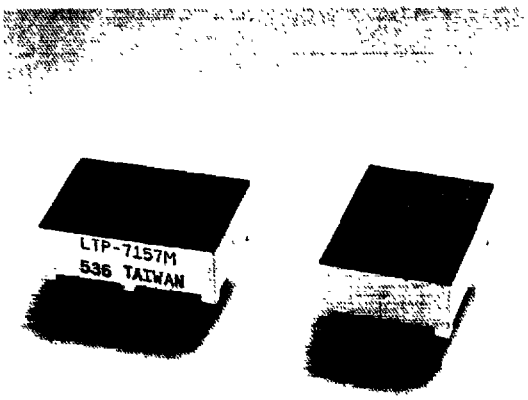
LTP-7157M SERIES

2ϕ 5X7 MULTICOLOR DOT MATRIX LED DISPLAY

FEATURES

- 0 7 INCH (17 22mm) MATRIX HEIGHT DOT MATRIX
- CONTINUOUS UNIFORM DOTS
- LOW POWER REQUIREMENT
- EXCELLENT CHARACTERS AND APPEARANCE
- HIGH CONTRAST
- HIGH BRIGHTNESS
- WIDE VIEWING ANGLE
- SOLID STATE RELIABILITY
- CATEGORIZED FOR LUMINOUS INTENSITY



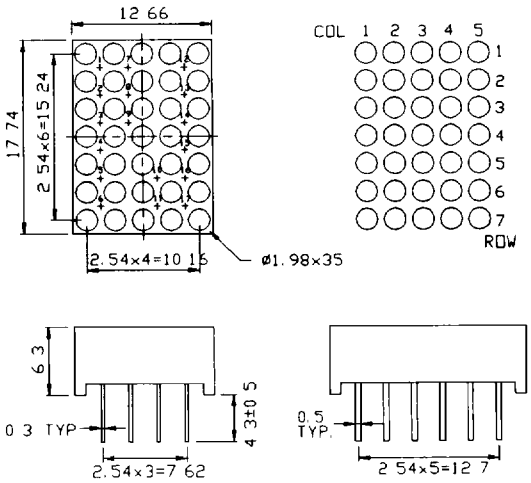
DESCRIPTION

The LTP-7157M is a 0 7 inch (17 22mm) matrix height 5 x 7 dot matrix display This device utilizes green and orange LED chips The green LED chips are made from GaP on a transparent GaP substrate The orange LED chips are made from GaAsP on a GaP substrate This device has gray face and white dot

DEVICE

PART NO.	DESCRIPTION
GREEN & ORANGE	MULTIPLEX
LTP-7157M	ANODE ROW

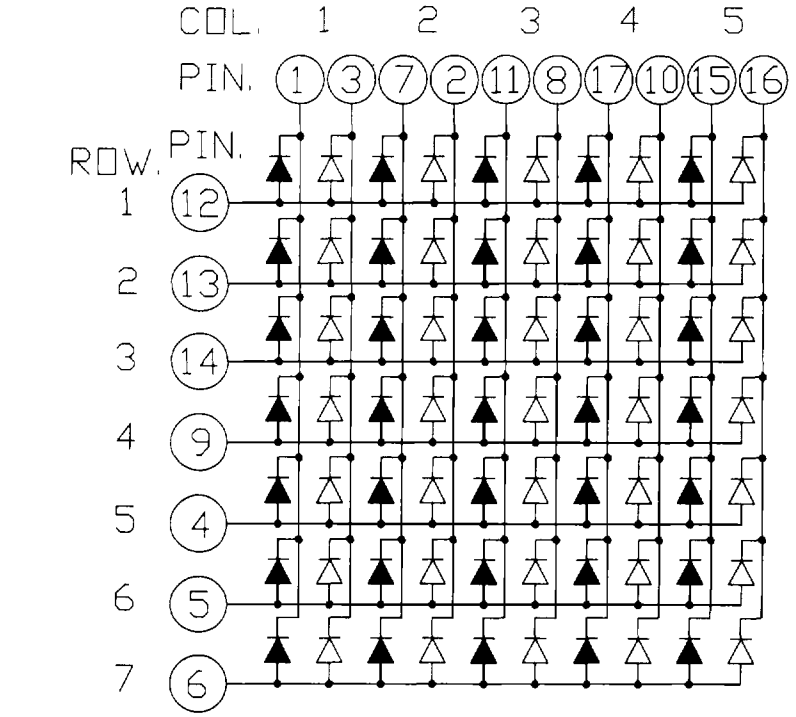
PACKAGE DIMENSION



NOTES All dimensions are in millimeters (inchs) tolerance +0 25mm (± 0 01") unless otherwise noted

Pin No.	Connection	Pin No.	Connection
1.	Cathode Column 1 Orange	9.	Anode Row 4
2.	Cathode Column 2 Green	10.	Cathode Column 4 Green
3.	Cathode Column 1 Green	11.	Cathode Column 3 Orange
4.	Anode Row 5	12.	Anode Row 1
5.	Anode Row 6	13.	Anode Row 2
6.	Anode Row 7	14.	Anode Row 3
7.	Cathode Column 2 Orange	15.	Cathode Column 5 Orange
8.	Cathode Column 3 Green	16.	Cathode Column 5 Green
—	—	17.	Cathode Column 4 Orange

INTERNAL CIRCUIT DIAGRAM



NOTES: THE " ▽ " STANDS FOR GREEN CHIPS.
THE " ▼ " STANDS FOR ORANGE CHIPS.

ABSOLUTE MAXIMUM RATINGS AT T_A=25℃

PARAMETER	GREEN	ORANGE	UNIT
Average Power Dissipation Per Dot	36	36	mW
Peak Forward Current Per Dot	100	100	mA
Continuous Forward Current Per Dot	13	13	mA
Derating Linear From 25℃ Per Dot	0.17	0.17	mA/℃
Reverse Voltage Per Dot	5	5	V
Operating Temperature Range	-35℃ to +85℃		
Storage Temperature Range	-35℃ to +85℃		
Solder Temperature 1/16 Inch Below Seating Plane For 3 Seconds At 260℃			

ELECTRICAL/OPTICAL CHARACTERISTICS AT T_A=25℃

GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	800	2300		ucd	Ip=80mA 1/16 DUTY
Peak Emission Wavelength	λp		565		nm	If=20mA
Spectral Line Half-Width	Δλ		30		nm	If=20mA
Dominant Wavelength	λd		569		nm	If=20mA
Forward Voltage, Per Dot	VF		2.1	2.8	V	If=20mA
			3.0	3.7	V	If=80mA
Reverse Current, Per Dot	Ir			100	uA	Vr=5v
Luminous Intensity Matching Ratio	Iv-m			2:1		If=10mA

ORANGE

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	800	2300		ucd	Ip=80mA 1/16 DUTY
Peak Emission Wavelength	λp		630		nm	If=20mA
Spectral Line Half-Width	Δλ		40		nm	If=20mA
Dominant Wavelength	λd		621		nm	If=20mA
Forward Voltage, Per Dot	VF		2.0	2.8	V	If=20mA
			2.6	3.4	V	If=80mA
Reverse Current, Per Dot	Ir			100	uA	Vr=5v
Luminous Intensity Matching Ratio	Iv-m			2:1		If=10mA

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

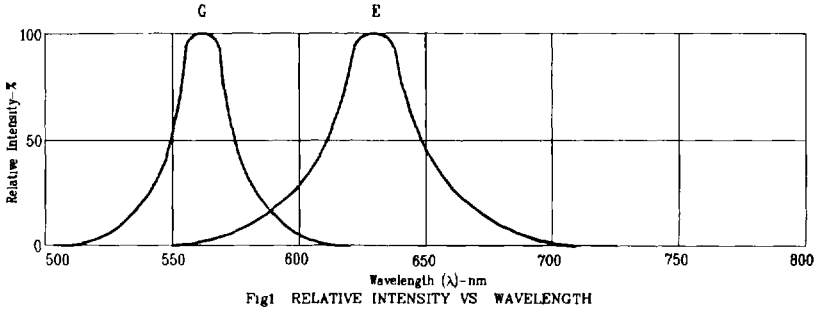


Fig1 RELATIVE INTENSITY VS WAVELENGTH

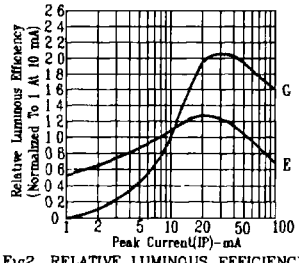


Fig2 RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS PEAK CURRENT

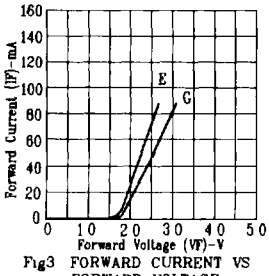


Fig3 FORWARD CURRENT VS FORWARD VOLTAGE

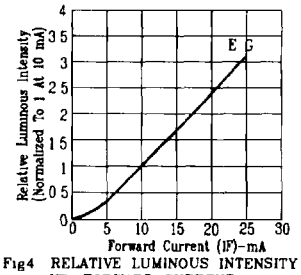


Fig4 RELATIVE LUMINOUS INTENSITY VS FORWARD CURRENT

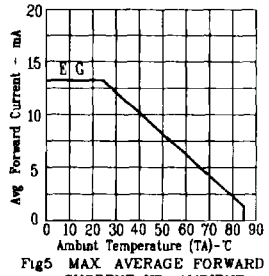


Fig5 MAX AVERAGE FORWARD CURRENT VS AMBIENT TEMPERATURE

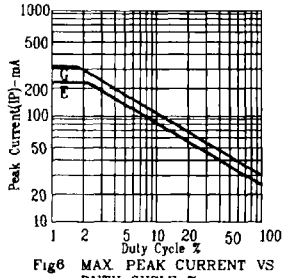


Fig6 MAX PEAK CURRENT VS DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE G=GREEN E=ORANGE (REFRESH RATE 1KHz)