



## 0.3 Inch (7.62mm) COMPACT NUMERIC FRAME DISPLAY

AllnGaP Red (630nm) MAN3H10, MAN3H40  
 AllnGaP Red (642nm) MAN3R10, MAN3R40  
 AllnGaP Yellow MAN3Y10, MAN3Y40  
 GaP Green MAN3G10, MAN3G40

TR/QTS/030100-001

PACKAGE DIMENSIONS	FEATURES	
<p>Technical drawing showing package dimensions in inches (mm) and millimeters (mm). Dimensions include: 0.300 (7.62) width, 0.24 (6.10) height, 0.200 (5.08) segment height, 0.300 (9.81) total height, 0.010 (0.25) lead thickness, 0.200 (5.08) lead length, 10° lead angle, 0.035 (0.89) lead width, 0.168 (4.27) lead spacing, 0.117 (2.97) segment width, 0.300 (7.62) segment height, 0.500 (12.70) total height, 0.100 (2.54) lead spacing, 0.020 (0.508) lead thickness, and 0.150 (3.81) lead length.</p>	<ul style="list-style-type: none"> <li>•Bright Bold Segments</li> <li>•Common Anode/Cathode</li> <li>•Low Power Consumption</li> <li>•Low Current Capability</li> <li>•Neutral Segments</li> <li>•Grey Face</li> <li>•Epoxy Encapsulated Frame</li> <li>•High Performance</li> <li>•High Reliability</li> </ul>	
<p><b>MAN3XX0</b> LL YWW HH</p> <p>0.100 (2.54)</p> <p>0.020 (0.508)</p> <p>0.150 (3.81)</p>	<th style="background-color: #0056b3; color: white;">APPLICATIONS</th>	APPLICATIONS
<p><b>NOTES:</b></p> <ul style="list-style-type: none"> <li>•Dimensions are in inches (mm)</li> <li>•Tolerances are +/- 0.010 (0.25) unless otherwise stated.</li> </ul>	<ul style="list-style-type: none"> <li>•Appliances</li> <li>•Automotive</li> <li>•Instrumentation</li> <li>•Process Control</li> </ul>	

### MODELS AVAILABLE

Part Number	Colour	Description	Special
MAN3H10	AllnGaP 630nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3H40	AllnGaP 630nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3R10	AllnGaP 642nm	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3R40	AllnGaP 642nm	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3Y10	AllnGaP Yellow	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3Y40	AllnGaP Yellow	Single Digit, RHDP, Common Cathode	Low Current Capability
MAN3G10	GaP Green	Single Digit, RHDP, Common Anode	Low Current Capability
MAN3G40	GaP Green	Single Digit, RHDP, Common Cathode	Low Current Capability

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



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### ABSOLUTE MAXIMUM RATINGS<sup>(1)</sup> ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

Part Number	MAN3H10	MAN3R10	MAN3Y10	MAN3G10	
Parameter	MAN3H40	MAN3R40	MAN3Y40	MAN3G40	Units
Continuous Forward Current (each segment)	25	25	25	25	mA
Peak Forward Current ( $F = 10\text{KHz}$ , $D/F = 1/10$ )	100	100	100	100	mA
Power Dissipation ( $P_D$ )	60	60	60	60	mW
*Derate Linearly from $25^\circ\text{C}$	0.36	0.36	0.36	0.36	mW
Reverse Voltage per Die					5 Volts
Operating and Storage Temperature Range					$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Lead soldering time (1/16 inch from standoffs)					5 seconds @ $230^\circ\text{C}$

### ELECTRO-OPTICAL CHARACTERISTICS<sup>(1)</sup> ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

Part Number	MAN3H10	MAN3R10	MAN3Y10	MAN3G10		
Parameter	MAN3H40	MAN3R40	MAN3Y40	MAN3G40	Units	Test Condition
Luminous intensity <sup>(2)</sup> ( $I_V$ )						
Minimum (Standard Current)	6000	4000	8000	1500	ucd	$I_F = 10\text{mA}$
Typical (Standard Current)	7800	5800	12800	2500	ucd	$I_F = 10\text{mA}$
Minimum (Low Current)	510	510	510	510	ucd	$I_F = 2\text{mA}$
Typical (Low Current)	1000	1000	1000	1000	ucd	$I_F = 2\text{mA}$
Forward Voltage ( $V_F$ )						
Typical (Standard Current)	2.05	2.05	2.05	2.05	Volts	$I_F = 10\text{mA}$
Maximum (Standard Current)	2.45	2.45	2.45	2.45	Volts	$I_F = 10\text{mA}$
Typical (Low Current)	1.80	1.80	1.80	1.80	Volts	$I_F = 2\text{mA}$
Maximum (Low Current)	2.20	2.20	2.20	2.20	Volts	$I_F = 2\text{mA}$
Peak Wavelength	632	639	591	565	nm	$I_F = 10\text{mA}$
Dominant Wavelength	624	631	585	570	nm	$I_F = 10\text{mA}$
Spectral Line 1/2 Width	20	20	20	20	nm	$I_F = 10\text{mA}$
Reverse B <sup>(3)</sup> . Voltage ( $V_R$ )	5	5	5	5	Volts	$I_R = 100\mu\text{A}$

NOTES:

(1) Data per individual LED element

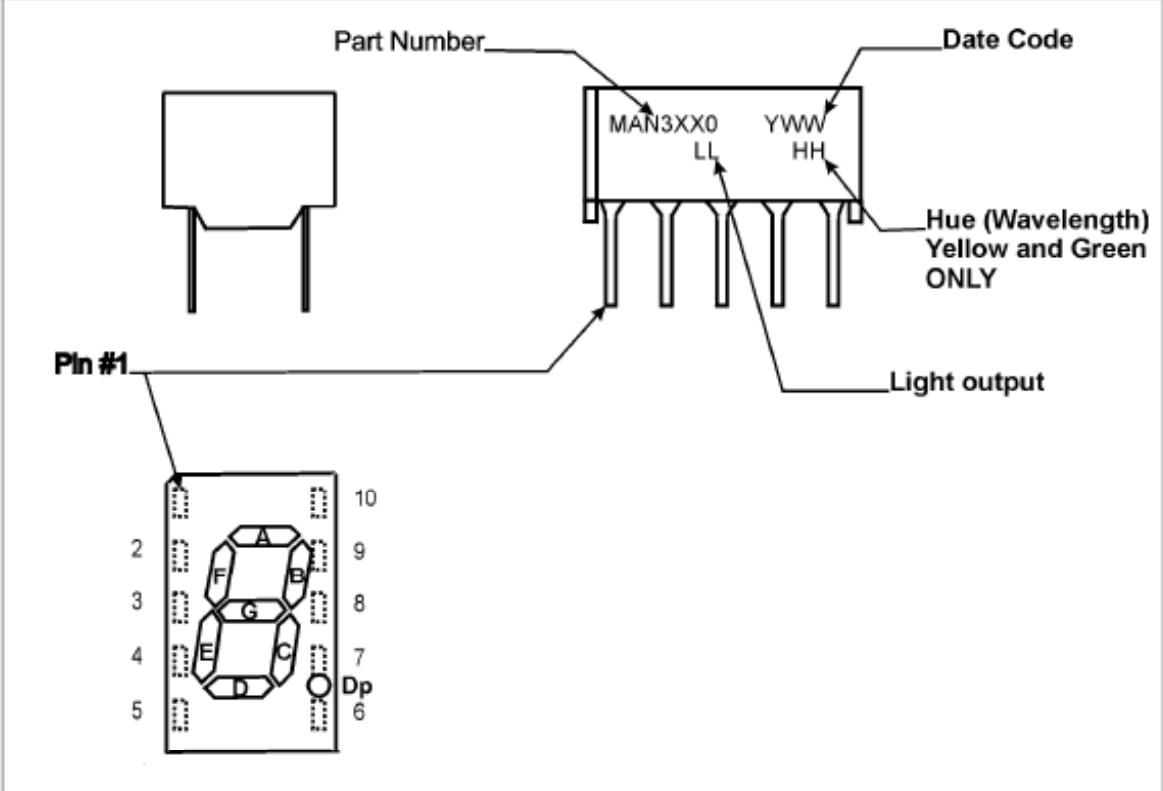
(2) Luminous intensity (ucd) = average light output per segment

(3) B = breakdown

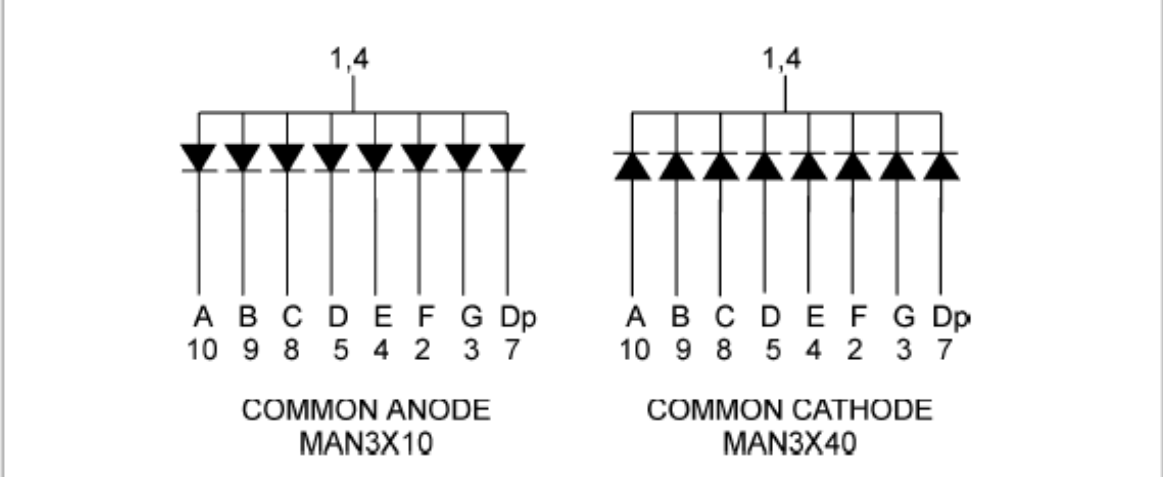


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NUMERIC FRAME DISPLAY

**PIN ORIENTATION, SEGMENT IDENTIFICATION, AND PRODUCT MARKING**



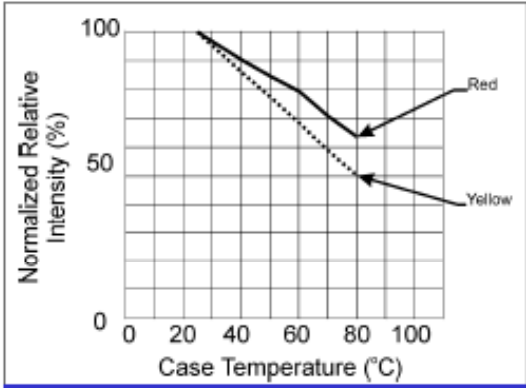
**SCHEMATICS**



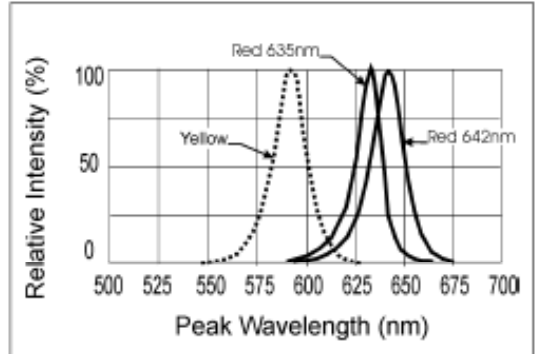


**0.3 Inch (7.62mm) COMPACT  
NUMERIC FRAME DISPLAY**

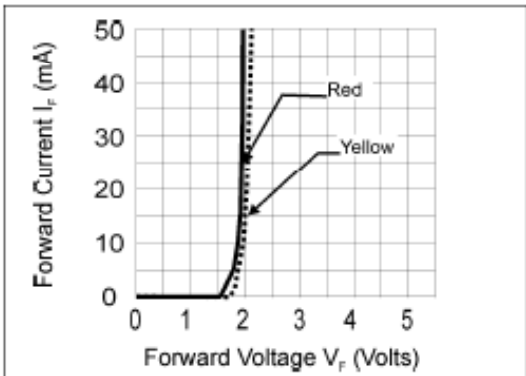
**GRAPHICAL DATA AllnGaP 630nm ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)**



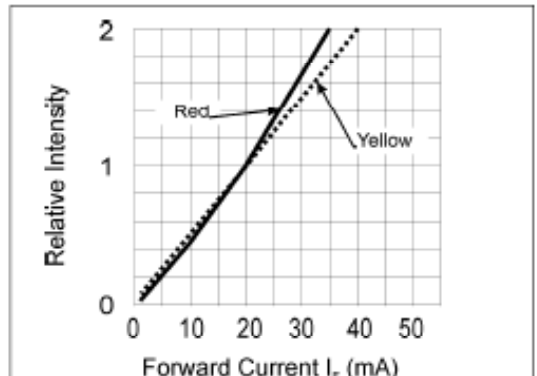
**Relative Intensity vs Case Temp.**



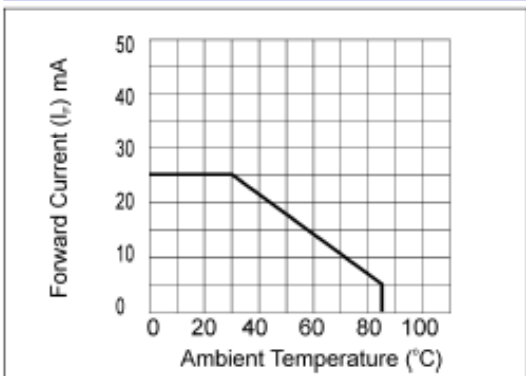
**Spectral Response**



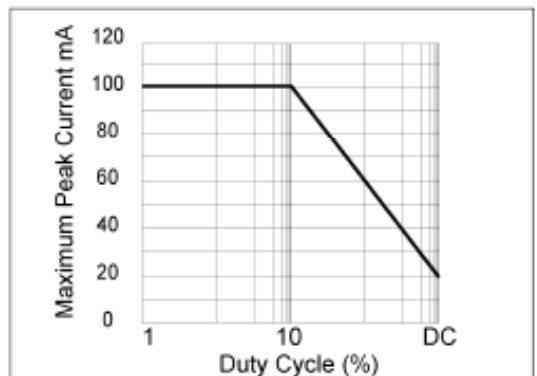
**Forward Current vs Forward Voltage**



**Luminous Intensity vs Duty Cycle**



**Maximum Forward Current vs Ambient Temperature**

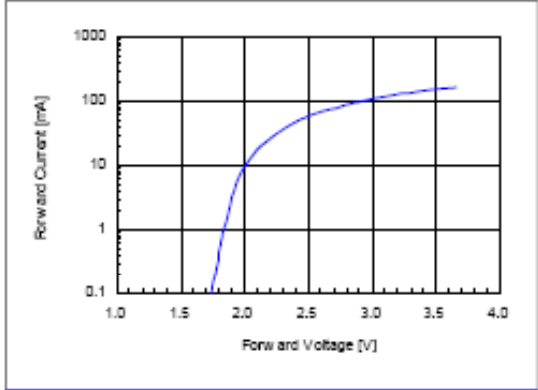


**Maximum Peak Current vs Duty Cycle**

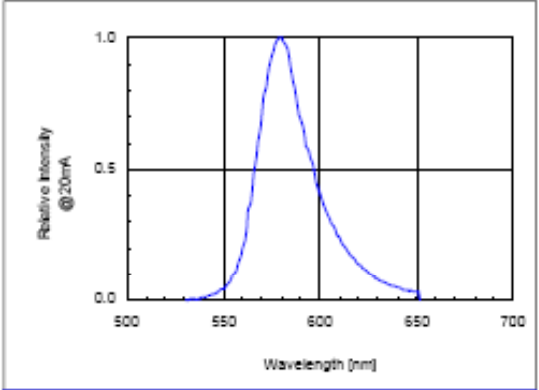


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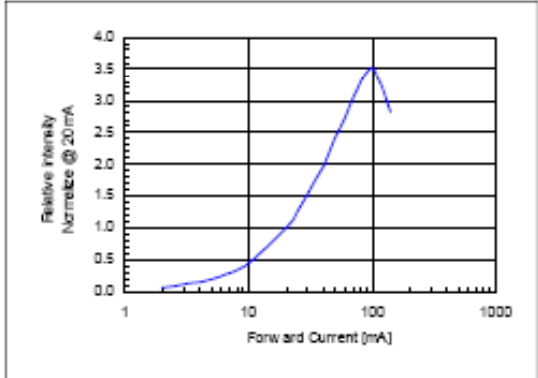
#### GRAPHICAL DATA GaP Green ( $T_A = 25^\circ\text{C}$ , unless otherwise specified)



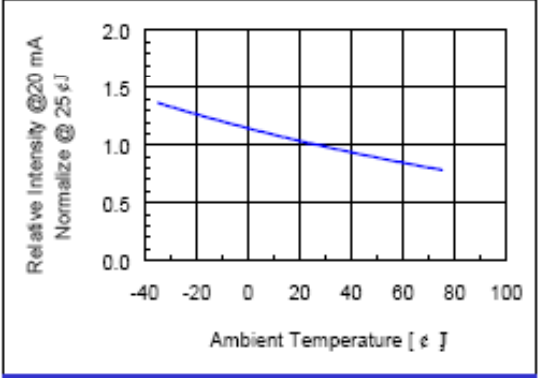
Forward Current vs Forward Voltage



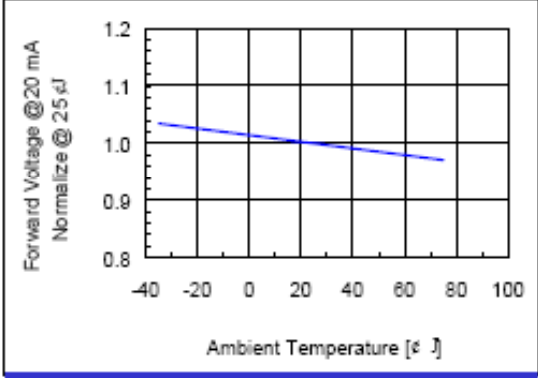
Spectral Response



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.