

**Harvatek International 0.28" Single Digit Display
HCD89390**

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	*****	*****	HCD89390
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Revision History

Revision	Page	Version No.	Revision Date
DS original		1.0	2017-06-06

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DESCRIPTION

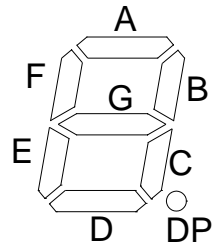
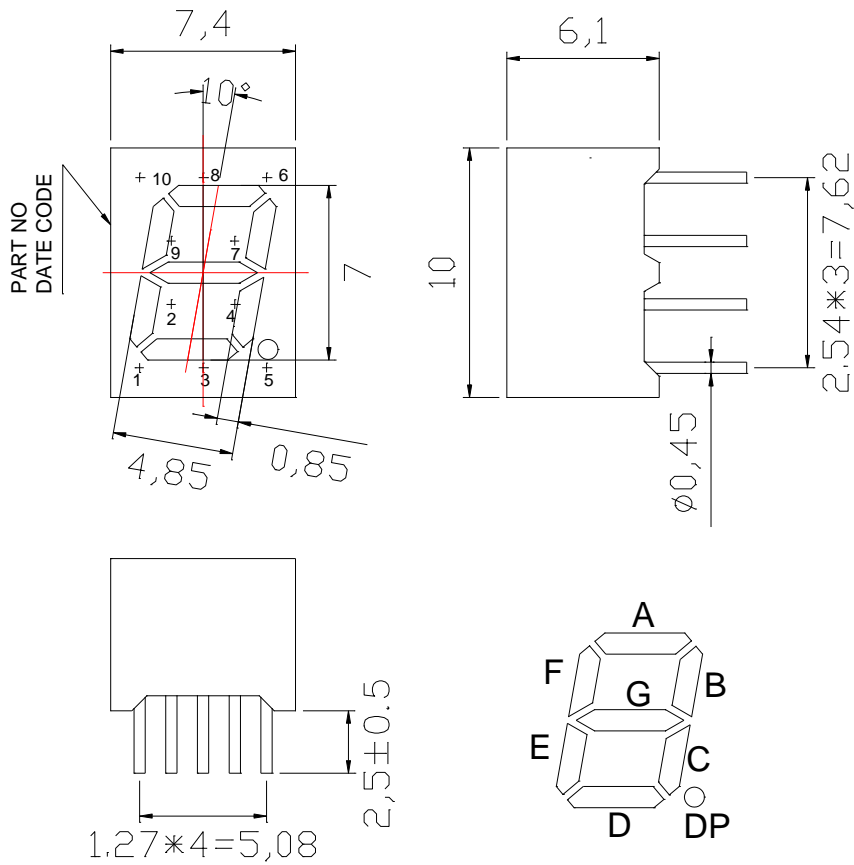
This HCD89390 is a 0.28 inch (7mm) digit height single digit seven-segment display. This device uses AllnGaP Red chips, which are made from AllnGaP on a non-transparent GaAs substrate , and has a gray face and white segments.

FEATURES

- *0.28-inch (7mm) DIGIT HEIGHT
- *CONTINUOUS UNIFORM SEGMENTS
- *LOW POWER REQUIREMENT
- *EXCELLENT CHARACTERS APPEARANCE
- *HIGH BRIGHTNESS & HIGH CONTRAST
- *WIDE VIEWING ANGLE
- *SOLID STATE RELIABILITY
- *CATEGORIZED FOR LUMINOUS INTENSITY
- *LEAD-FREE PACKAGE

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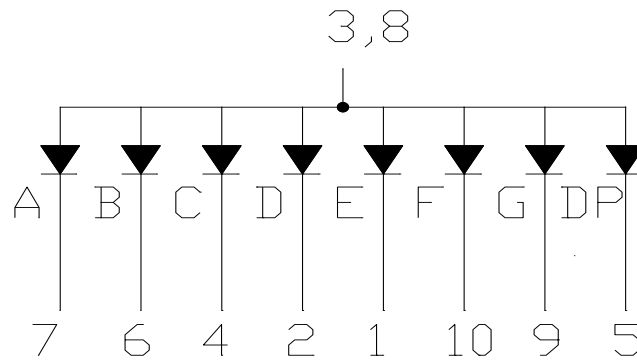
PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters. Tolerances are ± 0.25mm (0.01") unless otherwise noted.

INTERNAL CIRCUIT DIAGRAM



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ABSOLUTE MAXIMUM RATING AT Ta = 25°C

Parameter	Max.	Unit
Power Dissipation	75	mW
Peak Forward Current (Frequency 1Khz, 15% duty cycle)	90	mA
Continuous Forward Current	25	mA
Reverse Voltage	5	V
Operating Temperature Range	-35°C to +85°C	
Storage Temperature Range	-35°C to +85°C	
Soldering Conditions:Max 260°C for max 3sec at 1.6mm below seating plane.		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	Iv	8	15		mcd	IF=10mA
Peak Emission Wavelength	λp		632		nm	IF=20mA
Spectral Line Half-Width	Δλ		18		nm	IF=20mA
Dominant Wavelength	λd		624		nm	IF=20mA
Forward Voltage Per Segment	VF		2.0	2.6	V	IF=20mA
Reverse Current Per Segment	IR			10	μA	VR=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		IF=10mA

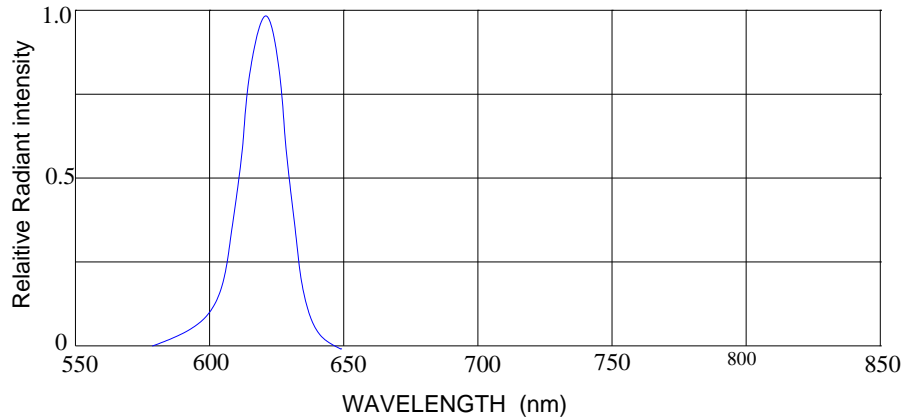
Note:

Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

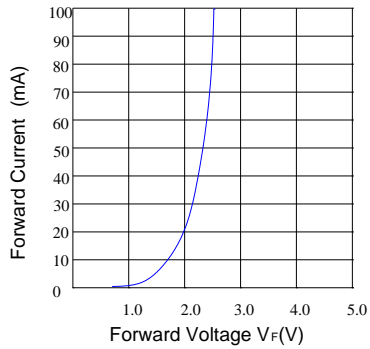
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**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES
(25°C Ambient Temperature Unless Otherwise Noted)**

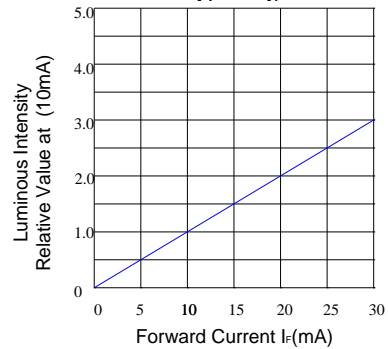
RELATIVE INTENSITY VS WAVELENGTH



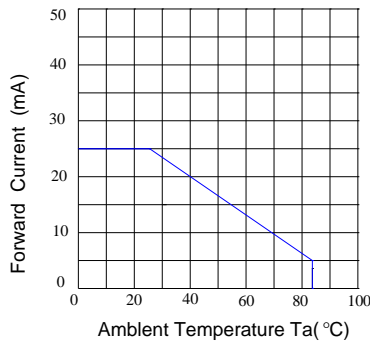
$I_F \sim V_F$



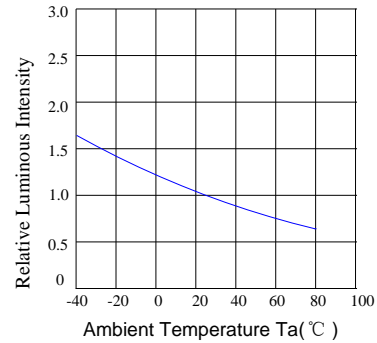
$I_V \sim I_F$



$I_F \sim T_a$

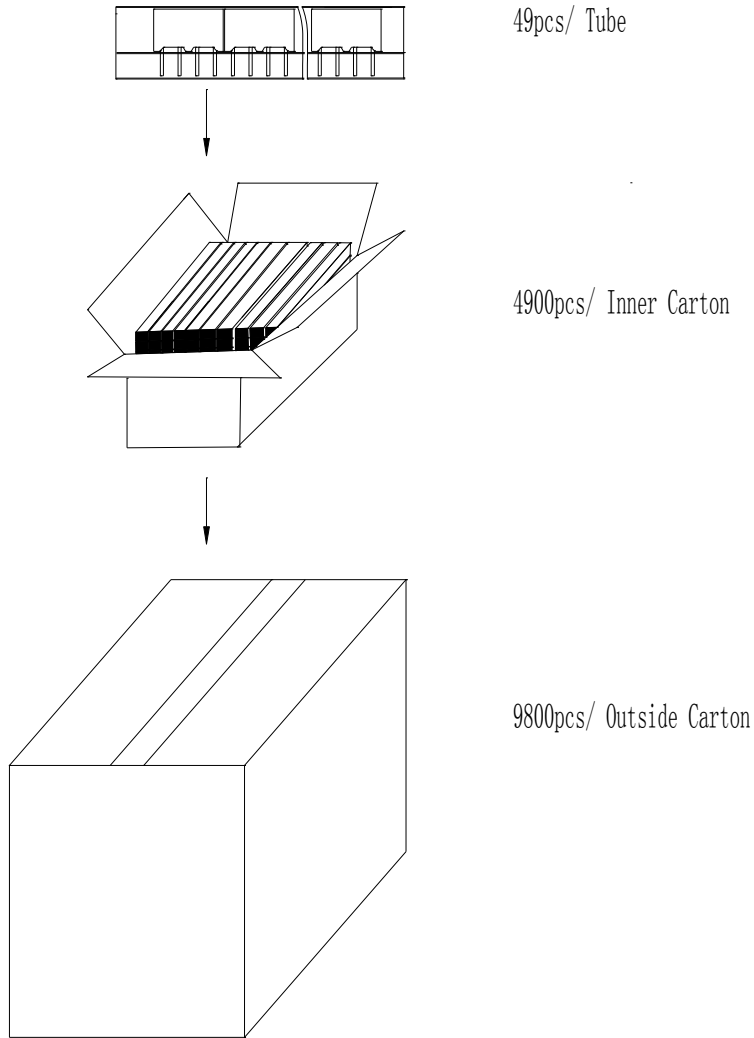


$I_V \sim T_a$



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Pack process:



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