Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

LITEON®
OPTOELECTRONICS

IR Emitter and Detector

Product Data Sheet

HSDL-4261

Spec No.: DS50-2008-0026

Effective Date: 04/30/2013

Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

LITE-ON Technology Corp. / Optoelectronics
No.90,Chien 1 Road, Chung Ho, New Taipei City 23585, Taiwan, R.O.C.
Tel: 886-2-2222-6181 Fax: 886-2-2221-1948 / 886-2-2221-0660
http://www.liteon.com/opto

REV. A, Apr, 2013

FEATURES

* High power AlGaAs LED technology
* T-1 3/4 Package
* 870 nm Wavelength
* High speed: 15ns Rise times
*Low Forward Voltage

* Applications

Industral IR Equipments

IR Portable Instruments

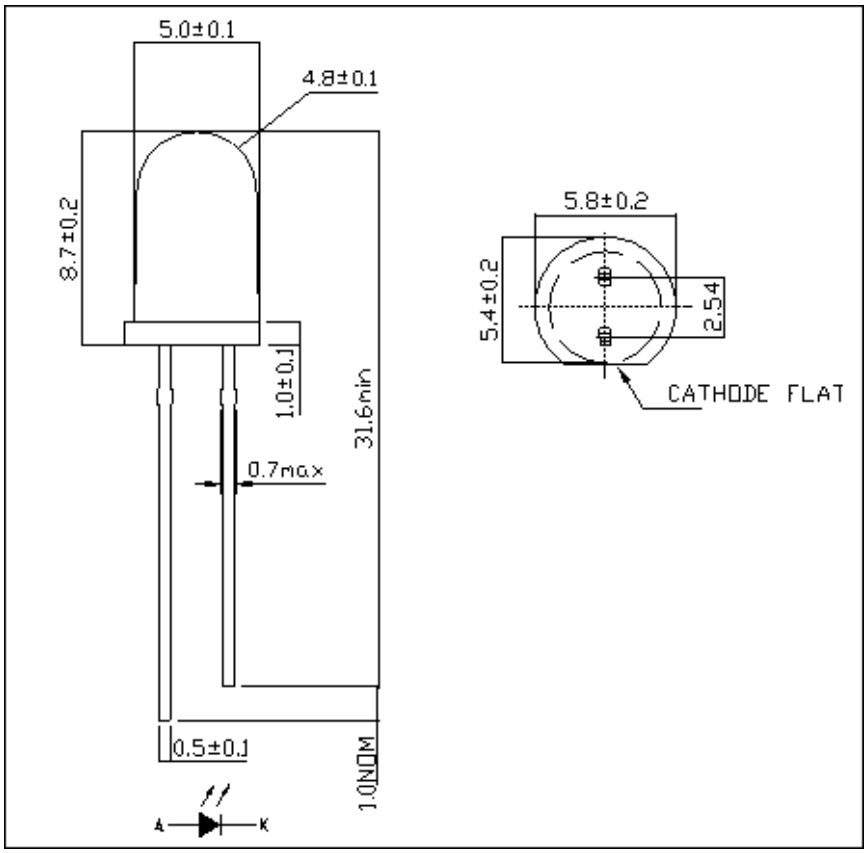
Consumer Electronics

(Optical mouse ect)

High Speed IR Comunications

(IR LANs , IR Moldens , IR Dongles , etc)

PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm(.010") unless otherwise noted.
3. Protruded resin under flange is 1.5mm(.059") 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 T_A=25℃

PARAMETER	Symbol	MIN	MAX	UNIT	Reference
Forward Current	I_{FDC}		100	mA	[1],FIG.2
Power Dissipation	P_{DISS}		190	mW	
Reverse Voltage	V_R	5		V	IR=100uA
Storage Temperature	T_S	-40	100	℃	
LED Junction Temperature	T_J		110	℃	
Lead Soldering Temperature [1.6mm(.063") From Body]			260 for 5 seconds	℃	

Notes:
1.Derate as shown in Figure 6.

Recommended Operating Conditions

PARAMETER	Symbol	MIN	MAX	UNIT	Reference
Operating Temperature	T_O	-40	70	℃	

ELECTRICAL CHARACTERISTICS AT 25℃

PARAMETER	Symbol	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	Reference
Forward Voltage	V_F		1.4	1.5	V	I_{FDC} = 20mA	Fig.2
			1.7	1.9	V	I_{FDC} = 100mA	Fig.3
Forward Voltage Temperature Coefficient	△V/△T	-	-1.5 -1.3	-	mV/℃	I_{FDC} = 20 mA I_{FDC} = 100 mA	Fig.4
Series Resistance	R_S	-	4.1	-	0hms	I_{FDC} = 100mA	
Diode Capacitance	C_O	-	80	-	pF	0 V,1 MHz	
Reverse Voltage	V_R	3	14	-	V	I_R=100 μA	
Thermal Resistance, Junction to Ambient	$R\theta_{ja}$	-	280	-	℃/W		

OPTICAL CHARACTERISTICS AT TA=25℃

PARAMETER	Symbol	MIN.	TYP.	MAX.	UNIT	Test condition	Reference
Radiant Optical Power	Po	-	9 45	-	mW	IFDC = 20 mA IFDC = 100mA	
Radiant On-Axis Intensity	IE	17 87	36 180	-	mW /Sr	IFDC = 20 mA IFDC = 100mA	Fig.5
Radiant On-Axis Intensity Temperature Coefficient	△IE/△T	-	-0.22	-	%/℃	IFDC = 100mA	
Viewing Angle	2θ1/2	-	26	-	deg	IFDC = 20mA	Fig.7
Peak Wavelength	λpk	-	870	-	nm	IFDC = 20mA	Fig.1
Peak Wavelength Temperature Coefficient	△λ/△T	-	0.18	-	nm/℃	IFDC = 20mA	
Spectral Width-at FWHM	△λ		47 52	-	nm	IFDC = 20 mA IFDC = 100mA	Fig.1
Optical Rise and all Times, 10%-90%	Tr/ Tf fc		15 23	-	Ns MHZ	IFDC = 500 mA Duty Ratio=20% Pulse Width=100ns	

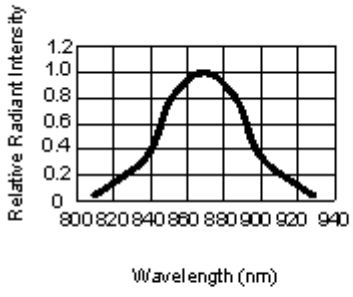


FIG.1 Relative Radiant Intensity VS Wavelength

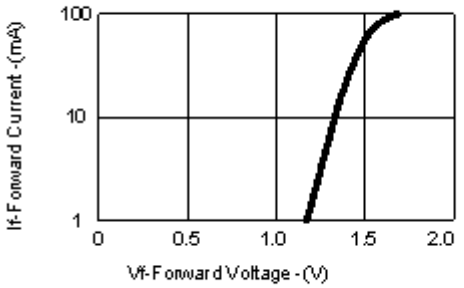


FIG.2 DC Forward Current VS. Forward Voltage

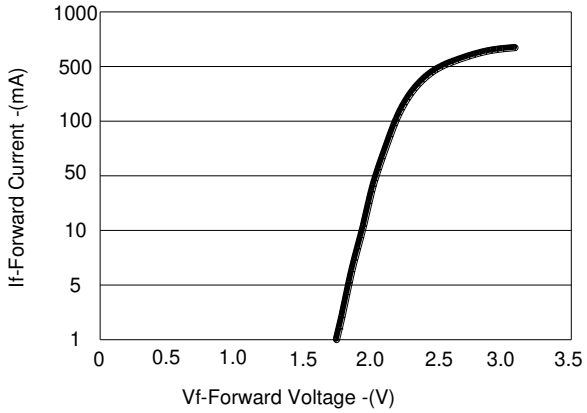


FIG.3 Peak Forward Current VS. Forward Voltage

Forward Current Vs Relative Radiant Intensity

Forward Voltage Vs Temperature

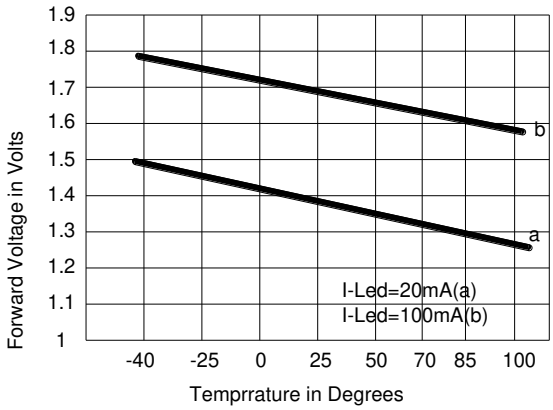


FIG.4 Forward Voltage VS. Ambient Temperature

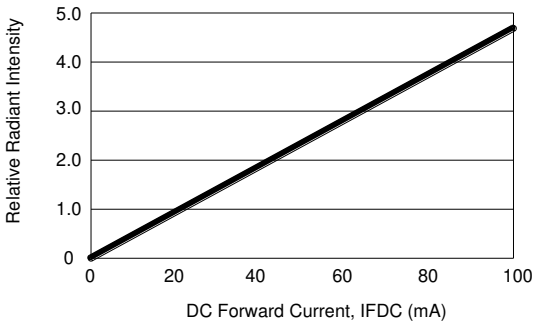


FIG.5 Relative Radiant Intensity vs DC Forward Current

Maximum Permisible DC forward current vs ambient temperature

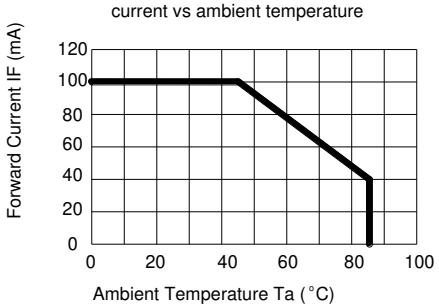


FIG.6 DC FORWARD CURRENT VS. AMBIENT TEMPERATURE DERATED (Based on TJMAX=110°C)

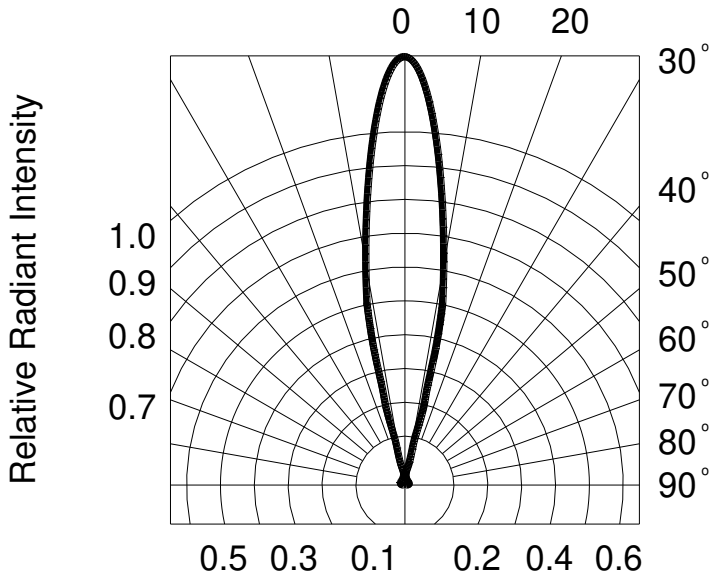


FIG.7 RADIATION DIAGRAM