Harvatek Surface Mount CHIP LED Data Sheet
HT-MAP010TWU-5BJ-K608

Introduction

- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by HARVATEK for any infringements of intellectual property or other rights of the third parties which may result from it use.
- HARVATEK is continually making an effort to improve the quality of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing HARVATEK products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such HARATEK products cause loss of human life, bodily injury or damage to property.
- The HARVATEK products listed in this document are intended for usage in general electronics (computer, personal equipment, office equipment, industrial robotics, domestic, etc…) These products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury.
- In developing your designs, please ensure that HARVATEK products are used within specified operating ranges as set forth in the most recent HARVATEK products specifications.
- Also, please keep in mind of the precautions listed in this document.

Product Specification

	Specification	Material	Quantity
Total Flux	Typical 700 lm @700mA/ Ta= 25℃		
Correlated Color Temperature	3000K~9000K @700mA/ Ta=25℃		
V_F	Typical:21.6V @350mA/ LED Ta=25℃		
I_R	HT standard		
Resin	White	Epoxy resin	
Bag	HT standard		1pcs per Bag
Label	HT standard	Paper	
Carton	HT standard	Paper	Non-specified

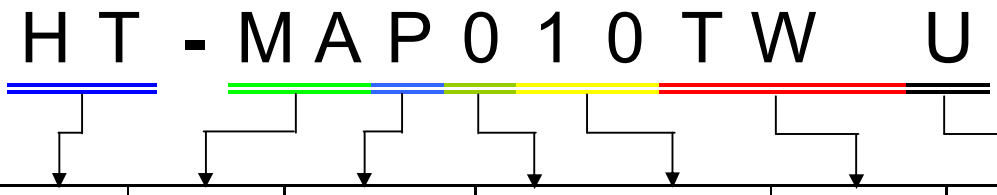
Others:

ATTENTION: Electric Static Discharge (ESD) protection

The symbol shown on the page herein to introduce 'Electro-Optical Characteristics'. ESD protection for GaP and AlGaAs based chips is still necessary even though they are safe in low static-electric discharge. Parts built with AlInGaP, GaN, or/and InGaN based chips are **STATIC SENSITIVE devices**. ESD protection has to considered and taken in the initial design stage. If manual work/process is needed, please ensure the device is well protected from ESD during all the process.

Description of Model No. and Lot No.

Model No.



Company	Heat Sink Type	Product Name	LED Type	Emitter Color	Current code
HT: For Harvatek	MA: Metal Board for B Type	P: Power Package	001：P178 010：R178	TW: White	U:350mA

Lot No.

1	2	3	4	5	6	7	8	9	10
P	1	2	2	3	0	A	-	D	T

Code 1	Code 2	Code 3	Code 4, 5	Code 6, 7	Code 9	Code 10
	Mfg. Year	Mfg. Month	Mfg. Date	Lots	Resin Color	Packaging
Internal Tracing Code	Z: 2000 1: 2001 …..	1: Jan. 2: Feb. …. 9: Sep. A: Oct. B: Nov. C: Dec.	1~31/ (30)	01~99, A,B,C…	D: Milky White	T: Taped Reel

Product Feature

- Wide view angle
- Easy to fixed
- No UV
- Long operating time (Up to 50,000hrs)
- Lower forward voltage operated
- More energy efficient than incandescent and most halogen lamps
- ESD with 2KV
- Instant light (less than 100nS)

Application

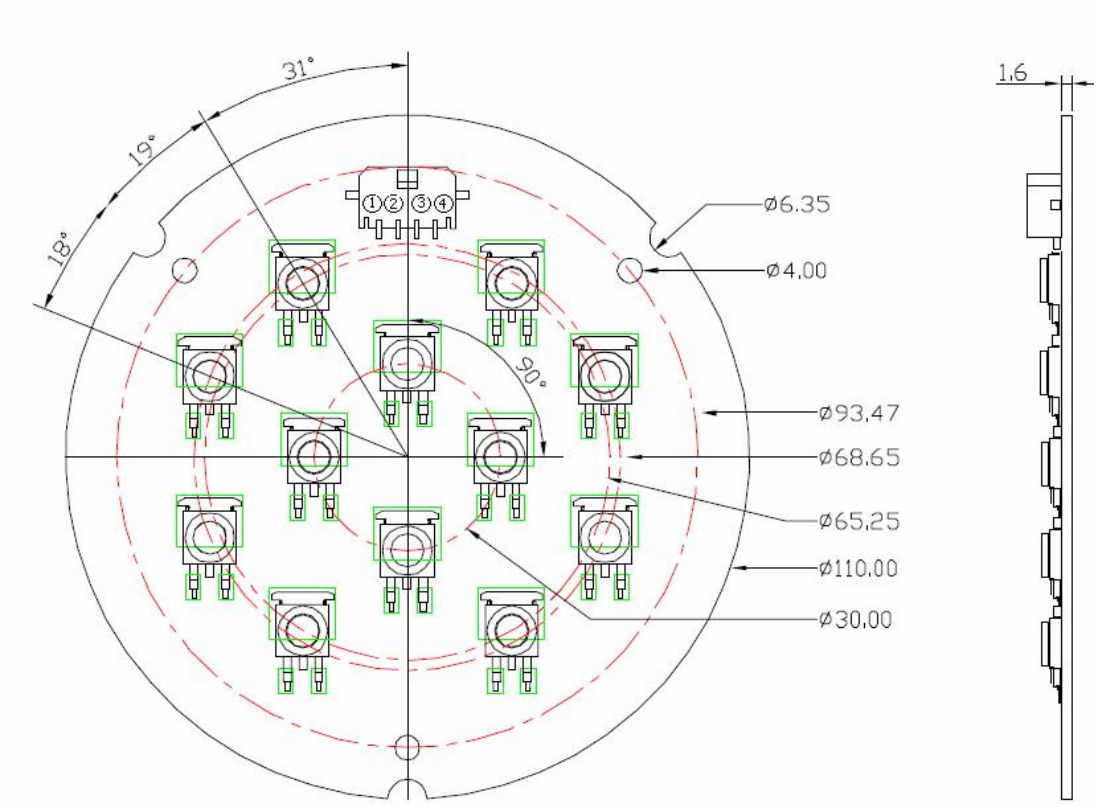
- Reading lights (car, bus, aircraft)
- Portable (flashlight, bicycle)
- Task lighting
- Garden lighting
- Rail lighting
- Wayside lighting
- LCD Backlights
- Light Guides
- Traffic signaling
- Architectural lighting

Product Out Line Dimension (HT-MAP010TWU)

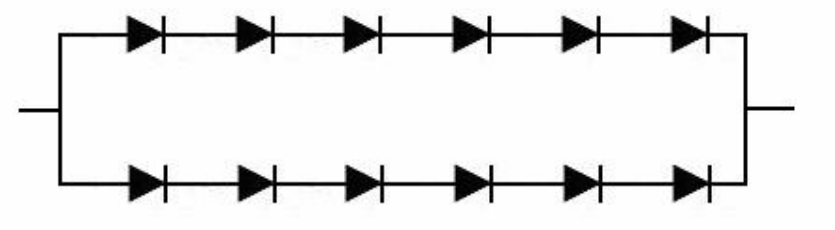
Tolerance: +/-0.1

Unit：mm

④ Cathode
③ Cathode
② Anode
① Anode



Circuit Layout



Electro-Optical

Absolute Maximum Ratings

(T_a =25°C)

Parameter	Rating	Unit	Conditions
DC Forward Current*1	800	mA	-
Peak Pulsed Forward Current *2	1000	mA	-
Reverse Voltage	5	V	-
LED junction Temperature	120	℃	-
Operating Temperature	-30~+85	℃	-
Storage Temperature	-40~+120	℃	-
Soldering Temperature	260	℃	For 5 sec. Max.

*1: Proper current derating must be observed to maintain junction temperature below the maximum

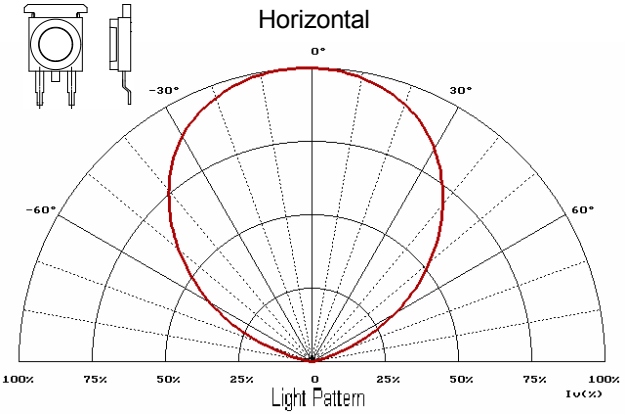
*2:tp≦10μs, Duty cycle=0.01

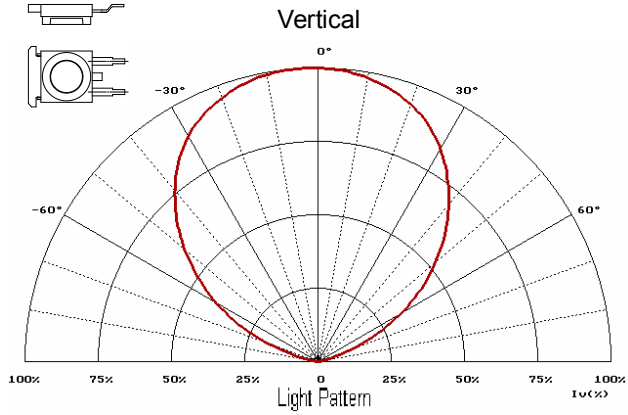
Electro-Optical Characteristics

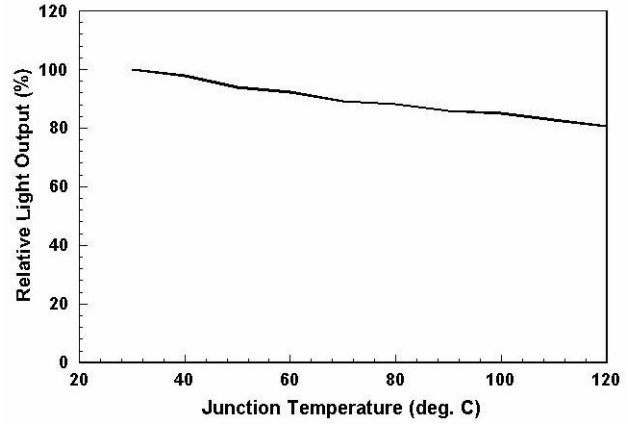
(T_a =25°C)

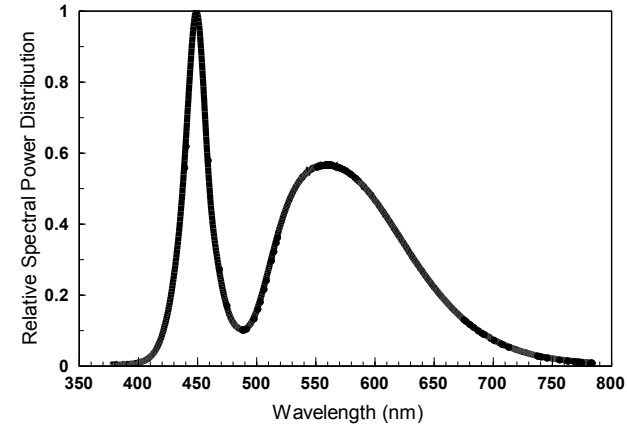
Parameter	Symbol	Min.	TYP.	Max.	Unit
Viewing angle	2θ ½	-	110	-	Deg.
Forward Voltage (I_F=700mA)	V_F	18		24	V
Luminous Flux	Flux		700	-	lm
Correlated Color Temperature	CCT	3000	-	9000	K
Temperature Coefficient of Forward Voltage	$\Delta V_F/\Delta T$	-	-2	-	mV/℃

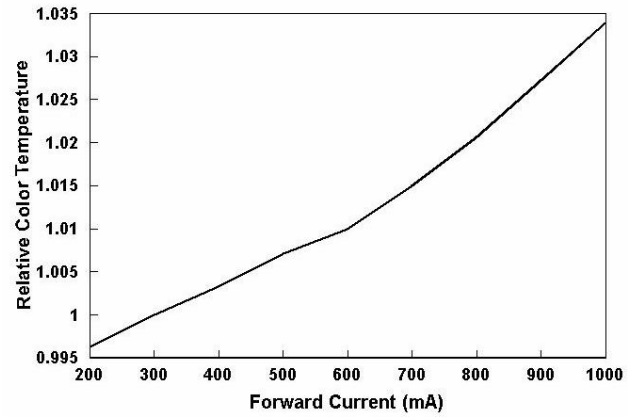
Characteristics

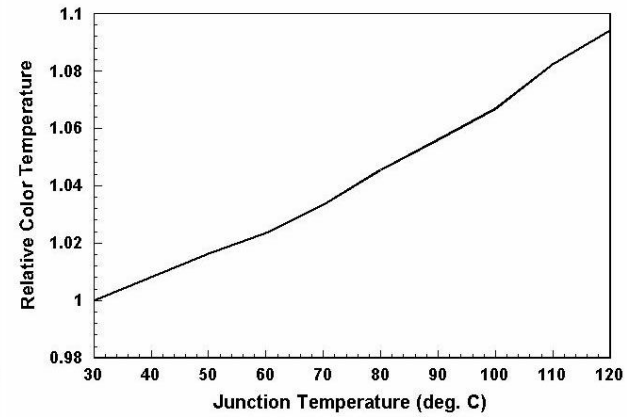


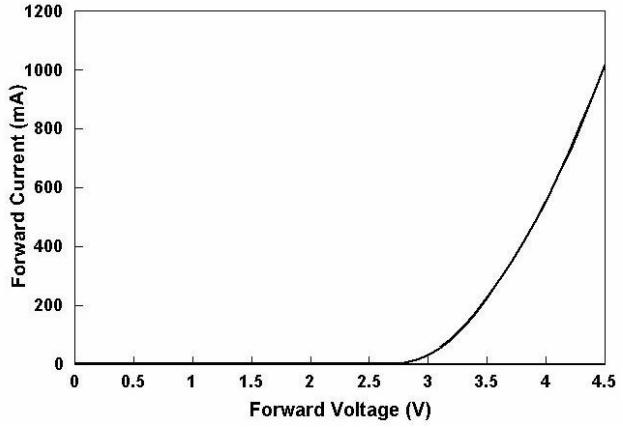


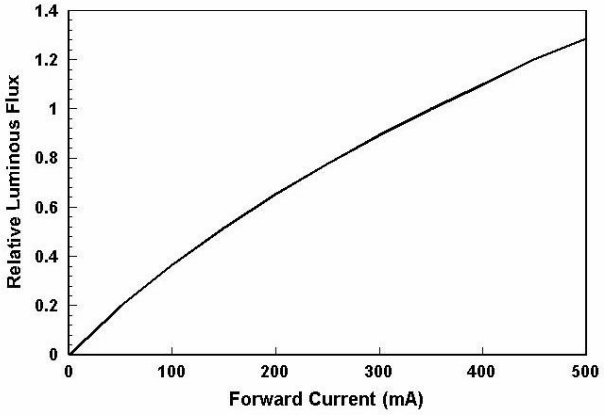


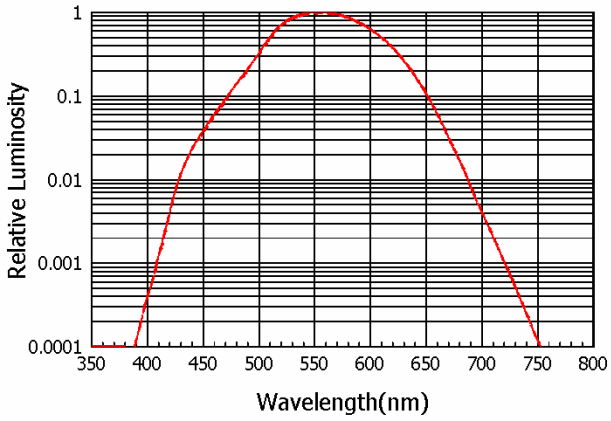


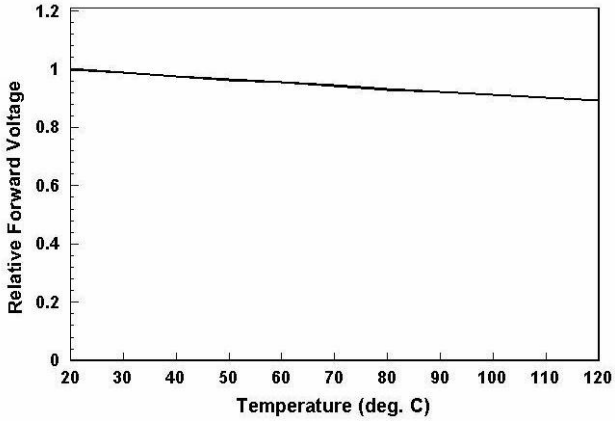












LEDs and Eye Safety:

In the 1993 edition of IEC-60825-1, LEDs were included: “Throughout this part 1 light emitting diodes (LED) are included whenever the word “laser” is used.”The CENELEC document EN 60825-1 contains all the technical content of the IEC standard.

The scope of the IEC standard status that “…products which are sold to other manufacturers for use as components of any system for subsequent sale are not subject to IEC 60825-1, since the final product will itself be subject to this standard. ”Therefore, it is important to determine the Laser Safety Class of the final product. However, it is important that employees working with LEDs are trained to use them safely.

Most of the products containing LEDs will fall in either Class 1 or Class 2. A Class 1 label is optional:

CLASS 1 LED PRODUCT

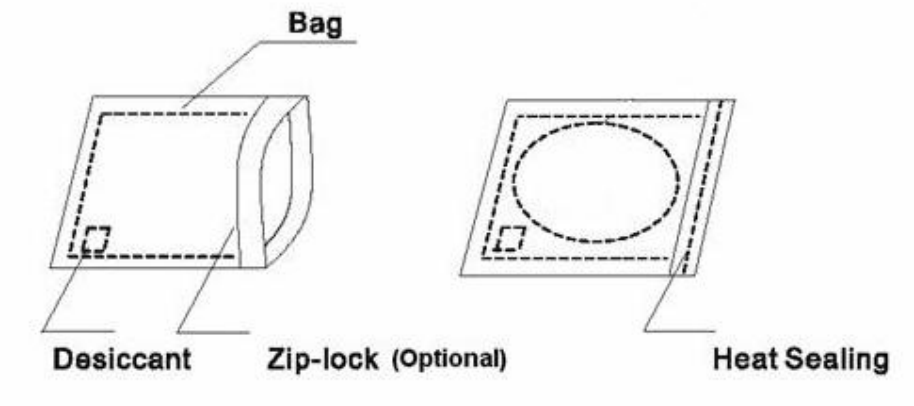
If a label is not used, this description must be included in the information for the user.

Amendment 2 to IEC 60825-1 is expected to be published in January 2001. The CENELEC equivalent is expected to follow three months after the IEC publication. This document contains increased Class 1 and Class 2 limits, as well as the introduction of less restrictive Class 1M and Class 2M.

For the exact classification and further information, the IEC document can be used:

IEC-60825-1 ISBN 2-8318-4169-0

Packing Model



Revise Notes

Rev.	Descriptions	Date	Name
1.0	-	20/03/2008	Toby Jan