Harvatek 3.0mm Round LED LAMP

HV-YG22304M

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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.

Compliance and Certification

ISO9002, QS9000 and ISO14001 Certified
RoHS Compliant

Orderable Information

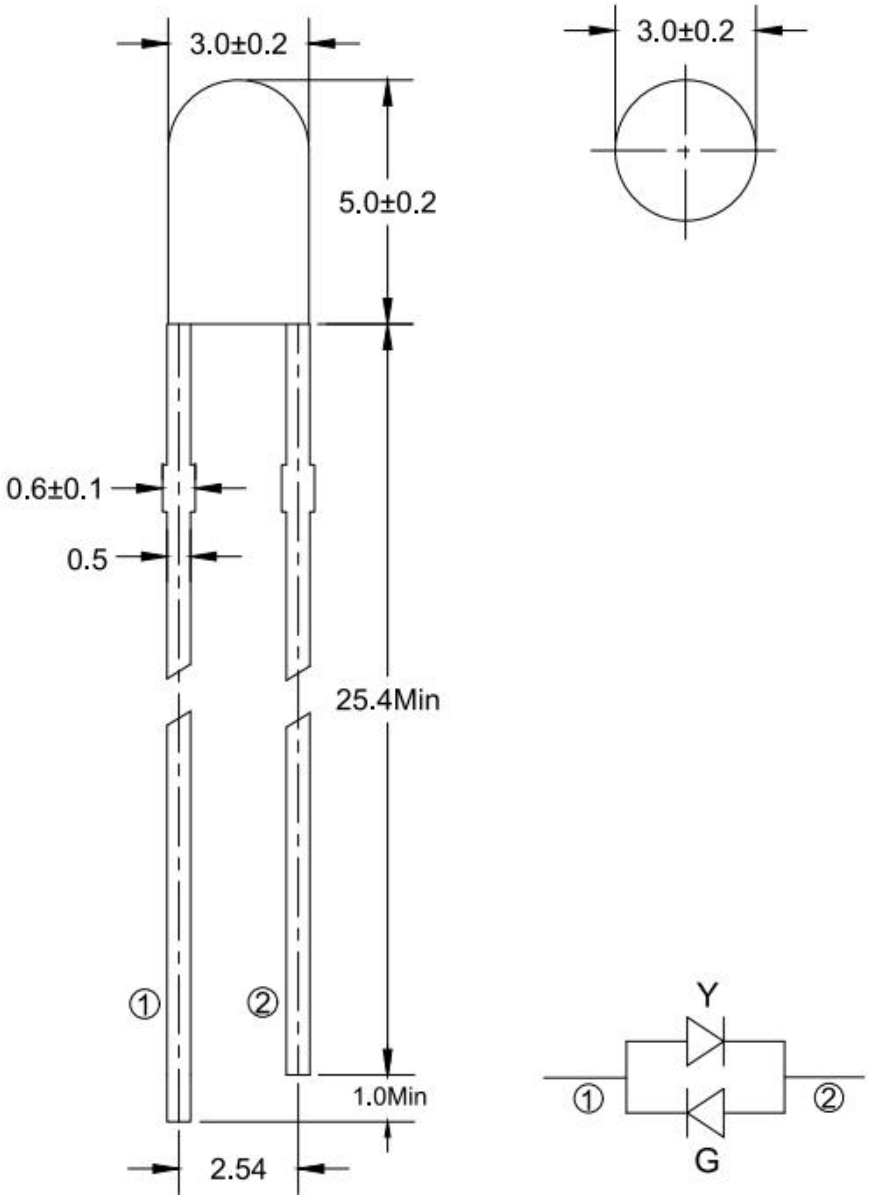
H V - Y G 22304 M

Series Name	Color Code	Remark
HV : **HARVATEK**	**YG22304:** **3.0mm Round LED LAMP,5.0mm Lens.** **GaP 586nm Yellow chip** **GaP 570nm Green chip** **M : White Diffused.**	

Features:

- Stable Color
- Popular 3.0mm through hole package, 5.0mm lens height.
- White Diffused lens.

Package Dimensions:



Notes:

1.All dimensions are millimeters.

2.Tolerance is +/-0.25mm unless otherwise noted.

3.Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol		Rating	Unit
Forward Current	I_F	Y/G	30	mA
Operating Temperature	T_{opr}	Y/G	-40to+85	℃
Storage Temperature	T_{stg}	Y/G	-40to+85	℃
Soldering Temperature*1	T_{sol}	Y/G	260±5	℃
Reverse Voltage	V_R	Y/G	1.1	V
Power Dissipation	P_d	Y/G	75	mW
Peak Forward Current*2	I_{FP}	Y/G	75	mA

*1:Soldering time ≦ 5 seconds. *2:Pulse Width≦ 100μs and Duty≦ 1%.

Electrical and Optical Characteristic

Parameter	Symbol		Condition	Min.	Typ.	Max.	Unit
Luminous Intensity	I_v	Y	I_F=20mA	4	10	/	mcd
		G		6	15	/	
Viewing Angle	2θ ½	Y/G	I_F=20mA	/	120	/	Deg
Forward Voltage	V_F	Y/G	I_F=20mA	/	2.0	2.5	V
Peak Emission Wavelength	λ_P	Y	I_F=20mA	/	599	/	nm
		G		/	575	/	
Dominant Wavelength	λ_d	Y	I_F=20mA	/	586	/	nm
		G		/	570	/	
Spectral Line Half-Width	Δλ	Y	I_F=20mA	/	15	/	nm
		G		/	15	/	
Reverse Current	I_R	Y/G	V_R=1.1V	/	/	10	μA

Notes:

θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

Specifications for Bin Grading:(Y)

Iv（mcd）		
Grade	Min.	Max.
J	4	8
K	6.3	12.5
L	10	20
M	16	32

λd（nm）		
Grade	Min.	Max.
3	585	588
4	587	590
5	589	592
6	591	594
7	593	595

Notes:

1.Luminous intensity:+/-15%.

2.Wavelength: +/-1nm.

Specifications for Bin Grading:(G)

Iv（mcd）		
Grade	Min.	Max.
K	6	12.5
L	10	20
M	16	32
N	25	50

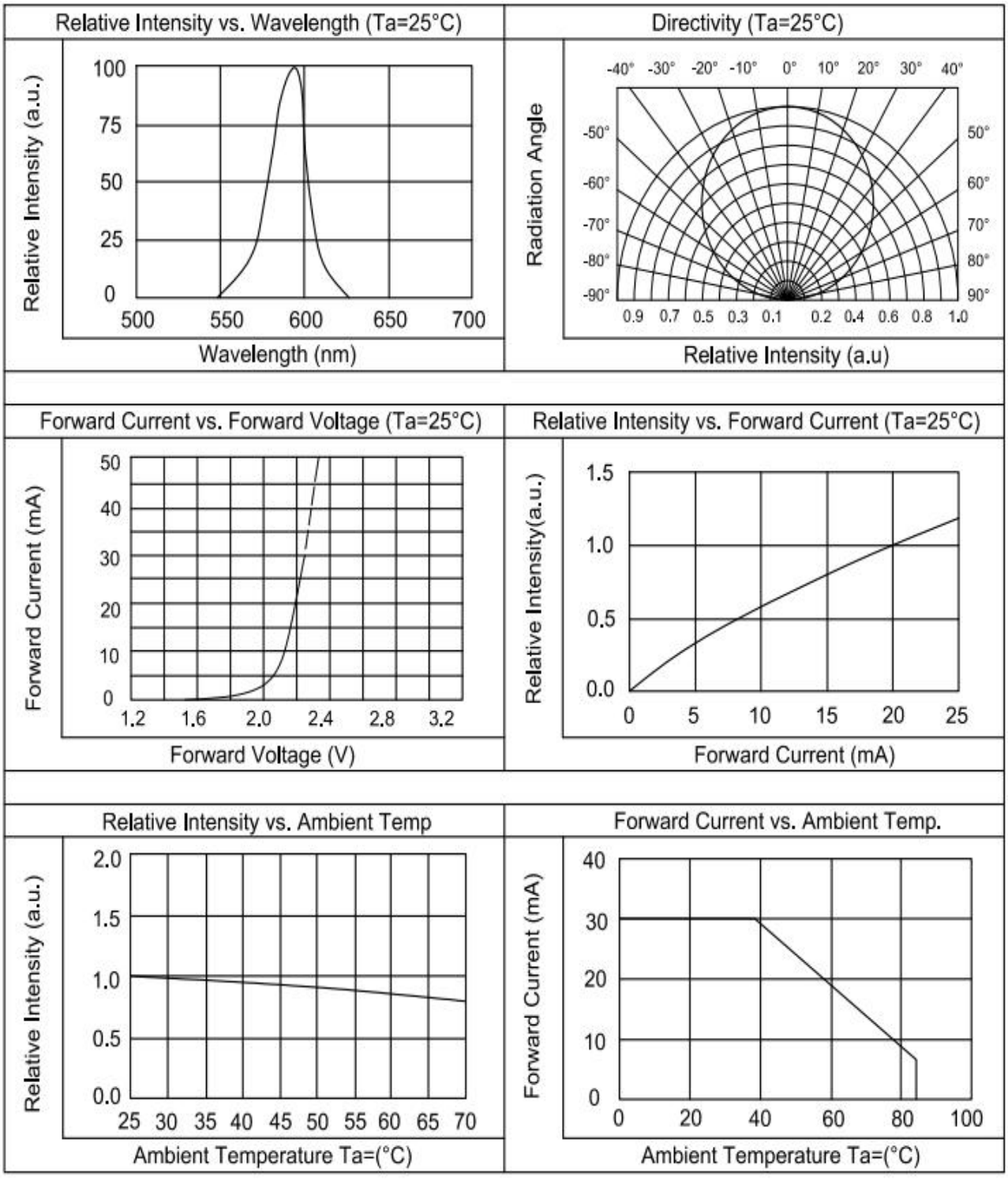
λd（nm）		
Grade	Min.	Max.
5	566	569
6	568	571
7	570	573
8	572	575
9	574	577

Notes:

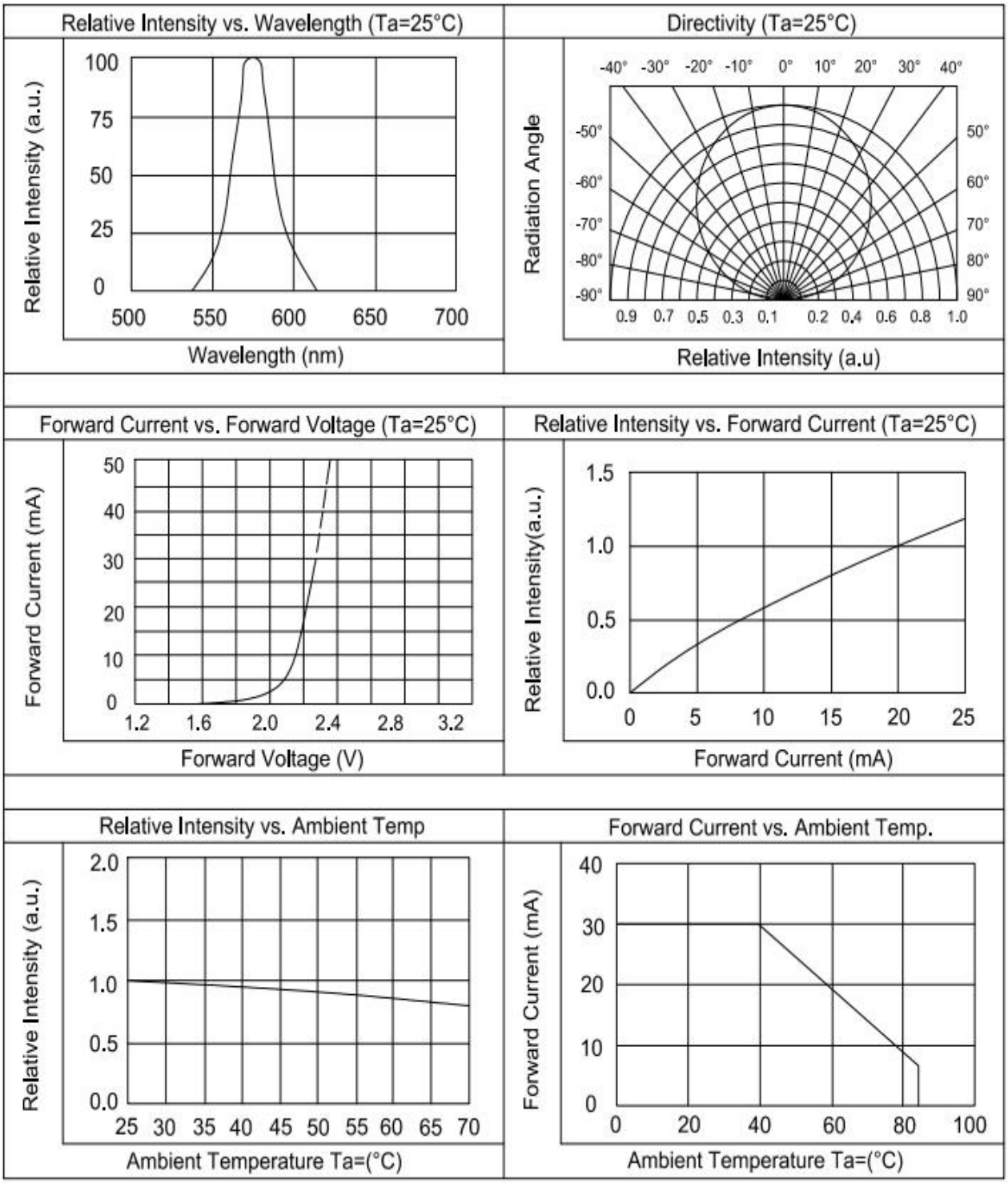
1.Luminous intensity:+/-15%.

2.Wavelength: +/-1nm.

Typical Electro-Optical Characteristics Curves(Y)



Typical Electro-Optical Characteristics Curves(G)

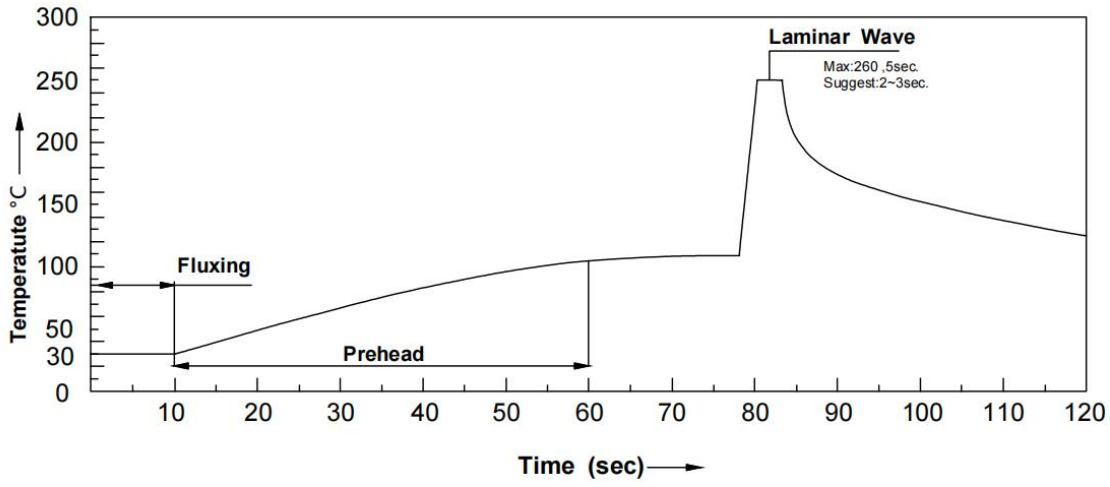


Soldering condition

1. Careful attention should be paid during soldering. When soldering, leave more then 2mm from solder joint to Led, and soldering beyond the base of the tie bar is recommended.
2. Avoiding applying any stress to the lead frame while the LED are at high temperature particularly when soldering.
3. Dip and hand soldering should not be done more than one time.
4. After soldering the LED, the epoxy bulb should be protected from mechanical shock or vibration until the LED return to room temperature.
5. A rapid-rate process is not recommended for cooling the LED down from the peak temperature.
6. Although the recommended soldering conditions are specified in the above table, dip or hand soldering at the lowest possible temperature is desirable for the LED.
7. Wave soldering parameter must be set and maintain according to recommended temperature and dwell time in the solder wave.

- **Recommended soldering conditions**

Hand Soldering		Wave Soldering	
Temp. at tip of iron	300℃ Max. (30W Max.)	Preheat temp.	100℃ Max. (60 sec Max.)
Soldering time	3 sec Max.	Bath temp. & time	260℃ Max., 5 sec Max
Distance	2mm Min.(From solder joint to Led)	Distance	2mm Min. (From solder joint to Led)



Reliability test items and conditions：

The reliability of products shall be satisfied with items listed below.
Confidence level：97%
LTPD:3%

No	Item	Test Conditions	Test Hours/Cycle	Sample Size	Failure Judgment Criteria	Ac/Er
1	Solder Heat	TEMP:260℃±5℃	10 SEC	76 PCS	Iv≦Ivt*0.5 or Vf≧U or Vf≦L	0/1
2	Temperature Cycle	H:+100℃ 15min ∫ 5min L:-40℃ 15min	300 CYCLES	76 PCS		0/1
3	Thermal Shock	H:+100℃ 5min ∫ 10sec L:-10℃ 5min	300 CYCLES	76 PCS		0/1
4	High Temperature Storage	TEMP:100℃	1000 HRS	76 PCS		0/1
5	Low Temperature Storage	TEMP:-40℃	1000 HRS	76 PCS		0/1
6	DC Operating Life	TEMP:25℃ IF=20mA	1000 HRS	76 PCS		0/1
7	High Temperature / High Humidity	85℃/85%RH	1000 HRS	76 PCS		0/1

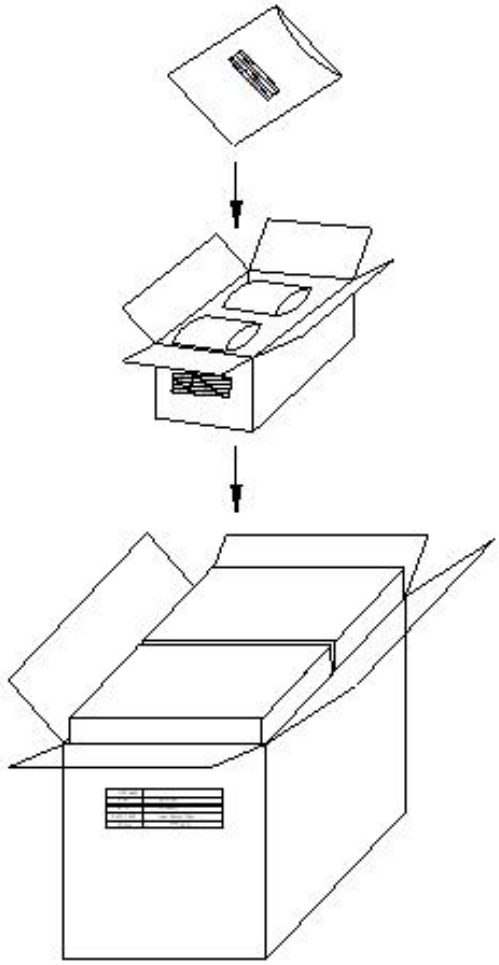
Note：Ivt：To test Iv value of the chip before the reliability test.

Iv：The test value of the chip that has completed the reliability test.

U：Upper Specification Limit.

L：Lower Specification Limit.

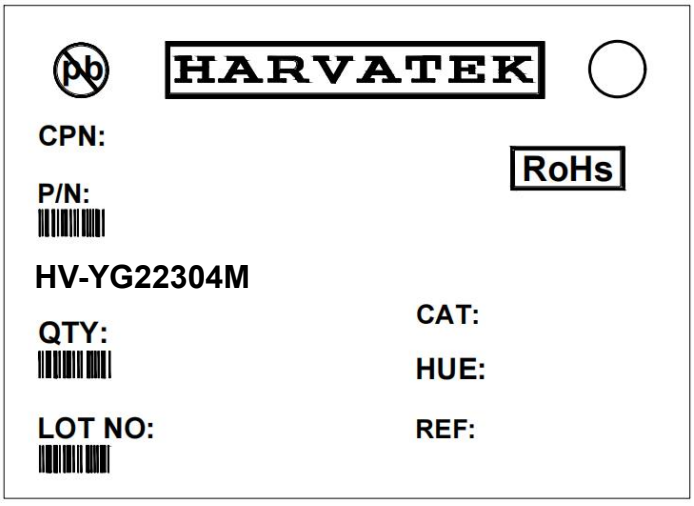
Packing Specification:



1000PCS/Bag

4000PCS/In-Carton

40000PCS/Out-Carton



Revision History

Revision	Page	Version No.	Revision Date
Initial Release		1.0	03-04-2026