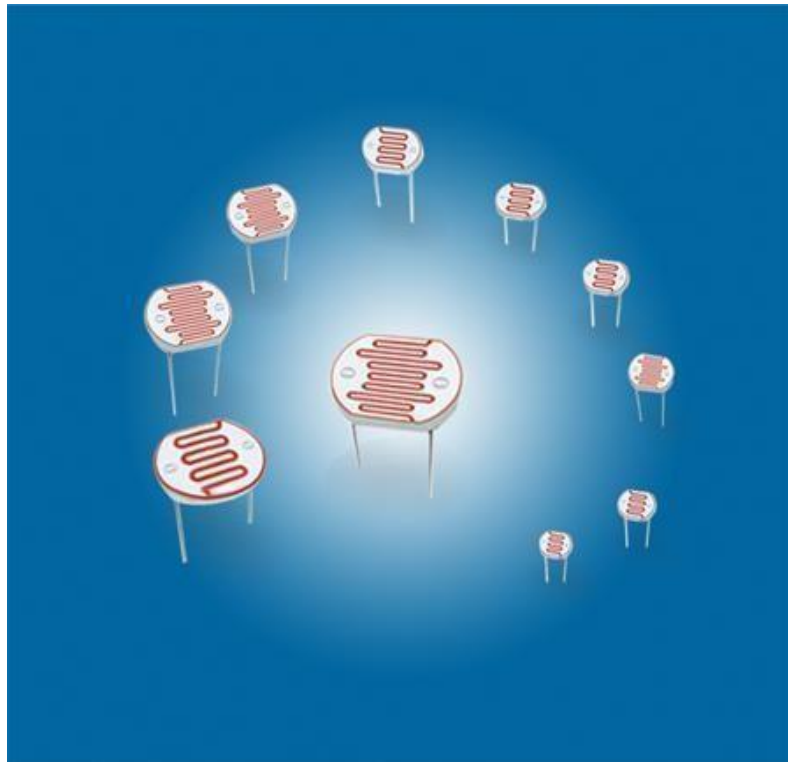


光敏传感器

PHOTOSENSITIVE SENSOR



优良品质 · 诚信经营

一起携手 · 共创辉煌

LG12928LF 数据资料 DATASHEET

Received	
<input checked="" type="checkbox"/>	MASS PRODUCTION
<input type="checkbox"/>	PRELIMINARY
<input type="checkbox"/>	CUSTOMER DESIGN
DEVICE NO.:	
PAGE:8	

Revised record		
REV.	DESCRIPTION	RELEASE DATE

Technical Data Sheet

Phototransistor

LG12928LF

产品特点

FEATURES

- Small package with high efficiency
- Soldering methods: SMT
- Thermal resistance (junction to lead): 18°C/W.
- Pb free
- The product itself will remain within RoHS compliant version.

产品简介

DESCRIPTION

- LG12928LF series is an infrared emitting diode in miniature SMD package which is molded in a water clear silicone with spherical top view lens.
- The device is spectrally matched with silicon photodiode, Phototransistor.

产品应用

APPLICATIONS

- Infrared Photoelectric Switch
- optical receiving applied system
- infrared sensor system
- electronic intelligence toys
- Position sensor

选择指南
DEVICE SELECTION GUIDE

LED Part No.	Chip Material
LG12928LF	Silicon

绝对最大额定值
ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Collector-Voltage	V _{ECO}	5	V
Collector Current	I _c	20	mA
Operating Temperature	T _{opr}	-25~+85	°C
Storage Temperature	T _{stg}	-40~+85	°C
Soldering Temperature*1	T _{sol}	245	°C
Thermal resistance (junction to leadframe)	R _{th(j-L)}	18	°C/W
Power Dissipation	P _d	75	mW

Notes: *1: We suggest that customer should add the heat sink with HIR-C16/L572-P01/TR to exclude the heat.

光电参数
ELECTRO-OPTICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Rang Of Spectral Bandwidth	$\lambda_{0.5}$	-	400	-	1100	nm
Wavelength Of Peak Sensitivity	λ_p	-	600	-	1050	nm
Collector-Emitter Breakdown Voltage	V _{CEO}	I _c =100 μ A E _e =0mW/cm ²	60	-	-	V
Emitter-Collector Breakdown Voltage	V _{ECO}	I _E =100 μ A E _e =0mW/cm ²	5	-	-	V
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _c =2mA I _B =0.1mA	-	0.1	0.4	V
Collector Dark Current	I _{CEO}	V _{CE} =20V E _e =0mW/cm ²	-	-	100	nA
On State Collector Current	I _{C(ON)}	V _{CE} =5V E _e =1mW/cm ²	1.5	2.3	-	mA
Rise Time	t _r	V _{CE} =5V I _c =1mA	-	15	-	μ S
Fall Time	t _f	RL=1000 Ω	-	15	-	

Bin 代码列表 BIN CODE LIST

 Condition: $V_{CE}=5V$ $E_e=1mW/cm^2$ Unit: mA

Radiated Power

Bin Number	A	B	C	D	E
Min	0.5	1.0	1.5	2.0	2.5
Max	1.0	1.5	2.0	2.5	3.0

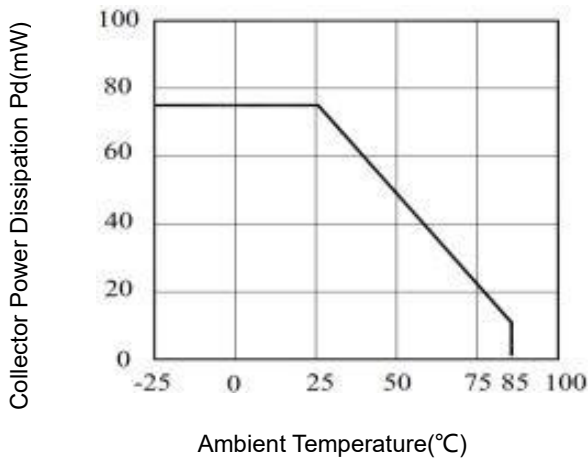
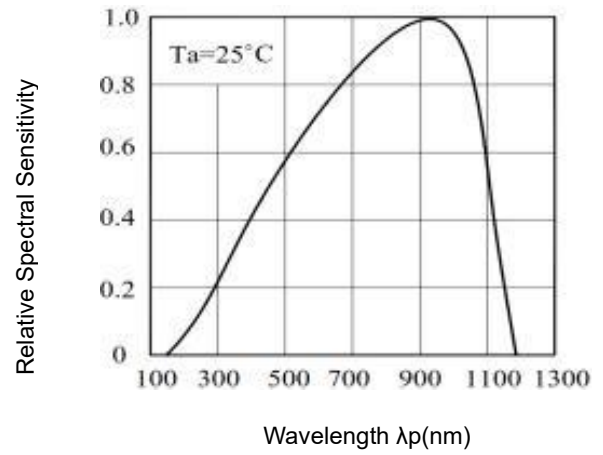
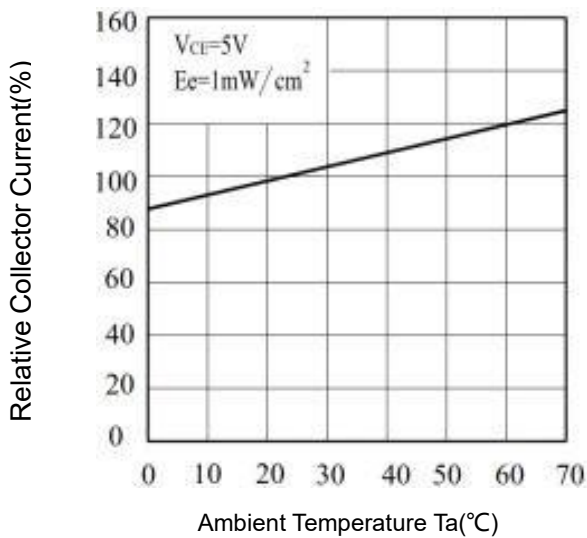
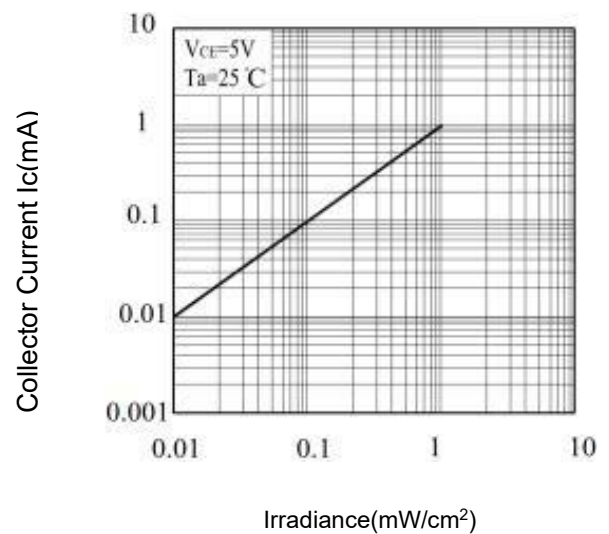
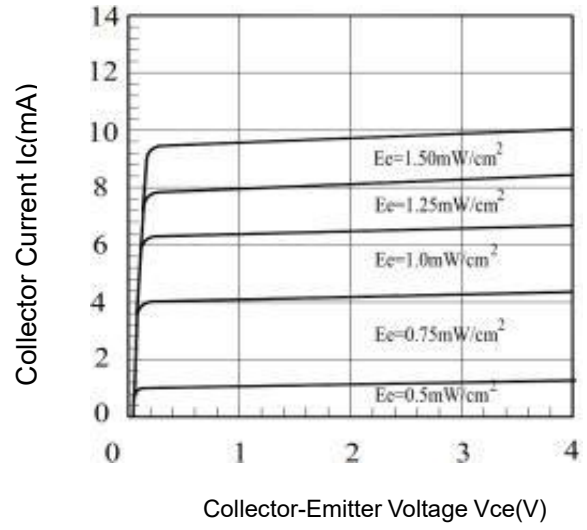
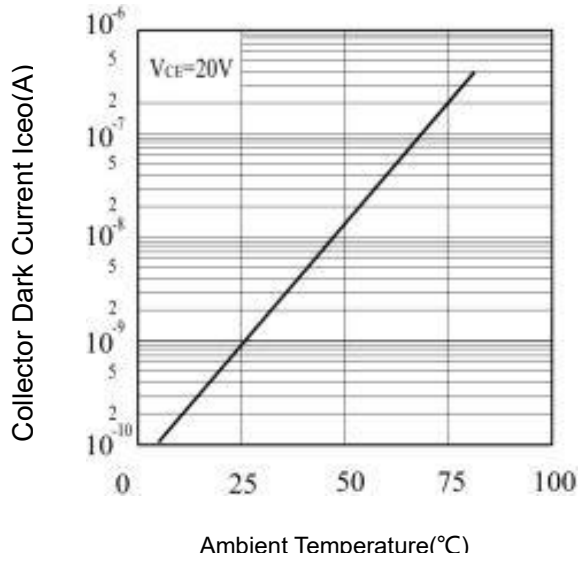
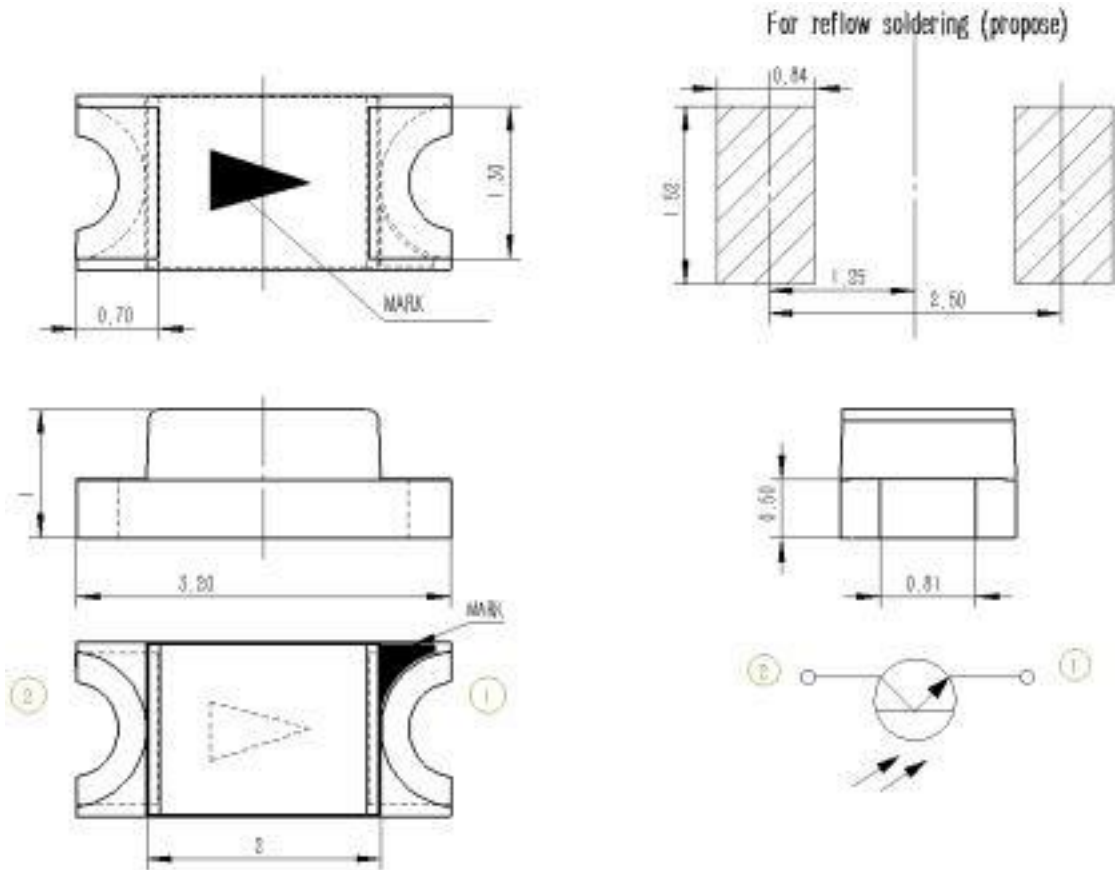
 Including test tolerance $\pm 10\%$
典型电光特性曲线 TYPICAL ELECTRO-OPTICAL CHARACTERISTICS CURVES
Fig.1 Collector Power Dissipation vs. Ambient Temperature

Fig.2 Spectral Distribution

Fig.3 Relative Collector Current vs. Ambient Temperature

Fig.4 Collector Current vs. Irradiance


Fig.5 Collector Dark Current vs. Ambient Temperature Fig.6 Collector Current vs. Collector-Emitter Voltage



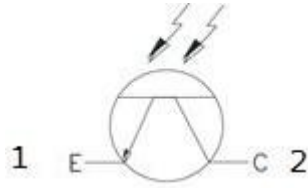
包装尺寸

PACKAGE DIMENSION



Note:

1. Dimensions are in millimeters.
2. Tolerances unless mentioned are $\pm 0.15mm$.

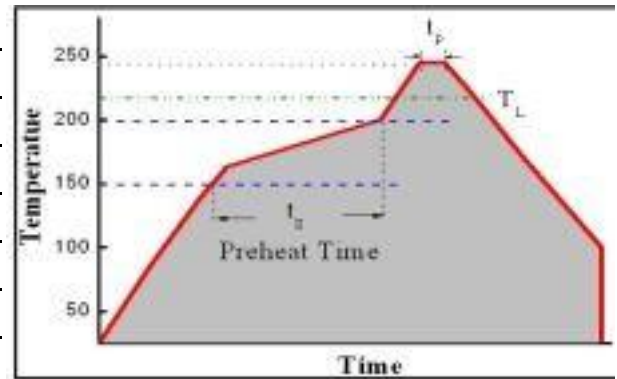
焊盘配置
PAD CONFIGURATION


PAD	FUNCTION
1	Emitter
2	Collector

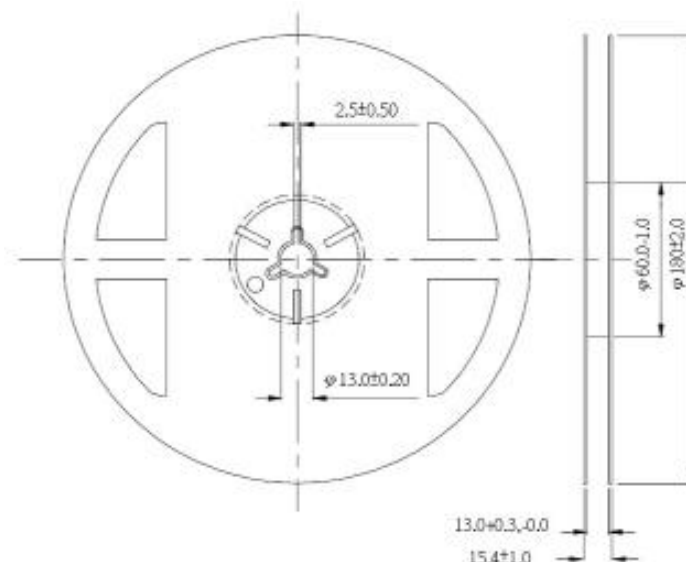
回流焊接特性
REFLOW SOLDERING CHARACTERISTICS
For Reflow Process

- LG12928LF series are suitable for SMT processes.
- Curing of glue in oven must be according to standard operation flow processes.

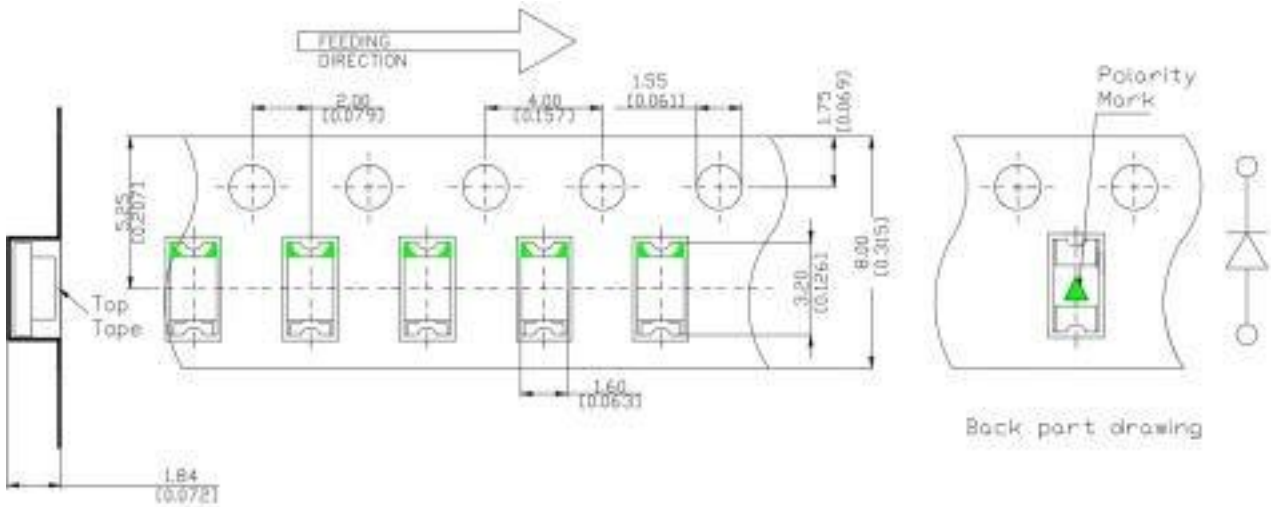
Profile Feature	Lead Free Assembly
Ramp-UP Rate	2-3°C/s
Preheat Temperature	150-200r
Preheat Time(ts)	60-120s
Liquid Temperature(TL)	217°C
Time maintained above TL	60-90S
Peak Temperature (Tp)	235±°C
Peak Time(tp)	MAX 3s
Ramp-Down Rate	3-5°C/s



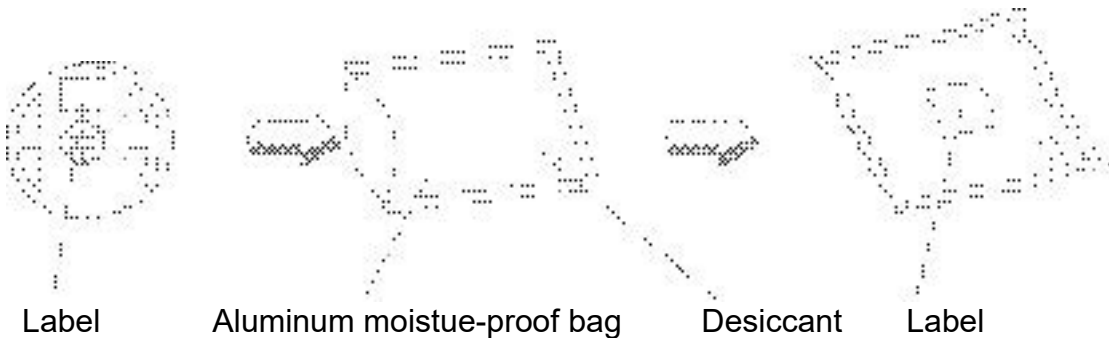
- Reflow soldering should not be done more than twice.
- In soldering process, stress on the LEDs during heating should be avoided.
- After do the soldering, not bend circuit board.

包装尺寸
PACKAGE DIMENSIONS


Note: 1. Dimensions are in millimeters
 2. The tolerances unless mentioned is $\pm 0.1\text{mm}$

载带尺寸
CARRIER TAPE DIMENSIONS: Loaded quantity 3000 Pcs per reel


Note: 1. Dimensions are in millimeters
 2. The tolerances unless mentioned is $\pm 0.1\text{mm}$

防潮包装
MOISTURE RESISTANT PACKAGING

防潮包装材料
MOISTURE RESISTANT PACKING MATERIALS
Label Form Specification
Notes

1. Above specification may be changed without notice. KEMIAO will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. KEMIAO assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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