

**Harvatek International 5mm Super Bright Oval Through Hole Lamp
HOVL-5Y40PAR-5825**

Official Product	HOVL-5Y40PAR-5825	Customer Part No.		Data Sheet No.
	*****	*****		HOVL-5Y40PAR-5825
Specifications are subject to change without notice. Data and drawings herein are copyrighted.		Jan. 23 2017	Version of 1.6	Page 1/12

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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Orderable Information

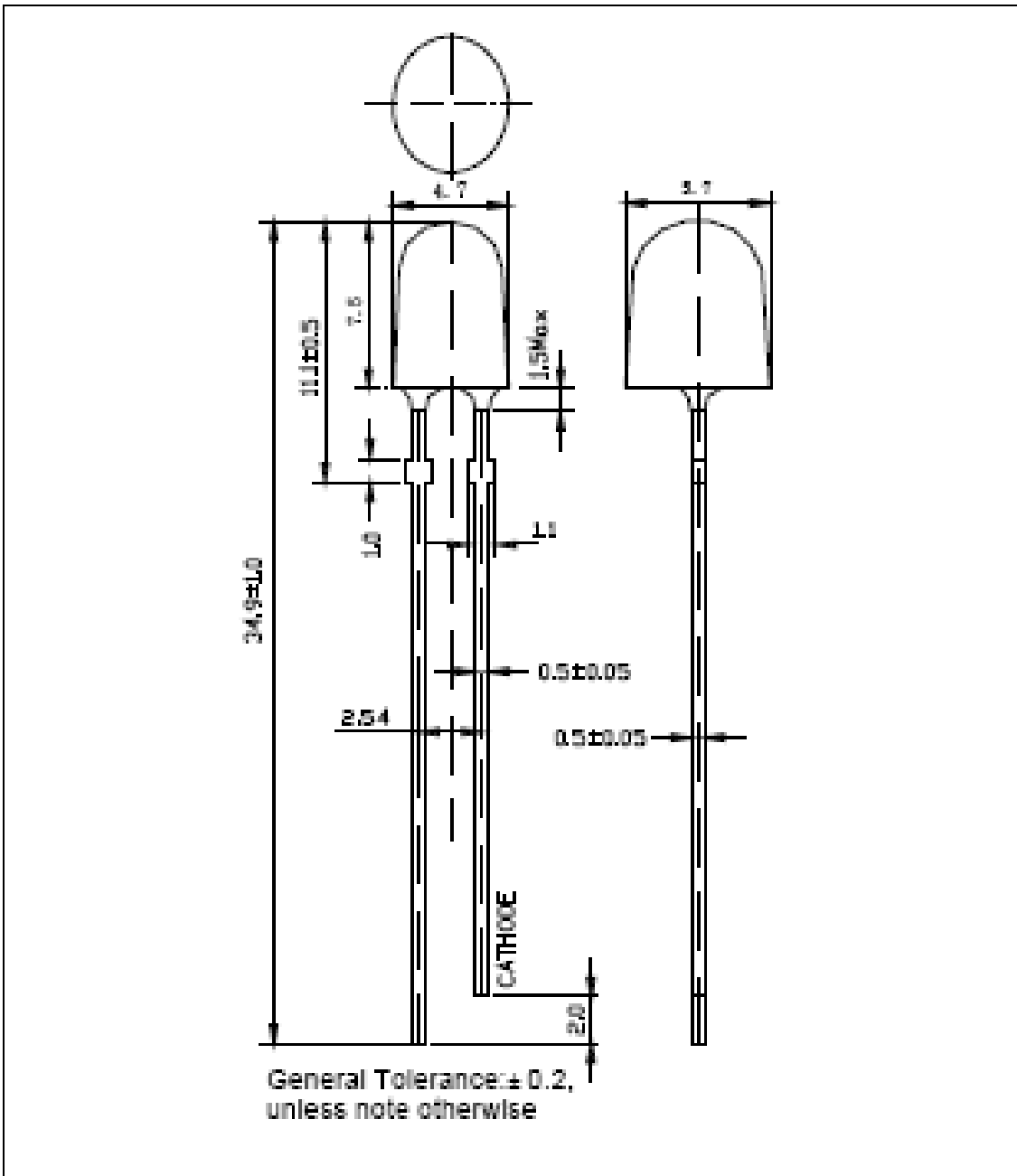
H O V L - 5 Y 4 0 P A R - 5 8 2 5

Series Name	Color Code	Remark
HOVL : Harvatek Oval Through Hole Lamp	5Y40PAR : 594nm AlGaInP Yellow Chip, Yellow Diffused lens, without stopper, Ammo Pack	5825 : Customer code

Features:

- Stable Color
- Popular 5mm Oval through hole package.
- Yellow diffused lens
- AlGaInP technology
- Solid state reliability
- Ammo Pack

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Notes :

1. All Dimensions are in millimeters.
2. Tolerance : +/- 0.25mm.

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Absolute Maximum Rating (@ 25°C)

Parameter	Symbol	Spec	Unit
Power Dissipation	P _d	100	mW
Reverse Voltage	V _r	5	V
Forward Current	I _f	20	mA
Peak Current (1/10 Duty Cycle, 0.1ms pulse width)	I _F (Peak)	100	mA
Operating Temperature Range	T _{opr}	-25 to +80	° C
Storage Temperature Range	T _{stg}	-40 to +100	° C

Electrical and Optical Characteristics (@ 25°C)

Parameter	Symbol	HOVL-5Y40PAR-5825			Test Condition
		Min.	Typ.	Max.	
Luminous Intensity (mcd)	I _v	2300	-	4000	I _F =20mA
Forward Voltage (V)	V _F	1.8	-	2.6	I _F =20mA
Dominant Wavelength (nm)	λ _D	590	-	596	I _F =20mA
Viewing angle (deg)	2θ 1/2	35/70			I _F =20mA

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Specification

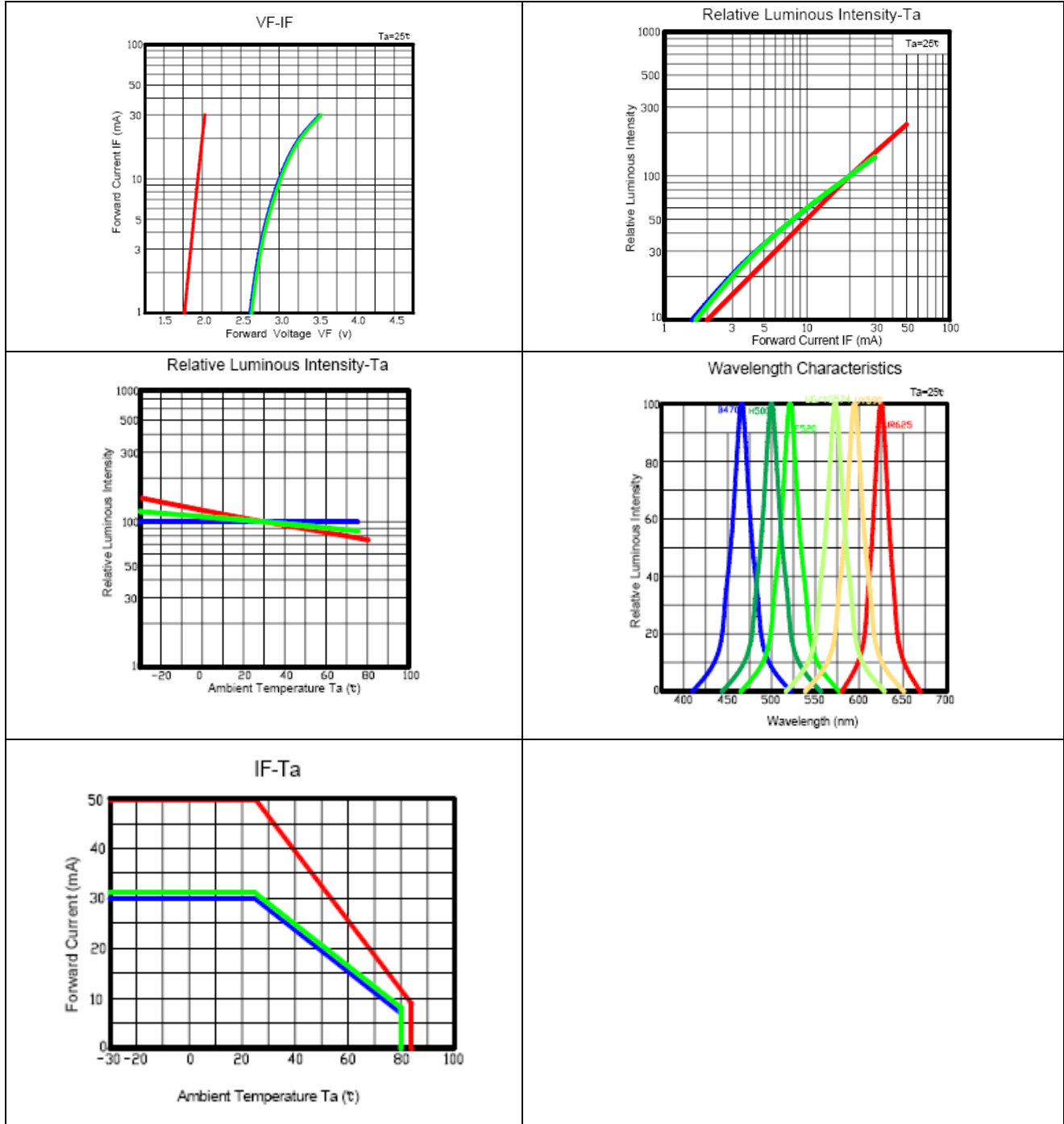
I _v (mcd)		
Code	Min	Max
M	2300	3050
N	3050	4000

V _F (V)	
Min	Max
1.8	2.6

λ _D (nm)		
Code	Min	Max
Y3	590	593
Y4	593	596

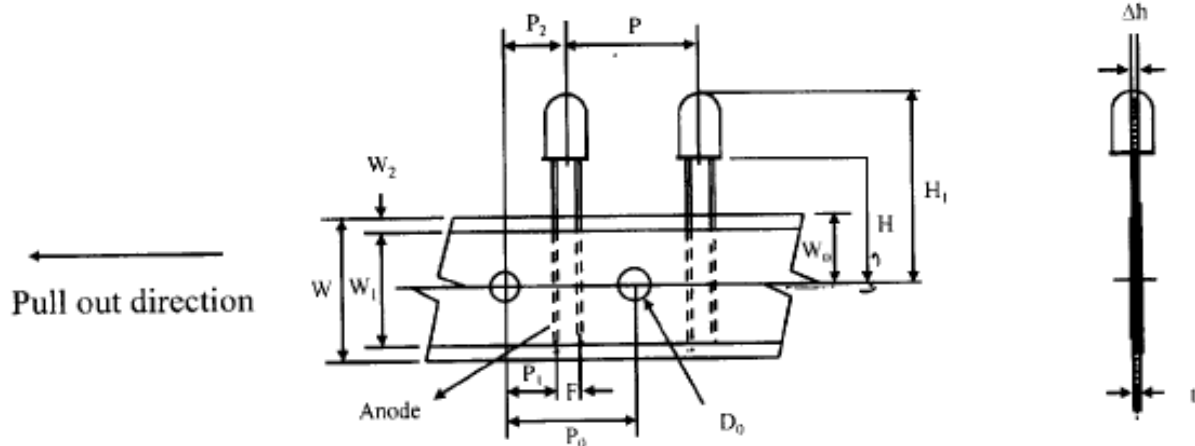
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Typical Characteristic Curves (@ 25 ° C)



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Tape Dimensions

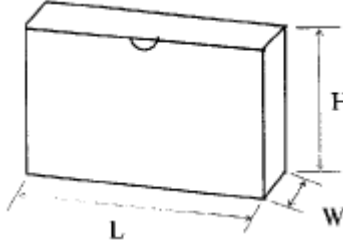
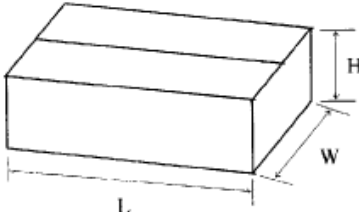


ITEM	SYMBOL	SPECIFICATION			
		MINIMUM		MAXIMUM	
		MM	INCH	MM	INCH
TAPE FEED HOLE DIAMETER	D_0	3.8	0.149	4.2	0.165
PITCH OF COMPONENT	P	12.4	0.488	13.0	0.512
FEED HOLE PITCH	P_0	12.4	0.488	13.0	0.512
FEED HOLE CENTER TO LEAD CENTER	P_1	3.15	0.124	4.55	0.179
FEEL HOLE CENTER TO COMPONENT CENTER	P_2	5.35	0.211	7.35	0.289
LEAD TO LEAD SPACING	F	2.3	0.091	3.0	0.118
ALIGNMENT FRONT TO REAR	Δh	-	-	2.0	0.078
TYPE WIDTH	W	17.5	0.689	19.0	0.748
HOLE POSITION	W_0	8.5	0.335	9.5	0.374
ADHESIVE TAPE WIDTH	W_1	11.0	0.433	13.5	0.531
ADHESIVE TAPE POSITION	W_2	0	0	3.0	0.118
COMPONENT HEIGHT	H_1	15.85	0.624	32.25	1.270
TOTAL TAPE THICKNESS	t	0.8	0.03	1.5	0.06
HEIGHT OF BOTTOM OF FLANGE FROM CENTER OF HOLE	H	25.5	1.000	26.5	1.043

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Package Dimensions

AMMO PACK

	H: 250mm	
	L: 330mm	
	W: 50mm	
	WEIGHT: 0.1Kg	
	PCS/INNER BOX	Φ5.0: 2,000
<p>10 INNER BOXES/OUTER BOX</p> 	H: 280mm	
	L: 520mm	
	W: 340mm	
	WEIGHT: 0.9Kg	
	PCS/OUTER BOX	Φ5.0: 20,000

Tolerance ±10mm

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Reliability

Objective :

To evaluate MTBF of HOVL-5Y40PAR-5825

According to the prediction model :

$$X = Y \exp(-\alpha t)$$

X : LED luminous intensity after t hours operation

Y : LED initial luminous intensity

α : light decay coefficient

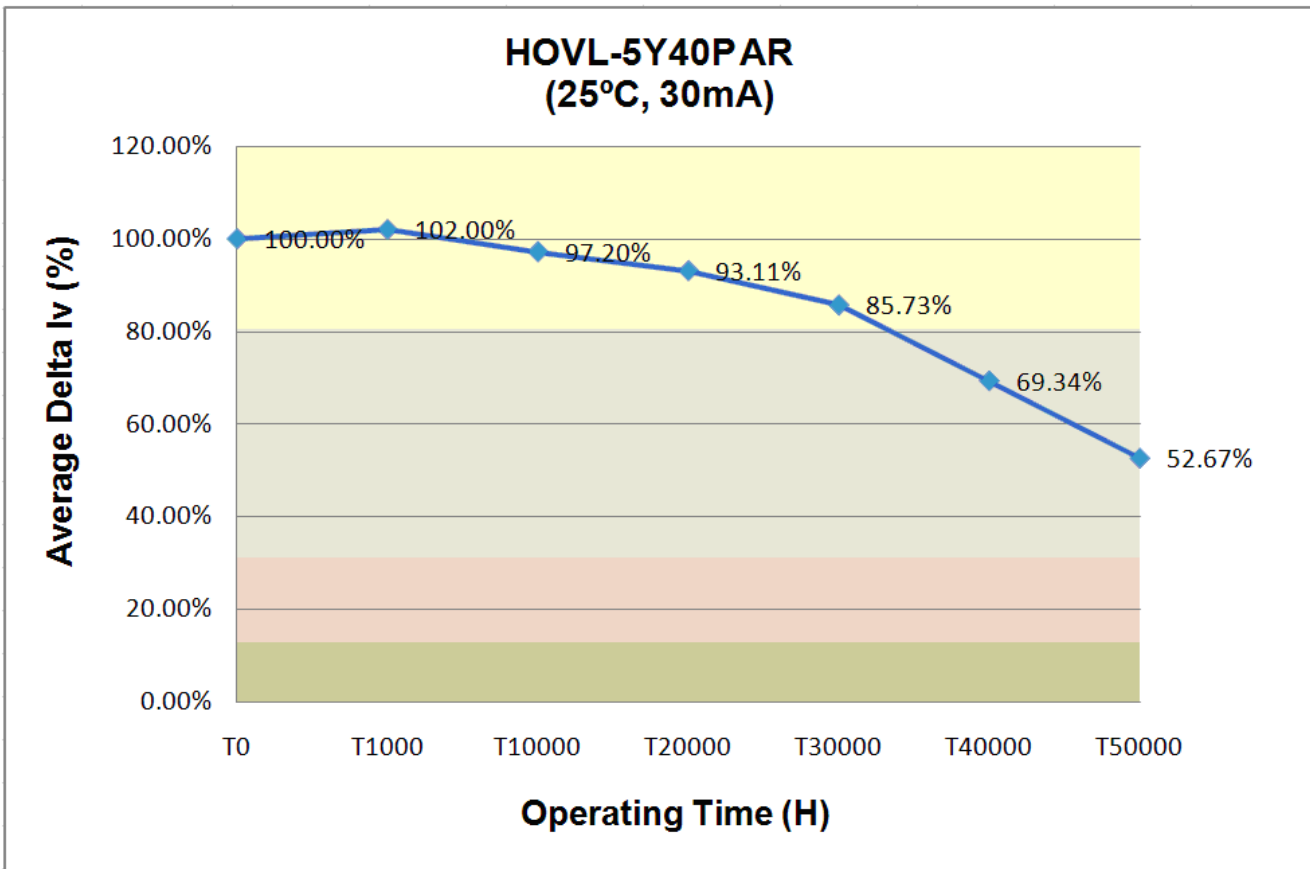
$$\alpha = -\ln(x/y)/t$$

Result :

Forward Current : 30mA

Temperature : 25°C

Test Time : 2000hrs



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Reliability Test

Classification	Test Item	Test Conditions	Sample Size	Num of Damaged	Reference Standard
Endurance Test	Operating Life	$I_f=30mA$ 1000Hrs	22	0	MIL-STD-750:1026 MIL-STD-202:107D JIS C 7021:B-4
	High Temp. High Humidity Storage	$60\pm 5^{\circ}C$ 90 ± 5 RH 500Hrs	100	0	MIL-STD-202:103D JIS C 7021:B-11
	Hi-Temp. Storage	$100\pm 5^{\circ}C$ 1000Hrs	100	0	MIL-STD-750:2031 MIL-STD-202:210A JIS C 7021:B-10
	Low-Temp. Storage	$-30\pm 5^{\circ}C$ 1000Hrs	100	0	JIS C 7021:B-12
Environmental Test	Temperature Cycling	$-30\pm 5^{\circ}C$ 30min Room Temp. 5min $100\pm 5^{\circ}C$ 30min 100 Cycles	100	0	MIL-STD-750:1051 MIL-STD-202:107D JIS C 7021:A-4
	Thermal Shock	$-30\pm 5^{\circ}C$ 5min $100\pm 5^{\circ}C$ 5min 100 Cycles	100	0	MIL-STD-750:1051 MIL-STD-202:107D JIS C 7021:A3
	Solderability	$230\pm 5^{\circ}C$ Dwell Time $\leq 5sec$	22	0	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021:A-2
	Solder Resistance	$260\pm 5^{\circ}C$ $10\pm 1sec$	22	0	MIL-STD-750:2031 MIL-STD-202:210A JIS C 7021:A-1

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Criteria for Judging The Damage:

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min	Max
Forward Voltage	I_F	$I_F=20mA$	—	U. S. L*1. 1
Reverse Current	I_R	$V_R=5V$	—	U. S. L*2. 0
Luminous Intensity	I_v	$I_F=20mA$	L. S. L*0. 7	—

PS: U. S. L. :Upper Standard Level L. S. L. :Lower Standard Level

Revision History

Changes since last revision	Page	Version No.	Revision Date
Initial stamp-off for 5825		1.0	02-17-2010
Update spec		1.1	04-29-2010
Update spec		1.2	05-05-2010
Revise tape dimensions		1.3	08-24-2011
Add reliability test		1.4	11-03-2011
Update spec & add Criteria for Judging data	P6 & P12	1.5	08-21-2013
Revise Package Dimensions	P8&P9	1.6	01-23-2017

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