

L120CWIR881

Infrared

3mm, Flanged Cylindrical, 5.3mm Height
27° viewing angle

DWG BY:
LL / JAG
08-02-06

CHK BY:
PL
10-09-06

QA:
__-__-06

MFG:
__-__-__

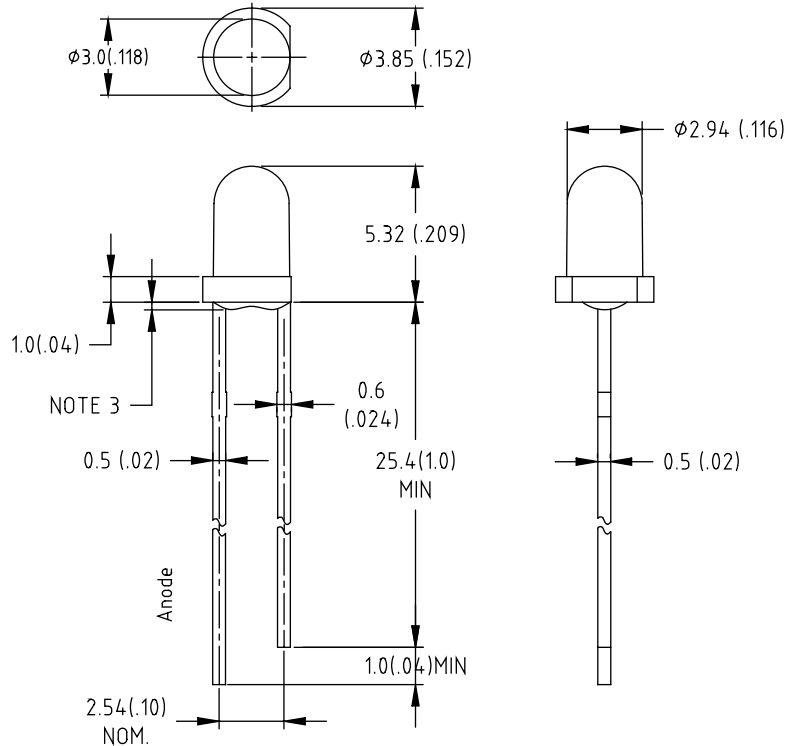
REVISION LTR: -
10-06-06

Features:

- Standard 3mm diameter package
- Infrared emitting diode
- Tinned leads
- Pb-free

WARNING: DO NOT LOOK AT LED DIRECTLY WHEN POWER IS ON, USE IR CAMERA TO VIEW LED.

Package Dimensions:



Part No.	Chip Material	Lens Color	Emission Color
L120CWIR881	AlGaAs	Water Clear	Infrared

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ± 0.25 mm (.010") unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.04") max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25°C

Parameter	MAX.	Unit
Power Dissipation	55	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100	mA
Continuous Forward Current	35	mA
Reverse Voltage	5	V
Operating Temperature Range	-30°C to +80°C	
Storage Temperature Range	-40°C to +100°C	
Lead Soldering Temperature [4mm (.157") From Body]	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

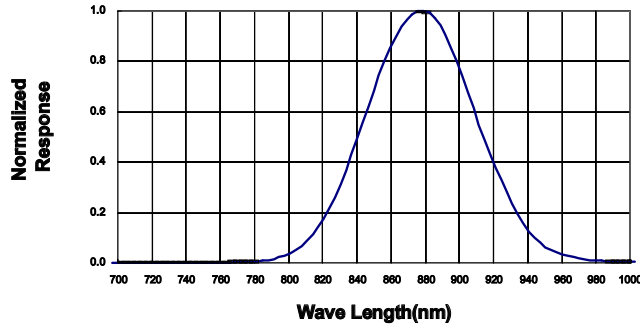
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Viewing Angle	$2\theta_{1/2}$	---	27	---	Deg	(Note 1)
Peak Emission Wavelength	λ_p	---	901	---	nm	$I_F=50mA$
Spectral Line Half-Width	$\Delta\lambda$	---	63	---	nm	$I_F=20mA$
Forward Voltage	V_F	---	1.50	1.7	V	$I_F=50mA$
Reverse Current	I_R	---	---	50	μA	$V_R=5V$
SCP	---	---	---	---	cd	$I_F=50mA$
Lumens	---	---	---	---	lm	$I_F=50mA$
Radiant Intensity	I_e	8	15	---	mW/sr	$I_F=50mA$

Notes:

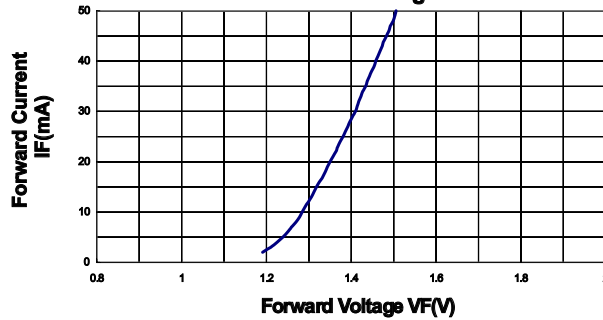
- $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- Forward voltage measurement allowance is $\pm 0.1V$
- Radiant Intensity Measurement Allowance is $\pm 10\%$.

Typical Electrical / Optical Characteristics Curves
(25°C Ambient Temperature Unless Otherwise Noted)

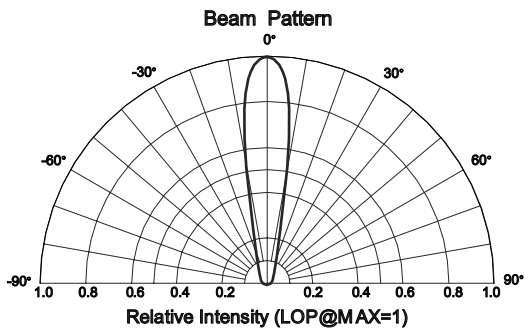
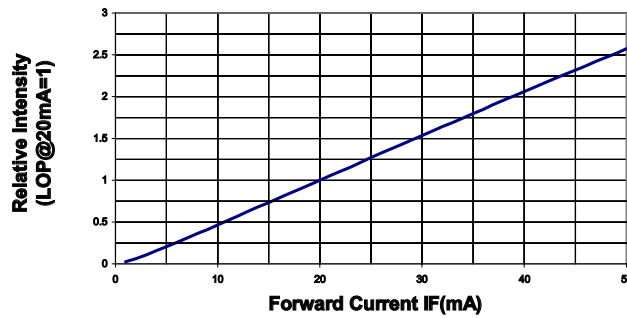
Spectral Radiance (Peak @ 880nm)



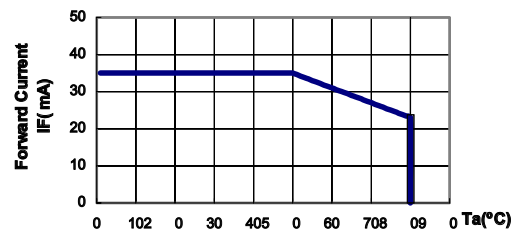
Forward Current vs Forward Voltage



Relative Luminous Intensity vs Forward Current



Forward Current Derating Curve



Reliability Summary:

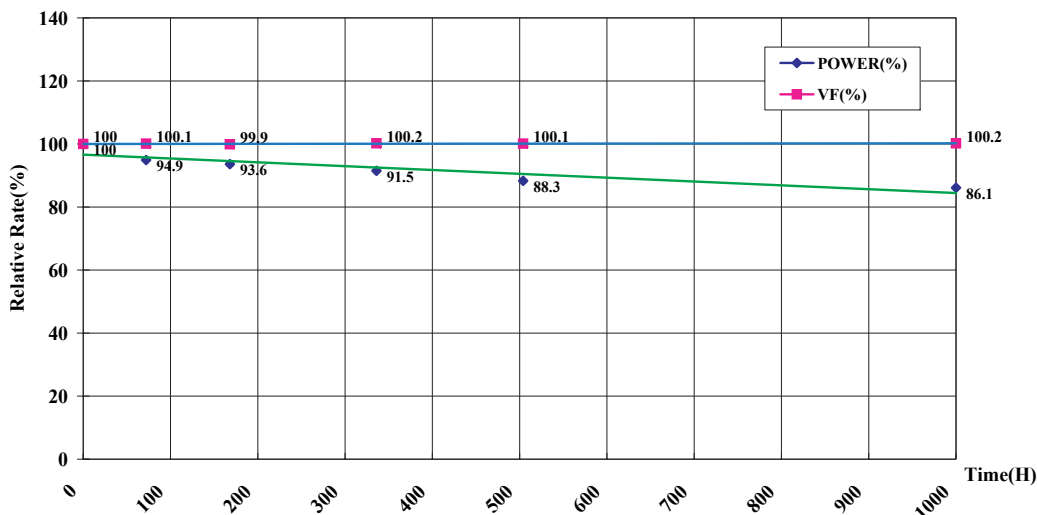
Chip No.: 213IRP

No.	Test Item	Condition	Sample Size	Vf (IF@20mA)	Ip (IF@20mA)	Failures (pcs)
1	STEADY STATE OPERATING LIFE TEST	20mA, 25°C, 1000H	20	0.2%	-13.9%	0
2	HIGH TEMPERATURE LIFE TEST	20mA, 65°C, 1000H	20	0.3%	-17.1%	0
3	LOW TEMPERATURE LIFE TEST	20mA, -40°C ± 5°C, 1000H	20	0.3%	-6.1%	0
4	HIGH TEMP / HIGH HUMIDITY LIFE TEST	20mA, 85°C, 90-95%RH, 1000H	20	0.4%	21.3%	0

LEDtronics Reliability Lab.
2006/06/19

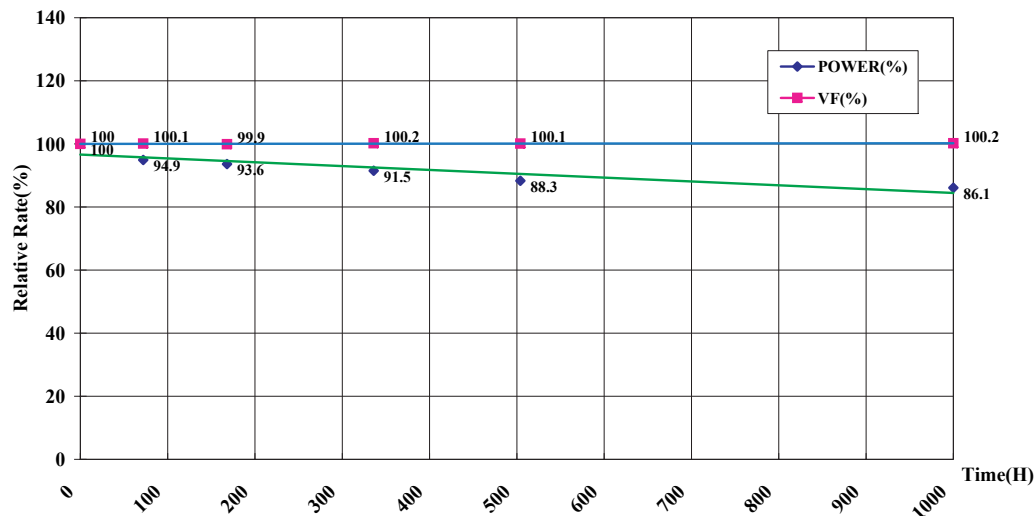
Part No.: 213IRP
Condition: 20mA, 25°C, 1000H
Sample Size: 20 pcs

STEADY STATE OPERATING LIFE TEST



Part No.: 213IRP
Condition: 20mA, 65°C, 1000H
Sample Size: 20 pcs

HIGH TEMPERATURE LIFE TEST



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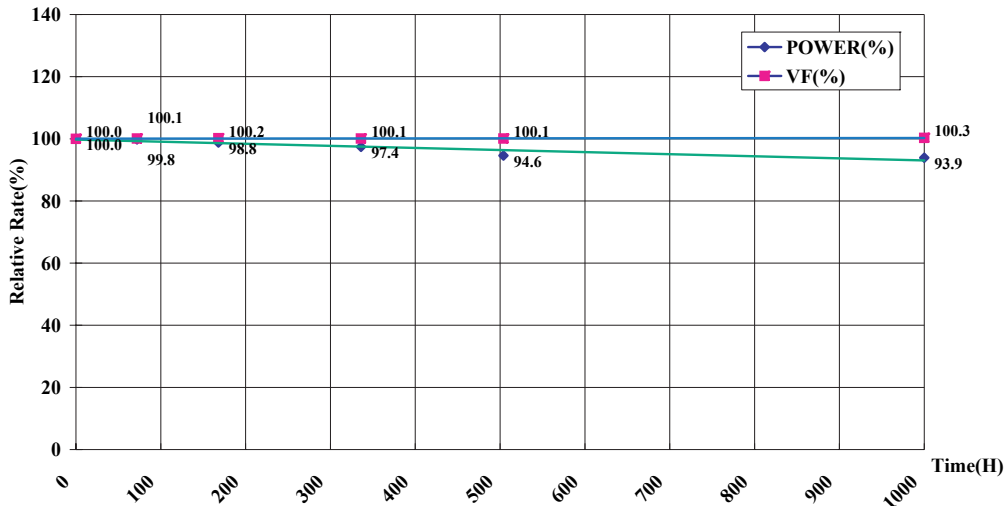
.XXX ± .010 TOLERANCE PER ANSI-Y14.5
.XX ± .025 (UNLESS OTHERWISE STATED)
ANGLES ± 0°,30'
FRACT. ± 1/32

TITLE
LIFE TEST
Chip 213IRP (L200CWIR881)

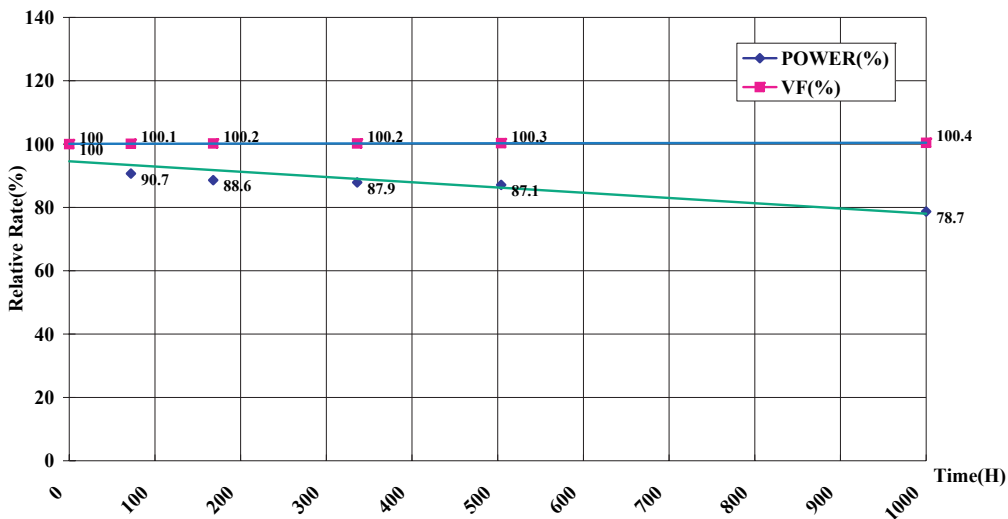
DWG NO QA0043	SCALE	SHEET 1 OF 2	DATE 06-22-06
CODE IDENT NO. 8Z410	DWG BY LL/JAG	CHK BY PL	QA MNFG CUSTOMER

Reliability Summary:

Part No.: 213IRP
 Condition: 20mA, -40°C ± 5°C, 1000H **LOW TEMPERATURE LIFE TEST**
 Sample Size: 20 pcs



Part No.: 213IRP
 Condition: 20mA, 85°C, 90-95% RH, 1000H **HIGH TEMPERATURE / HIGH HUMIDITY LIFE TEST**
 Sample Size: 20 pcs



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.XXX ± .010 TOLERANCE PER ANSI-Y14.5
 .XX ± .025 (UNLESS OTHERWISE STATED)
 ANGLES ± 0',30'
 FRACT. ± 1/32

TITLE				LIFE TEST			
				Chip 213IRP (L200CWIR881)			
DWG NO		SCALE		SHEET		DATE	
QA0043				2 OF 2		06-22-06	
CODE IDENT NO.	DWG BY	CHK BY	QA	MNFG	CUSTOMER		
8Z410	LL/JAG						