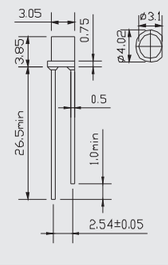
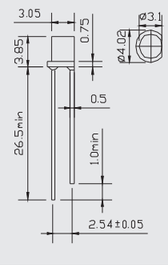
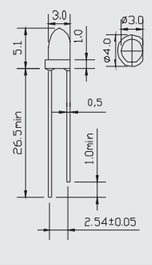
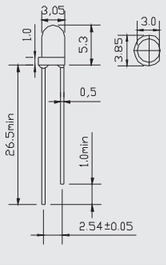
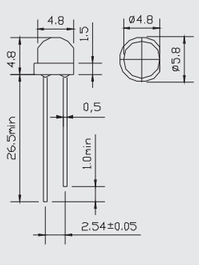
Size 外觀尺寸		Φ5 Flat-Head/平頭			Φ3 Flat-Head /平頭				Φ3 Bullet 子彈頭	Φ3 Flat-Head 圓頭	Φ5 Straw-Hat 草帽
Photo 圖片											
Type 型號		LBCETC1-100	LS06-MΦ5	LS06-R ML	LS06-BΦ3	LS06-SΦ3	LS03-G ML	LLS03-D ML	LS07-AΦ3	LS07-FΦ3	LS06-BΦ5
Dimensions(mm) 膠體尺寸		5.0*2.5	5.0*5.2	5.0*5.3	3.0*4.6	3.1*3.85			3.0*5.1	3.0*5.3	4.8*4.8
Colloid Color 膠體顏色		Water Clear		Blue	Water Clear		Blue	Black	Water Clear		
Light Current(μA) 光電流(典型值)	Vdd=5v Ev=10Lux	100	35	12	60	25	12		100	300	60
Dark Current(μA) 暗電流(典型值)	Vdd=5v Ev=0Lux	<1μA	<0.5μA						<1μA		<0.5μA
C-E breakdown Voltage(V) 擊穿電壓	100μA IB=0	70									
E-C breakdown Voltage(V) 擊穿電壓	100μA IB=0	30									
Spectral Response(nm) 響應光譜		450~1050		450~700	450-1050		450~700		450-1050		
Half Angle 半角度		100°			80°	100°			30°	80°	100°
Dimensions 尺寸图											

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SENBA SENSING TEC.

光敏傳感器(貼片IC/PT系列)
LIGHT SENSOR

Applications 典型應用

- Replace Photoresistor(LDR). 替代传统光敏电阻
- Control backlight brightness for LCD Monitors, TV sets, PDA, Cameras and Mobile Phones. 自动调节背景光，如：LCD显示器，电视，PDA，照相机和移动电话等
- Switch for Lighting equipments and Toys. 控制家用、商用照明设备以及玩具
- Various infrared detection equipments. 各类红外线检测等设备
- Various security products. 各类安防产品

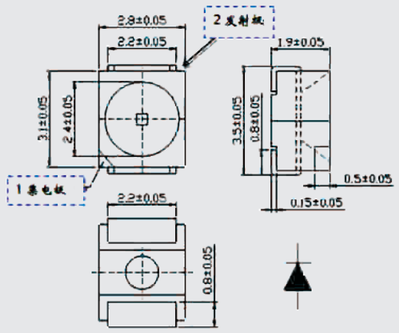
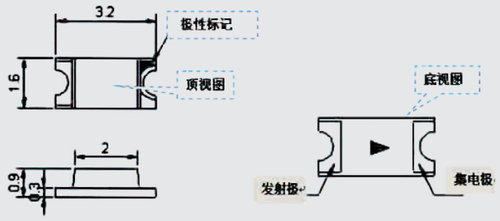
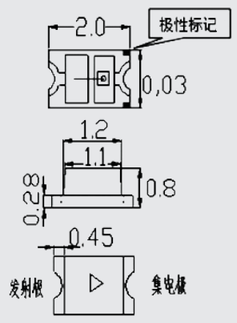
Features 特性

- Linear output following the illuminance. 输出随光照度线性变化
- The spectral response of built-in optical filter similar to human eyes. 内置的光学滤波器的光谱相应类似于人类的眼睛
- High-gain photocurrent amplifier IC. 高增益光电流放大IC
- Temperature stability. 具有一定的温度稳定性
- Low dark current, high sensitivity. 低暗电流，高灵敏度
- RoHS Compliance/Pb-free/Cd-free. 符合RoHS指令/无铅/无镉等

Cautions 使用說明

- Do not use the sensor exceeding its specification.
- The application circuit included in this Instruction is for reference only. Please design circuit and adjust the parameters according to the practical application.
- With COMS IC inside, careful of the Electro Static Discharge.
- Ensure the welding temperature not above the rated range, avoid the exogenic force on pins during or ending of welding.
- The photocurrent will be influenced by dirty and destroy on the surface.
- The sensors are small, transparent, plastic packaged, avoiding the use or storage in damp environment.
- This product is epoxy resin encapsulated and conforms to ROHS environmental protection certification.

- 不要在超出产品规格范围的情况下使用本产品。
- 本说明提到的应用电路仅作为标准使用范例。请根据外围设施来设计电路并调整参数设置。
- 本产品内置CMOS IC, 应避免静电产生而导致的破坏。
- 注意保证焊接温度不能超过额定范围，在焊接过程中或焊接完毕时应避免有外力作用于引脚，不可重复焊接。
- 本产品表面的损伤和污染均会影响光电流。
- 本产品为环氧树脂封装，符合RoHS环保认证。
- 小包装1000支，大包装10000支。

Type 型號		3528A-10	3528C-50	3528LS-10	1206-30	0805-20
Photo 圖片						
Dimensions(mm) 膠體尺寸		3.5*2.8			3.2*0.9	2.0*0.8
Colloid Color 膠體顏色		Water Clear		Blue	Water Clear	
Light Current(μA) 光電流(典型值)	Vdd=5v Ev=10Lux	8	60	10	30	20
Dark Current(μA) 暗電流(典型值)	Vdd=5v Ev=0Lux	<0.5μA				
C-E breakdown Voltage 擊穿電壓	100μA IB=0	70				
E-C breakdown Voltage 擊穿電壓	100μA IB=0	30				
Spectral Response 響應光譜		450-700	450-1050	450-700	450-1050	
Half Angle 半角度		120°				
Dimensions 尺寸图						
		3528A-10 3528C-50 3528LS-10			1206-30	0805-20

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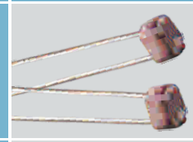
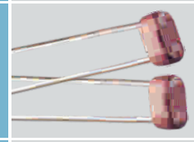
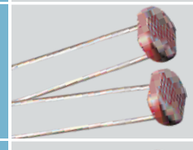
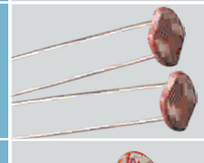
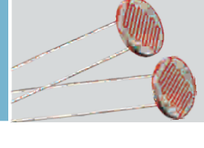
Specification 規格	Photo 圖片	Type 型號	Max Voltage 最大電壓(VDC)	Max Power 最大功耗(mW)	Peak Spectral Value 光譜峰值(nm)	Light Resistance 亮電阻(KΩ)	Dark Resistance 暗電阻(MΩ)	γ_{10}^{100}	Response Time 回應時間(ms)	
									Increase 上升	Decrease 下降
Φ3 Series/系列		GL3516	100	50	540	5–10	0.6	0.5	30	30
		GL3526	100	50	540	10–20	1	0.6	30	30
		GL3537–1	100	50	540	20–30	2	0.6	30	30
		GL3537–2	100	50	540	30–50	3	0.7	30	30
		GL3547–1	100	50	540	50–100	5	0.8	30	30
Φ4 Series/ 系列		GL4516	150	50	540	5–10	0.6	0.5	30	30
		GL4526	150	50	540	10–20	1	0.6	30	30
		GL4537–1	150	50	540	20–30	2	0.6	30	30
		GL4537–2	150	50	540	30–50	3	0.7	30	30
		GL4548–1	150	50	540	50–100	5	0.8	30	30
Φ5 Series/系列		GL5516	150	90	540	5–10	0.5	0.5	30	30
		GL5528	150	100	540	10–20	1	0.6	20	30
		GL5537–1	150	100	540	20–30	2	0.6	20	30
		GL5537–2	150	100	540	30–50	3	0.7	20	30
		GL5539	150	100	540	50–100	5	0.8	20	30
		GL5549	150	100	540	100–200	10	0.9	20	30
		GL5606	150	100	560	4–7	0.5	0.5	30	30
		GL5616	150	100	560	5–10	0.8	0.6	30	30
		GL5626	150	100	560	10–20	2	0.6	20	30
		GL5637–1	150	100	560	20–30	3	0.7	20	30
		GL5637–2	150	100	560	30–50	4	0.8	20	30
		GL5639	150	100	560	50–100	8	0.9	20	30
		GL5649	150	100	560	100–200	15	0.95	20	30
Φ7 Series/系列		GL7516	150	100	540	5–10	0.5	0.6	30	30
		GL7528	150	100	540	10–20	1	0.6	30	30
		GL7537–1	150	150	560	20–30	2	0.7	30	30
		GL7537–2	150	150	560	30–50	4	0.8	30	30
		GL7539	150	150	560	50–100	8	0.8	30	30
Φ10 Series/系列		GL10516	200	200	560	5–10	1	0.6	30	30
		GL10528	200	200	560	10–20	2	0.6	30	30
		GL10537–1	200	200	560	20–30	3	0.7	30	30
		GL10537–2	200	200	560	30–50	5	0.8	30	30
		GL10539	200	200	560	50–100	8	0.8	30	30
Φ12 Series/系列		GL12516	250	200	560	5–10	1	0.6	30	30
		GL12528	250	200	560	10–20	2	0.6	30	30
		GL12537–1	250	200	560	20–30	3	0.7	30	30
		GL12537–2	250	200	560	30–50	5	0.7	30	30
		GL12539	250	200	560	50–100	8	0.8	30	30
Φ20 Series/系列		GL20516	500	500	560	5–10	1	0.6	30	30
		GL20528	500	500	560	10–20	2	0.6	30	30
		GL20537–1	500	500	560	20–30	3	0.7	30	30
		GL20537–2	500	500	560	30–50	5	0.7	30	30
		GL20539	500	500	560	50–100	8	0.8	30	30

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SENBA SENSING TEC.

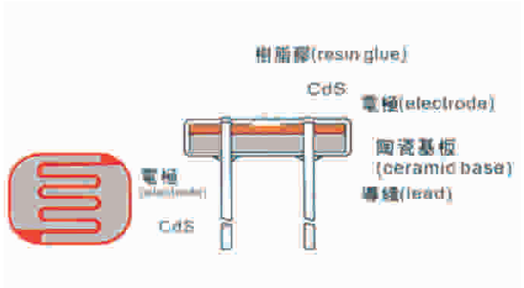
光敏電阻
LDR SENSOR

Introduction 簡介

LDR Sensor is a resistance which is made of semi-conductor material, and the conductance changes with the luminance variation.
With this characteristic, LDR Sensor can be designed with different figures and illuminated area. LDR Sensor is widely used in toys, lamps,camera etc.

光敏電阻是一種半導體材料製成的電阻，其電導率隨著光照度的變化而變化。利用這一特性製成不同形狀和受光面積的光敏電阻。光敏電阻廣泛應用於玩具、燈具、照相機等行業。

Schematic Diagram 結構示意圖



Performance and feature 性能及特點

Resin package 環氧樹脂封裝	Good reliability 可靠性好	High sensitivity 靈敏度高
Small volume 體積小	Quick response 反應速度快	Excellent spectral characteristic 光谱特性好

Application 應用範圍

Photo-switch 光控開關	Light control 室內光線控制	Electronic toy 電子玩具
Light control lamp 光控燈	Photoelectric control 光電控制	Industrial control 工業控制
Camera automatic photometry 照相機自動測光		Electronic alarm 報警器

Test Conditions 測試條件

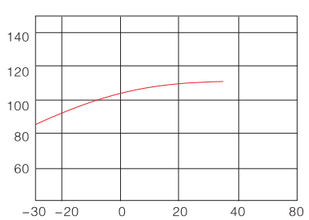
- Light resistance: Irradiated by 400-600Lux light for two hours, then test under 10Lux standard illuminant(as color temperature 2856K).
- 亮電阻: 用400-600Lux光照射2小時後，在標準光源（色温2856K）10Lux光下的測試值；
  Dark resistance: Refer to the resistance 10s after the 10Lux light off.
- 暗電阻： 關閉10Lux光照後第10秒的阻值
- γ Value: Logarithm of the standard resistance ratio with 10Lux and under 100Lux.
  γ值：10Lux照度和100Lux照度下的標準電阻值之比的對數

$$\gamma=\frac{Lg(R10/R100)}{Lg(100/10)}=Lg(R10/R100)$$

- R10、R100 are the resistances under 10Lux and 100Lux(tolerance of r is ±0.1).
  R10、R100 分別爲10Lux、100Lux 照度下的電阻值（γ的公差爲±0.1）
- Max Power Consumption: Maximum consumption at 25℃ environment temperature.
  最大功耗： 環境温度爲25℃時的最大功耗；
- Max External Voltage: Maximum voltage to be continuously applied to component in the dark.
  最大外加電壓：在黑暗中可連續施加給元件的最大電壓；

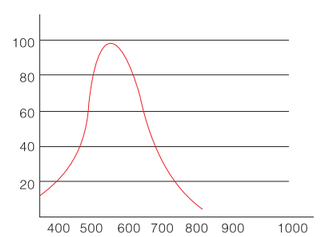
The Main Characteristic Curve 主要特性曲綫

Relative Resistance(%)
電阻變化率（%）



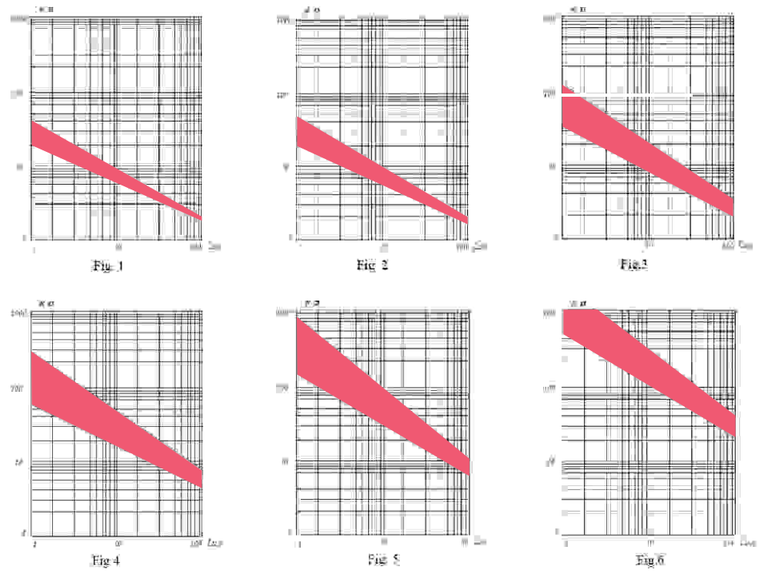
Temperature-Property 温度特性曲綫

Relative Response(%)
相對靈敏度（%）

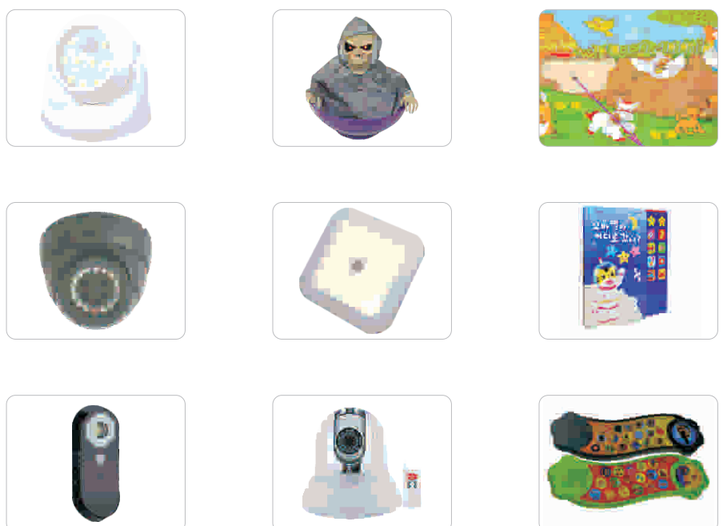


Spectrum Response Characteristic 光譜回應特性曲綫

Illuminance-Resistance Characteristics Curve 光照度-電阻特性曲線



LDR Sensor Application 产品应用



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