

Electrical / Optical Characteristics at  $T_A=25^{\circ}\text{C}$ 

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	$I_v$	5.6	19		mcd	$I_F = 10\text{mA}$ Note 1,4
Viewing Angle	$2\theta_{1/2}$		16		deg	Note 2 (Fig.6)
Peak Emission Wavelength	$\lambda_P$		655		nm	Measurement @Peak (Fig.1)
Dominant Wavelength	$\lambda_d$		651		nm	Note 3
Spectral Line Half-Width	$\Delta\lambda$		24		nm	
Forward Voltage	$V_F$		1.7	2.0	V	$I_F = 20\text{mA}$
Reverse Current	$I_R$			100	$\mu\text{A}$	$V_R = 5\text{V}$
Capacitance	$C$		30		pF	$V_F = 0$ , $f = 1\text{MHz}$

Note: 1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commission International De L'Eclairage) eye-response curve.

2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

3. The dominant wavelength,  $\lambda_d$  is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

4. The  $I_v$  guarantee should be added  $\pm 15\%$ .



**LITE-ON ELECTRONICS, INC.**

**Property of Lite-On Only**

**Absolute Maximum Ratings at TA=25°C**

Parameter	Maximum Rating	Unit
Power Dissipation	80	mW
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	200	mA
Continuous Forward Current	40	mA
Derating Linear From 50°C	0.5	mA/°C
Reverse Voltage	5	V
Operating Temperature Range	-55°C to + 100°C	
Storage Temperature Range	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063") From Body]	260°C for 5 Seconds	

Participant's name \_\_\_\_\_

Please Print

UNIVERSITY OF CALIFORNIA, SAN DIEGO

Name of Class or Activity: MAE3/156A – Design Studio

**Waiver of Liability, Assumption of Risk, and Indemnity Agreement**

**Waiver:** In consideration of being permitted to participate in any way in:

use of the MAE Design Studio on period of enrollment at UCSD  
hereinafter called "The Activity", I, for myself, my heirs, personal representatives or assigns, **do hereby release, waive, discharge, and covenant not to sue** The Regents of the University of California, its officers, employees, and agents from liability from any and all claims including the negligence of The Regents of the University of California, its officers, employees and agents, resulting in personal injury, accidents or illnesses (including death), and property loss arising from, but not limited to, participation in The Activity.

\_\_\_\_\_  
Signature of Participant                      Date                      Signature of Parent/Guardian of Minor                      Date

**Assumption of Risks:** Participation in The Activity carries with it certain inherent risks that cannot be eliminated regardless of the care taken to avoid injuries. The specific risks vary from one activity to another, but the risks range from 1) minor injuries such as scratches, bruises, and sprains 2) major injuries such as eye injury or loss of sight, joint or back injuries, heart attacks, and concussions to 3) catastrophic injuries including paralysis and death.

**I have read the previous paragraphs and I know, understand, and appreciate these and other risks that are inherent in The Activity. I hereby assert that my participation is voluntary and that I knowingly assume all such risks.**

**Indemnification and Hold Harmless:** I also agree to INDEMNIFY AND HOLD The Regents of the University of California HARMLESS from any and all claims, actions, suits, procedures, costs, expenses, damages and liabilities, including attorney's fees brought as a result of my involvement in The Activity and to reimburse them for any such expenses incurred.

**Severability:** The undersigned further expressly agrees that the foregoing waiver and assumption of risks agreement is intended to be as broad and inclusive as is permitted by the law of the State of California and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

**Acknowledgment of Understanding:** I have read this waiver of liability, assumption of risk, and indemnity agreement, fully understand its terms, and **understand that I am giving up substantial rights, including my right to sue.** I acknowledge that I am signing the agreement freely and voluntarily, and **intend by my signature to be a complete and unconditional release of all liability** to the greatest extent allowed by law.

\_\_\_\_\_  
Signature of Participant                      Date                      Signature of Parent/Guardian of Minor                      Date  
Participant's Age (if minor) \_\_\_\_\_

- ☐ I have read the Safety Guidelines for this lab
- ☐ I have had the Safety Guidelines explained to me by the lab/shop instructor or staff

\_\_\_\_\_  
Signature of Participant                      Date                      Signature of Parent/Guardian of Minor                      Date  
Participant's Age (if minor) \_\_\_\_\_