LITEON

SOT-23 Surface Mounting LED Lamps

LTL-907CK AlGaAs Red LTL-907LK Green
LTL-907PK Bright Red LTL-907YK Yellow
LTL-907EK Red Orange

Features

- Microminiature package LED Lamp.
- Surface mount assembly lamp.
- Single chip.
- High efficiency/lower power consumption.
- Long life solid state reliability.

Description

The LTL-907 series are clear non-diffused epoxy micro-miniature package for surface mount assembly.

LTL-907PK is Gallium Phosphide on Gallium Phosphide Red Light emitting Diode.

LTL-907LK is Gallium Phosphide on Gallium Phosphide Green emitting Diode.

LTL-907EK is Gallium Arsenide Phosphide on Gallium Phosphide Orange Light emitting Diode.

LTL-907YK is Gallium Arsenide Phosphide on Gallium Phosphide Yellow Light emitting Diode.

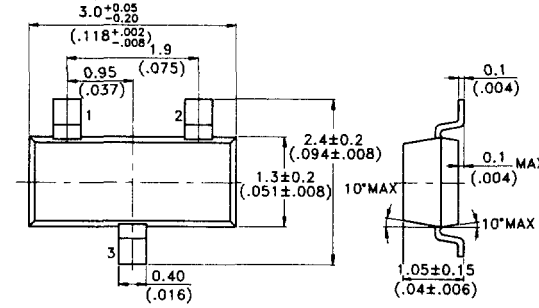
LTL-907CK is Aluminum Gallium Arsenide Red Light emitting Diode.

Devices

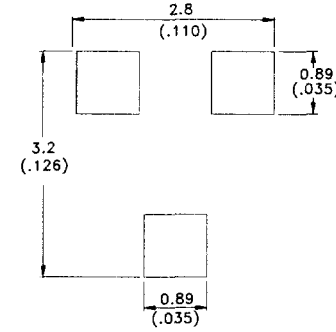
Part No. LTL-	Lens	Source Color
907CK	Water Clear	AlGaAs Red
907PK	Water Clear	Bright Red
907EK	Water Clear	Red Orange
907LK	Water Clear	Green
907YK	Water Clear	Yellow

Part No.	LTL-907CK	LTL-907PK LTL-907EK LTL-907LK LTL-907YK
1		N.C.
2	Cathode	Anode
3	Anode	Cathode

Package Dimensions



Soldering Pad Dimensions



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25mm (.010") unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. Specifications are subject to change without notice.

Absolute Mmaximum Ratings at Ta=25℃

Parameter	AlGaAs Red	Bright Red	Orange	Green	Yellow	Unit
Power Dissipation	100	40	100	100	60	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	200	60	120	120	80	mA
Continuous Forward Current	40	15	30	30	20	mA
Derating Linear From 50℃	0.8	0.2	0.4	0.4	0.25	mA/℃
Reverse Voltage	5	5	5	5	5	V
Operating Temperature Range	-55℃ to +100℃					
Storage Temperature Range	-55℃ to +100℃					
Wave Soldering Condition	260℃ for 5 Seconds					
Infared Soldering Condition	260℃ for 5 Seconds					

Electrical / Optical Characteristics and Curves at Ta = 25℃

Parameter	Symbol	Part No. LTL-	Min.	Typ.	Max.	Unit.	Test Condition.
Luminous Intensity	Iv	907CK	3.7	12.6		mcd	IF=20 mA Note 1
		907PK	0.4	1.1			
		907EK	1.7	5.6			
		907LK	1.3	2.8			
		907YK	1.3	2.8			
Viewing Angle	2 θ 1/2	907CK				deg	Note 2 (FIG.7)
		907PK					
		907EK		140			
		907LK					
		907YK					
Peak Emission Wavelength	λ P	907CK		660		nm	Measurement @Peak (FIG.1)
		907PK		697			
		907EK		635			
		907LK		565			
		907YK		585			
Dominant Wavelength	λ d	907CK		638		nm	Note 3
		907PK		657			
		907EK		621			
		907LK		569			
		907YK		588			
Spectral Line Half Width	Δλ	907CK		20		nm	
		907PK		90			
		907EK		24			
		907LK		30			
		907YK		35			
Forward Voltage	VF	907CK		1.8	2.4	V	IF=20mA
		907PK		2.1	2.8		
		907EK		2.0	2.8		
		907LK		2.1	2.8		
		907YK		2.1	2.8		
Reverse Current	IR	907CK			100	μA	VR=5V
		907PK			100		
		907EK			100		
		907LK			100		
		907YK			100		
Capacitance	C	907CK		30		PF	VF=0 f=1MHZ
		907PK		55			
		907EK		20			
		907LK		35			
		907YK		30			

Notes: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $2\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength, λd is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

Typical Electrical / Optical Characteristic Curves
(25℃ Ambient Temperature Unless Otherwise Noted)

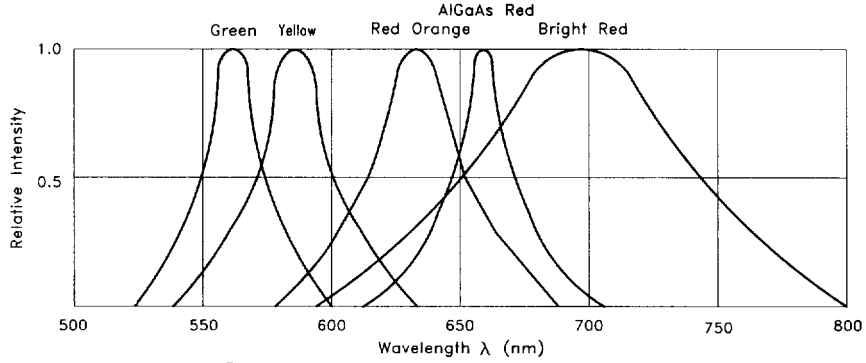


Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

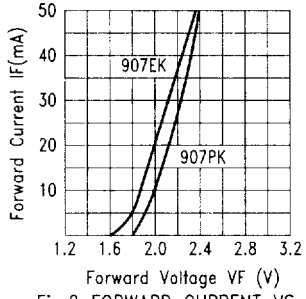


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

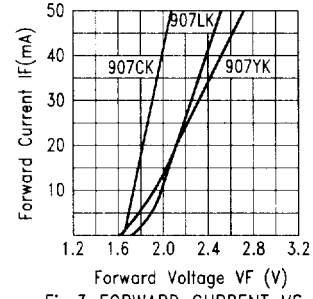


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

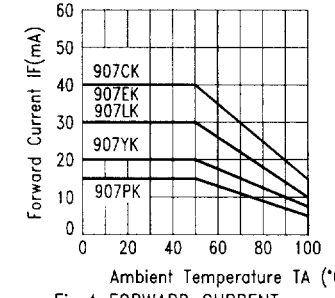


Fig.4 FORWARD CURRENT DERATING CURVE

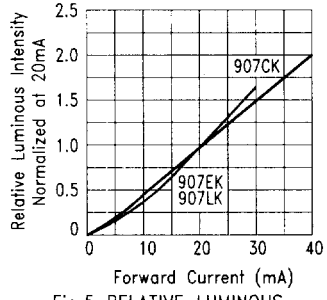


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

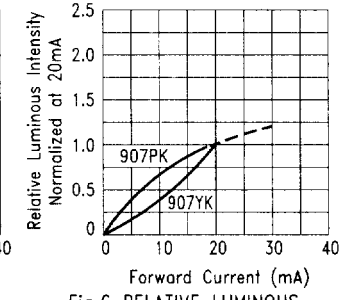


Fig.6 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

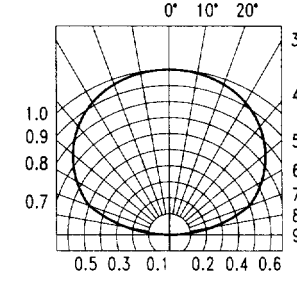


Fig.7 SPATIAL DISTRIBUTION

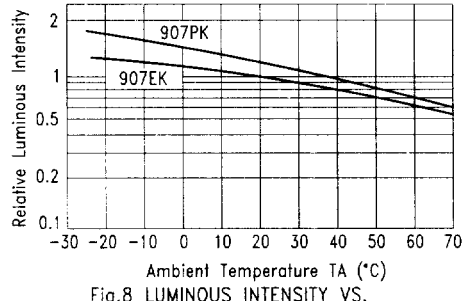


Fig.8 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

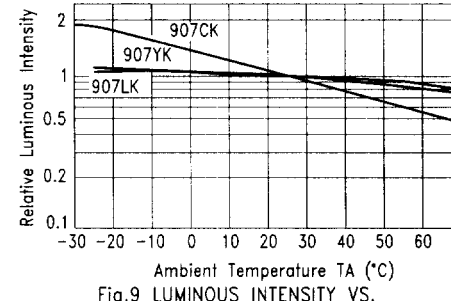


Fig.9 LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

SMD LAMPS