



Dot Matrix Display Data Sheet

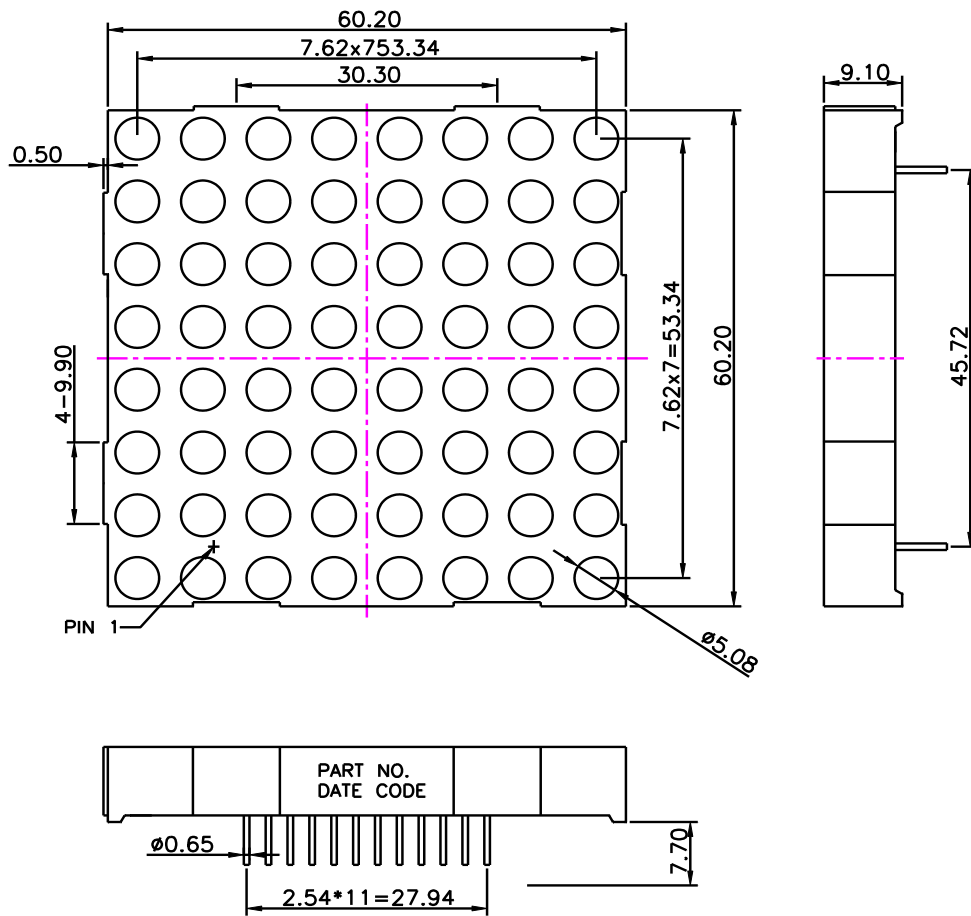
Description

The GYM-20887AM-N is a 0.2 inch (5.08mm) dot height 8X8 dot matrix display. This device uses blue and red LED chips, the Blue chips are made from InGaN epi on a Sapphire substrate, the red chips are made from AlInGaP epi on GaAs substrate, and has a black face and white segments.

Features

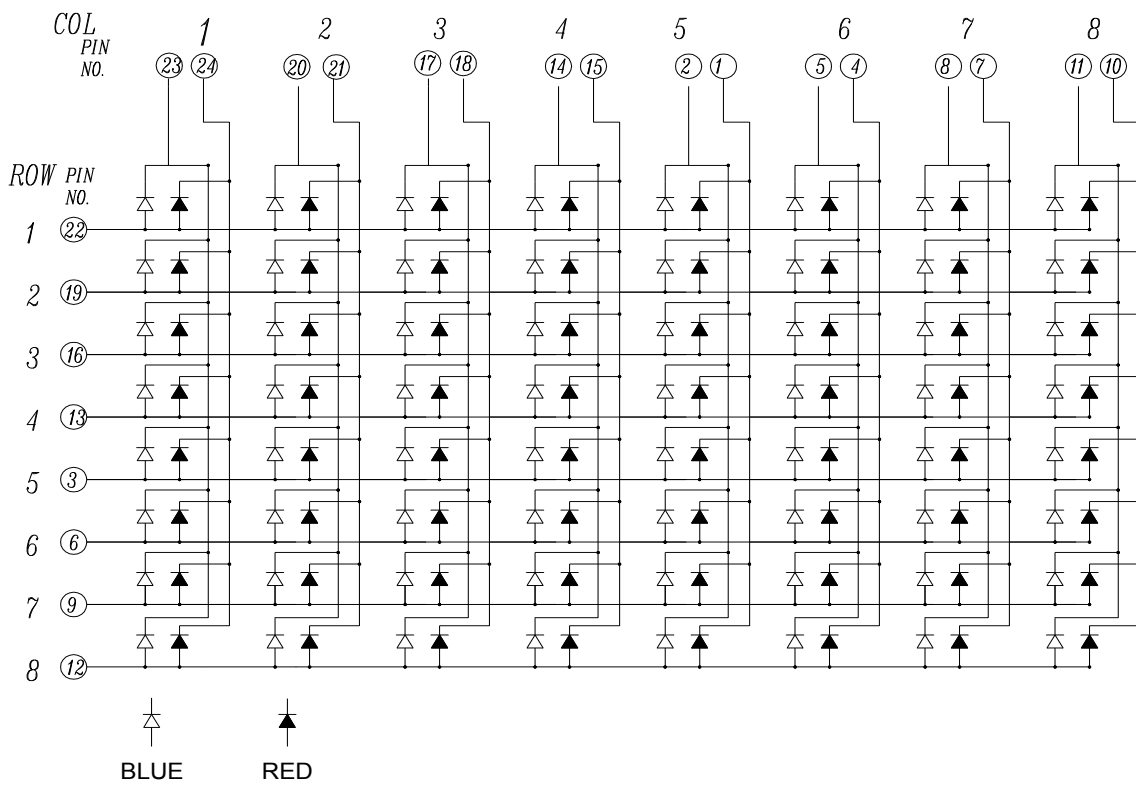
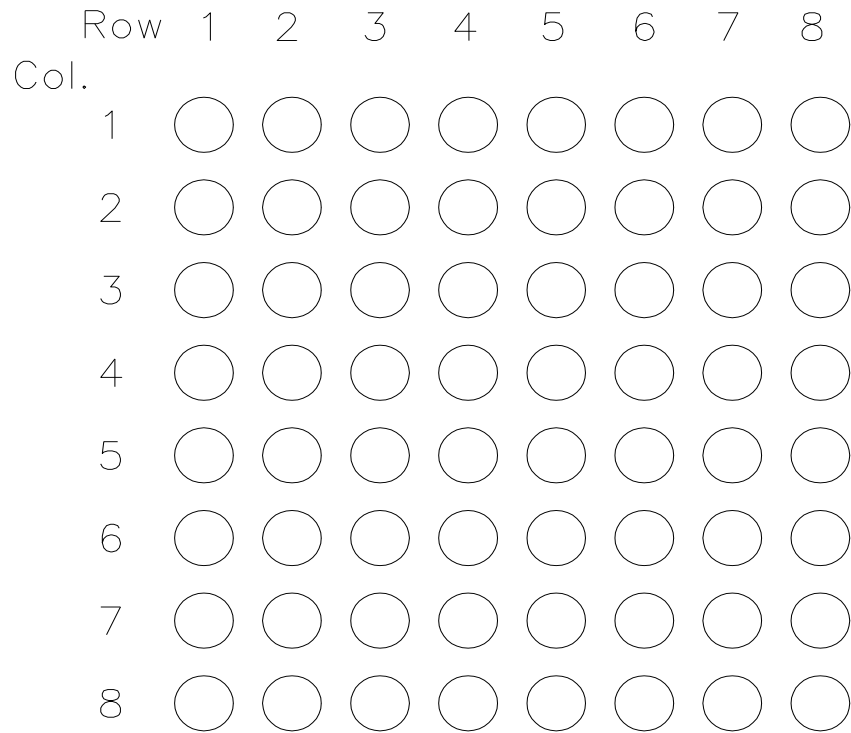
- 0.2-inch (5.08mm) dot height
- 8x8 array with x-y select
- LOW POWER REQUIREMENT
- EXCELLENT CHARACTERS APPEARANCE
- HIGH BRIGHTNESS & HIGH CONTRAST
- WIDE VIEWING ANGLE
- SOLID STATE RELIABILITY
- CATEGORIZED FOR LUMINOUS INTENSITY

Package Dimensions



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

Internal Circuit Diagram



Absolute Maximum Rating (Ta = 25°C)

PARAMETER	RED	BLUE	UNIT
Power Dissipation Per Segment	70	70	mW
Peak Forward Current Per Segment (Frequency 1Khz,18% duty cycle)	90	100	mA
Continuous Forward Current Per Segment	25	20	mA
Reverse Voltage Per Segment	5		V
Operating Temperature Range	-35°C to +85°C		
Storage Temperature Range	-35°C to +85°C		
Soldering Conditions: 1/16 inch below seating plane for 3 seconds at 260°C			

This product should be operated in forward bias. If a reverse voltage is continuously applied to the product, such operation can cause migration resulting in LED damage.

Electrical / Optical Characteristics (Ta = 25°C)

RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	13.7	20		mcd	IF=10mA
Peak Emission Wavelength	λ_p		639		nm	IF=20mA
Spectral Line Half-Width	$\Delta\lambda$		20		nm	IF=20mA
Dominant Wavelength	λ_d		631		nm	IF=20mA
Forward Voltage Per Segment	VF		2.0	2.6	V	IF=20mA
Reverse Current Per Segment	IR			100	uA	VR=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		IF=10mA

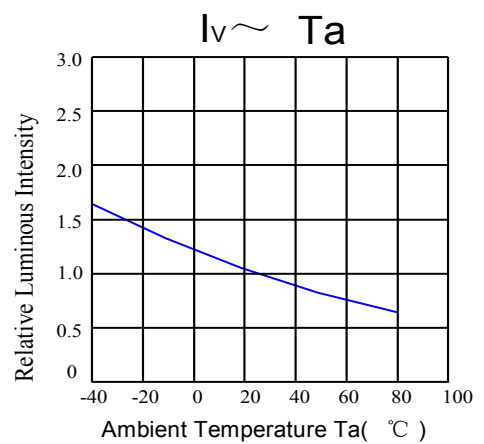
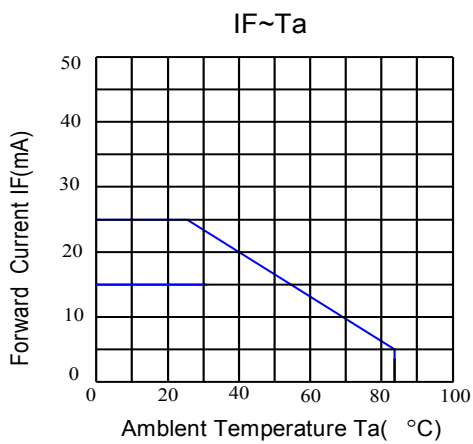
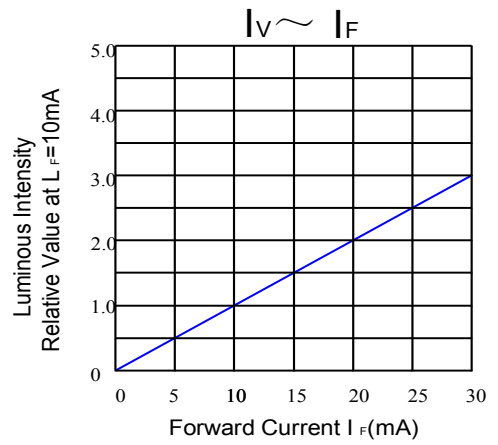
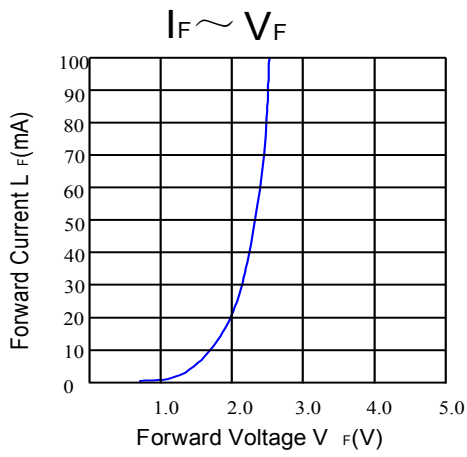
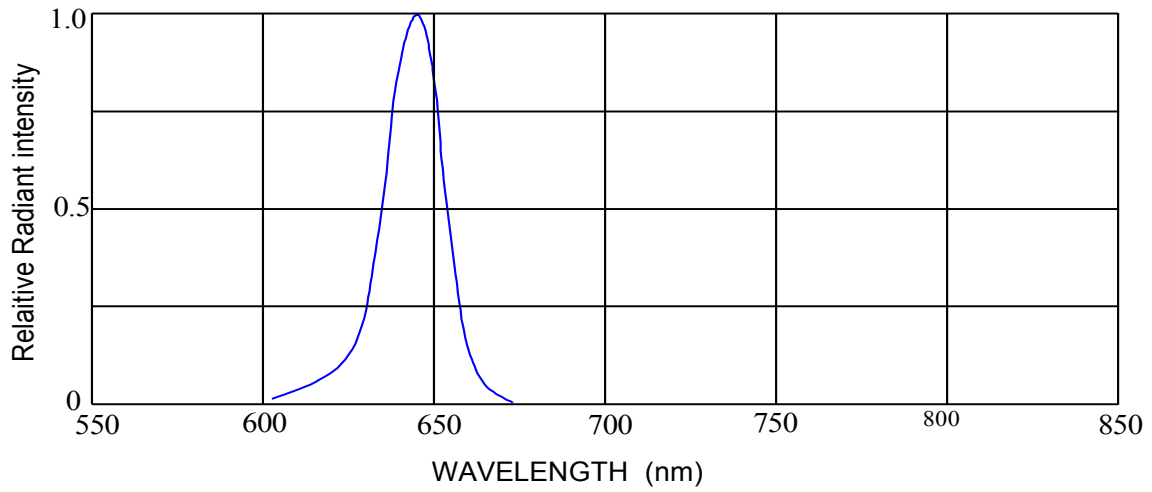
BLUE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I_v	13.7	20		ucd	IF=10mA
Peak Emission Wavelength	λ_p		468		nm	IF=20mA
Spectral Line Half-Width	$\square\lambda$		25		nm	IF=20mA
Dominant Wavelength	λ_d		470		nm	IF=20mA
Forward Voltage Per Segment	VF		3.3	3.8	V	IF=20mA
Reverse Current Per Segment	IR			100	uA	VR=5V
Luminous Intensity Matching Ratio	$I_v\text{-}m$			2:1		IF=10mA

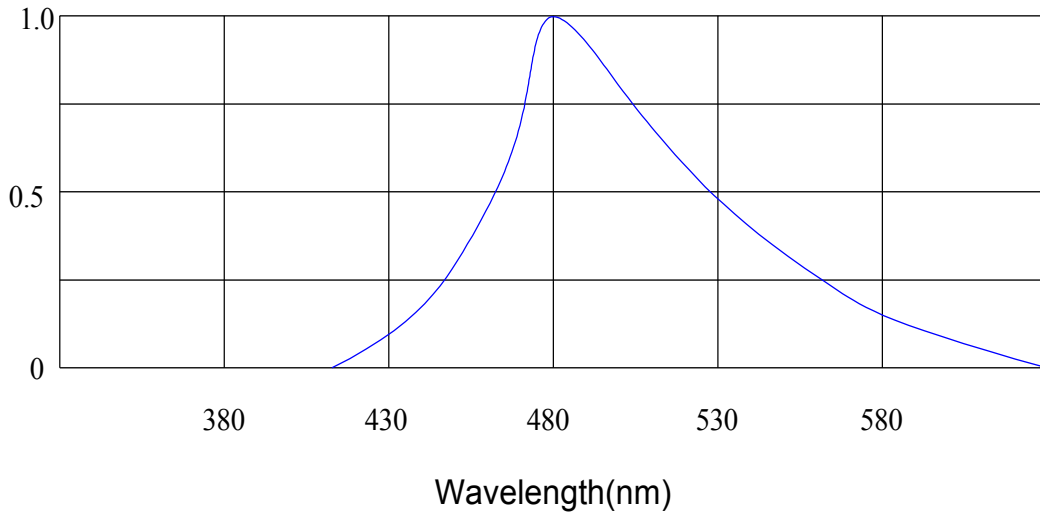
Note:Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

Typical Electrical / Optical Characteristic Curves
(25°C Ambient Temperature Unless Otherwise Noted)

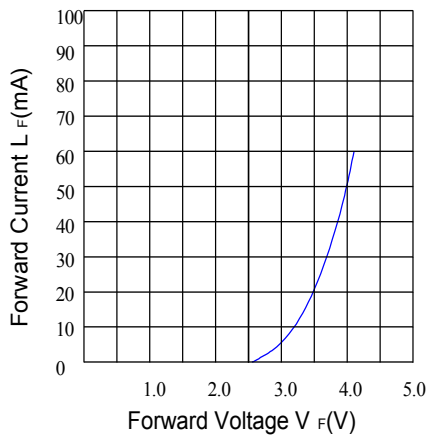
RELATIVE INTENSITY VS WAVELENGTH



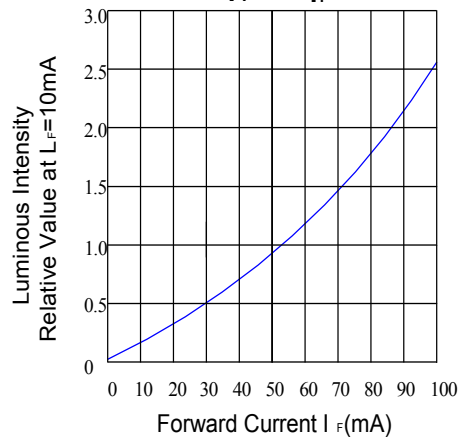
RELATIVE INTENSITY VS WAVELENGTH



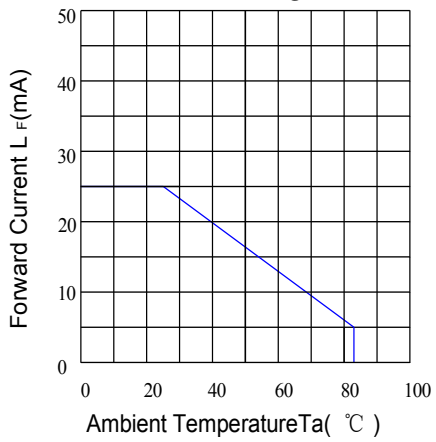
$$I_F \sim V_F$$



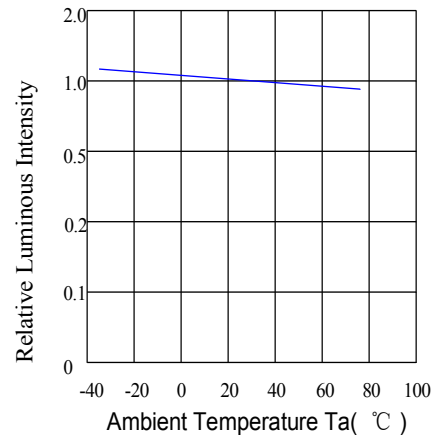
$$I_V \sim I_F$$



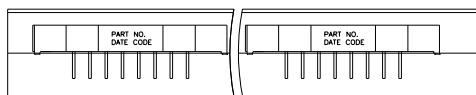
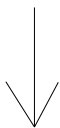
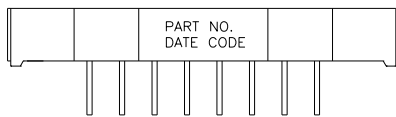
$$I_F \sim T_a$$



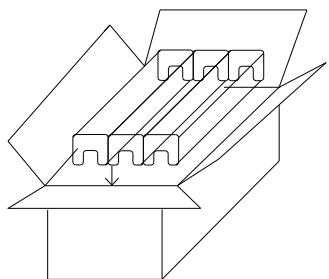
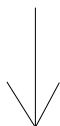
$$I_V \sim T_a$$



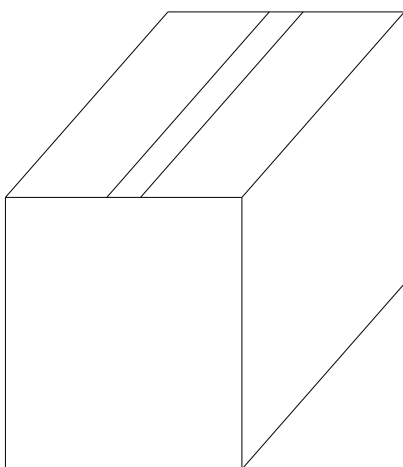
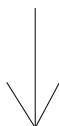
Package Flow



8PCS/TUBE



128PCS/I-CARTON



512PCS/O-CARTON

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Revision History

Revision	Rev.	Date
Original	A	2016-05-25