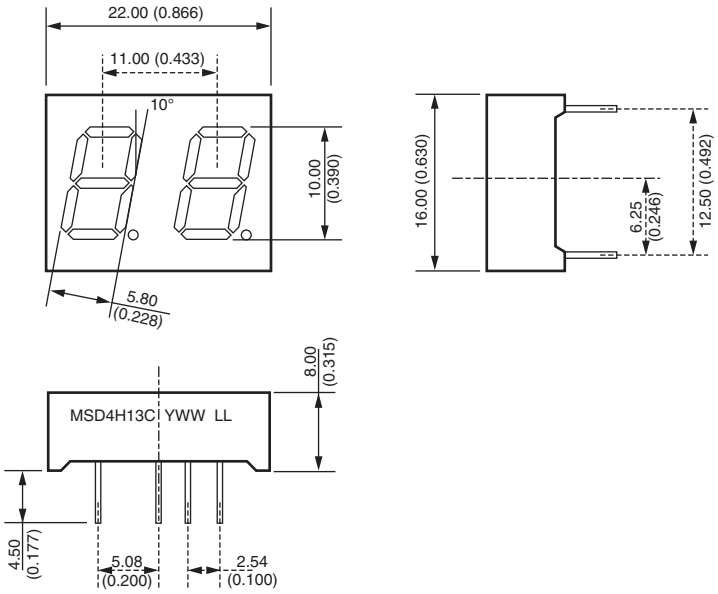
10.0mm (0.39 inch) Two Digit NUMERIC STICK DISPLAY

AlInGaP Red (632nm) MSD4H13C
Gap Green (Low Current) MSD4G13C
GaN Blue (470nm) MSD4B13C

PACKAGE DIMENSIONS



Notes:
- Dimensions are in mm (inches)
- Tolerances are ±0.25 (0.010) unless otherwise stated.

Features

- Bright Bold Segments
- Common Anode/Cathode
- Low Power Consumption
- Low Current Capability
- Neutral Segments
- Grey Face
- Epoxy Encapsulated PCB
- High Performance
- High Reliability

Applications

- Appliances
- Automotive
- Instrumentation
- Process Control

MODELS AVAILABLE

Part Number	Color	Description	Special
MSD4H13C	AlInGaP 632nm	Two digit, Duplex, No Decimal Point, CA	Low Current
MSD4G13C	GaP 568nm	Two digit, Duplex, No Decimal Point, CA	Low Current
MSD4B13C	GaN 470nm	Two digit, Duplex, No Decimal Point, CA	Low Current

(For other color options, contact your local area Sales Manager)

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ABSOLUTE MAXIMUM RATINGS[1] (T_A = 25°C, unless otherwise specified)				
Part Number Parameter	**MSD4B13C**	**MSD4H13C**	**MSD4G13C**	**Units**
Continuous Forward Current (each segment)	25	25	25	mA
Peak Forward Current (F = 10KHz, D/F = 1/10)	80	100	90	mA
Power Dissipation (P_D)	125	60	70	mW
***Derate Linearly from 25°C**	0.33	0.36	0.33	mW
Reverse Voltage per Die				5 Volts
Operating and Storage Temperature Range				-40°C to +85°C
Lead soldering time (1/16 inch from standoffs)				5 seconds @ 230°C

ELECTRO-OPTICAL CHARACTERISTICS[1] (T_A = 25°C, unless otherwise specified)					
Part Number Parameter	**MSD4B13C**	**MSD4H13C**	**MSD4G13C**	**Units**	**Test Condition**
Luminous intensity[2] **(I_V)**					
Minimum (Standard Current)	N/A	N/A	250	ucd	I_F = 4mA
Typical (Standard Current)	N/A	N/A	475	ucd	I_F = 4mA
Minimum (Low Current)	600	510		ucd	I_F = 2mA
Typical (Low Current)	1200	1000		ucd	I_F = 2mA
Forward Voltage (V_F)					
Typical (Standard Current)		2.05	2.10	Volts	I_F = 20mA
Maximum (Standard Current)		2.40	2.80	Volts	I_F = 20mA
Typical (Low Current)	4.2	1.80		Volts	I_F = 2mA
Maximum (Low Current)	4.9	2.20		Volts	I_F = 2mA
Peak Wavelength	430	632	568	nm	I_F = 10mA
Dominant Wavelength	470	624	573	nm	I_F = 10mA
Spectral Line 1/2 Width	65	20	30	nm	I_F = 10mA
Reverse B[3]**.Voltage (V_R)**	10	5	5	Volts	I_R = 100µA

NOTES:
(1) Data per individual LED element
(2) Luminous intensity (ucd) = average light output per segment
(3) B = breakdown

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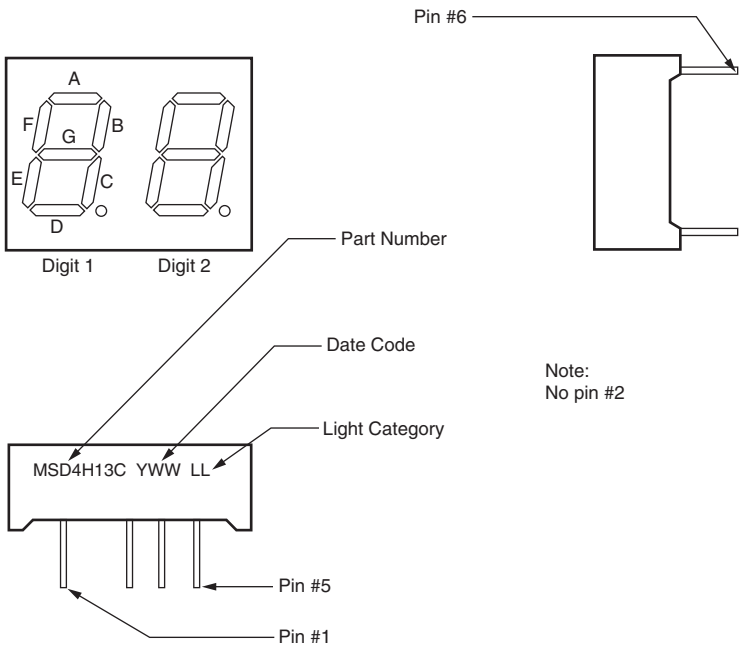
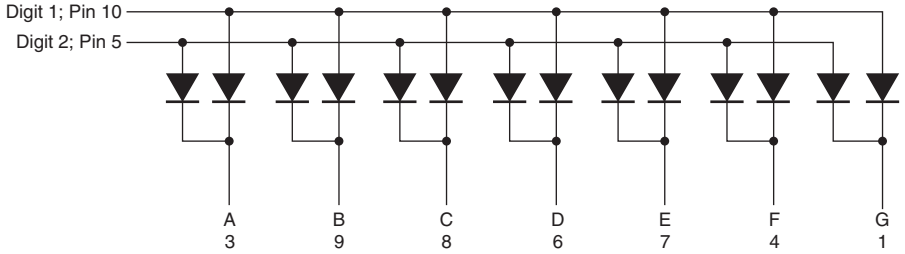
PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING



SCHEMATICS



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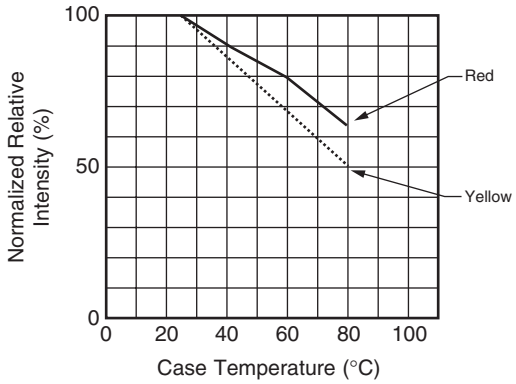
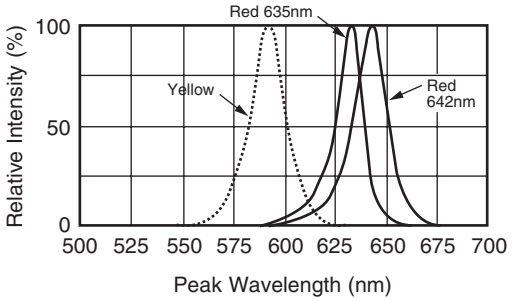
GRAPHICAL DATA AlInGaP (T_A = 25°C, unless otherwise specified)

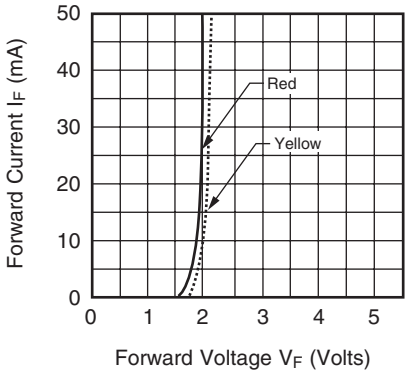
Relative Intensity vs Case Temp.



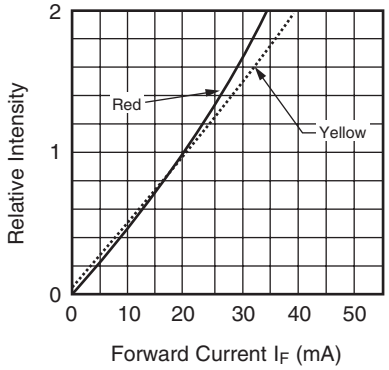
Spectral Response



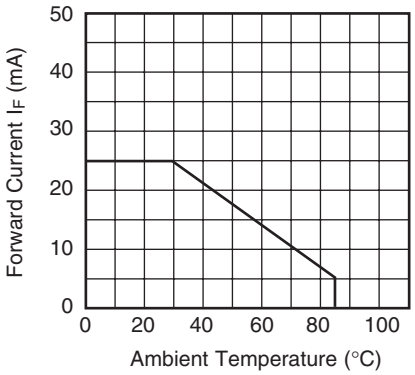
Forward Current vs Forward Voltage



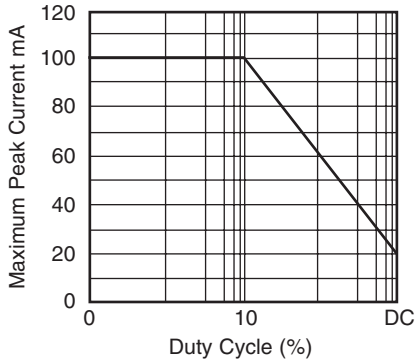
Luminous Intensity vs Forward Current



Maximum Forward Current vs Ambient Temperature



Maximum Peak Current vs Duty Cycle



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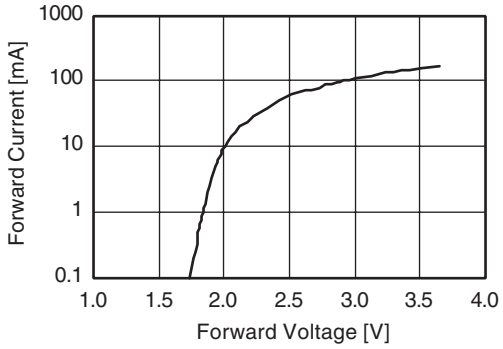
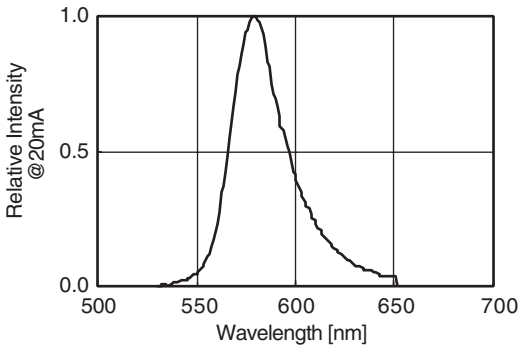
GRAPHICAL DATA GaP Green (T_A = 25°C, unless otherwise specified)

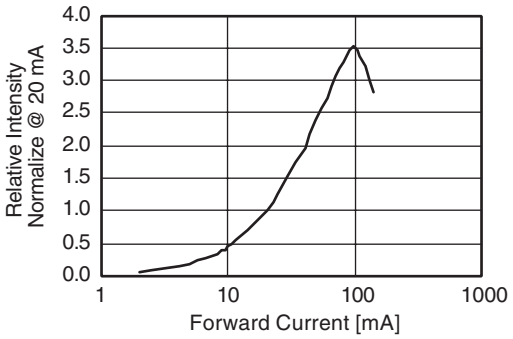
Forward Current vs Forward Voltage



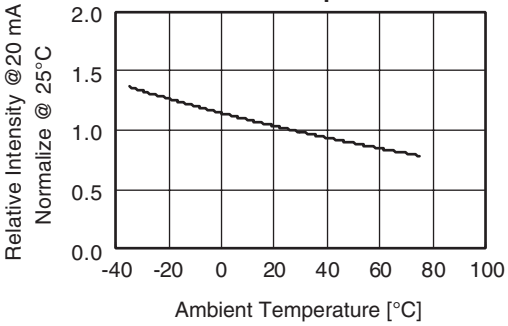
Spectral Response



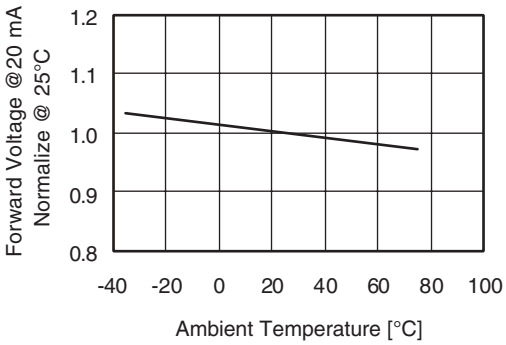
Relative Intensity vs Forward Current



Relative Intensity vs Ambient Temperature



Forward Voltage vs Ambient Temperature



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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.