

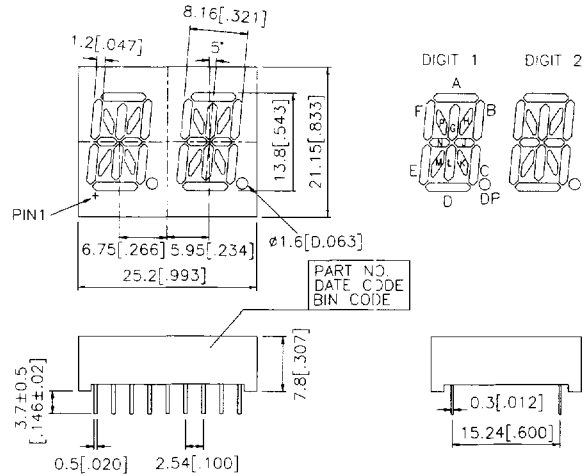
Features

- 0.54 inch (13.8mm) digit height.
- Continuous uniform segments.
- Choices of three bright colors-red/green/orange.
- Low power requirements.
- Excellent character appearance.
- Wide viewing angle.
- Solid state reliability.
- Common anode or common cathode models.
- Categorized for luminous intensity.
- Easy mounting on P.C. board.

Description

The LTP-3784/3786 series are 0.54 inch (13.8mm) height 14-segment dual digit alphanumeric displays. The dual digit displays have gray face and white segments. The red series devices utilize LED chips which are made from GaAsP on a GaAs substrate. The green series devices utilize LED chips which are made from GaP on a transparent GaP substrate. The orange series devices utilize LED chips which are made from GaAsP on a transparent GaP substrate.

Package Dimensions



Notes: All dimensions are in millimeters(inches).
Tolerance: $\pm 0.25\text{mm}$ ($0.010''$) unless otherwise noted.

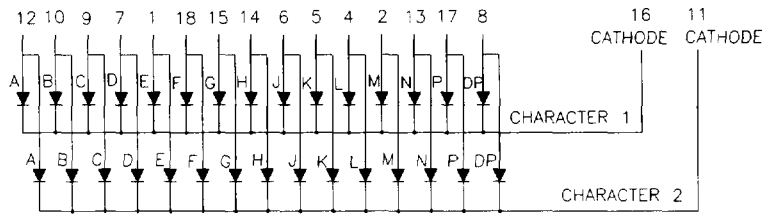
ALPHANUMERIC LED DISPLAYS

Devices

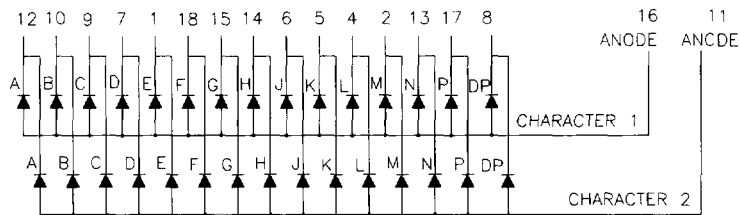
Part No.			Description	Internal Circuit Diagram
Red	Green	Orange		
LTP-3784R	LTP-3784G	LTP-3784E	Multiplex Common Cathode, Rt. Hand Decimal	A
LTP-3786R	LTP-3786G	LTP-3786E	Multiplex Common Anode, Rt. Hand Decimal	B

Internal Circuit Diagrams

A. LTP-3784



B. LTP-3786



Pin Connection

Pin No.	Connection	
	A. LTP-3784	B. LTP-3786
1	Anode E	Cathode E
2	Anode M	Cathode M
3	No Connection	No Connection
4	Anode L	Cathode L
5	Anode K	Cathode K
6	Anode J	Cathode J
7	Anode D	Cathode D
8	Anode D.P.	Cathode D.P.
9	Anode C	Cathode C
10	Anode B	Cathode B
11	Common Cathode, Character 2	Common Anode, Character 2
12	Anode A	Cathode A
13	Anode N	Cathode N
14	Anode H	Cathode H
15	Anode G	Cathode G
16	Common Cathode, Character 1	Common Anode, Character 1
17	Anode P	Cathode P
18	Anode F	Cathode F

Absolute Maximum Rating at Ta=25 °C

Parameter	Red	Green	Orange	Unit
Power Dissipation Per Segment	55	75	75	mW
Peak Forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	150	100	100	mA
Continuous Forward Current Per Segment Derating Linear From 25°C Per Segment	25 0.33	25 0.33	25 0.33	mA mA/ °C
Reverse Voltage Per Segment	5	5	5	V
Operating Temperature Range	-35 °C to +85 °C			
Storage Temperature Range	-35 °C to +85 °C			
Solder Temperature 1/16 inch Below Seating Plane for 3 Seconds at 260 °C				

Electrical / Optical Characteristics at Ta=25 °C

LTP-3784R/3786R

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	Iv	200	400		μ cd	If=10mA
Peak Emission Wavelength	λ P		655		nm	If=20mA
Spectral Line Half-Width	Δ λ		24		nm	If=20mA
Dominant Wavelength	λ d		651		nm	If=20mA
Forward Voltage, any Segment or D.P.	V _F		1.7	2.0	V	If=20mA
Reverse Current, any Segment or D.P.	I _R			100	μ A	V _R =5V
Luminous Intensity Matching Ratio	Iv-m			2:1		If=10mA

LTP-3784G/3786G

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	Iv	500	1800		μ cd	If=10mA
Peak Emission Wavelength	λ P		565		nm	If=20mA
Spectral Line Half-Width	Δ λ		30		nm	If=20mA
Dominant Wavelength	λ d		569		nm	If=20mA
Forward Voltage, any Segment or D.P.	V _F		2.1	2.8	V	If=20mA
Reverse Current, any Segment or D.P.	I _R			100	μ A	V _R =5V
Luminous Intensity Matching Ratio	Iv-m			2:1		If=10mA

LTP-3784E/3786E

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I_v	500	1800		μ cd	$I_F=10mA$
Peak Emission Wavelength	λ_P		630		nm	$I_F=20mA$
Spectral Line Half-Width	$\Delta \lambda$		40		nm	$I_F=20mA$
Dominant Wavelength	λ_d		621		nm	$I_F=20mA$
Forward Voltage, any Segment or D.P.	V_F		2.0	2.8	V	$I_F=20mA$
Reverse Current, any Segment or D.P.	I_R			100	μ A	$V_R=5V$
Luminous Intensity Matching Ratio	I_v-m			2:1		$I_F=10mA$

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

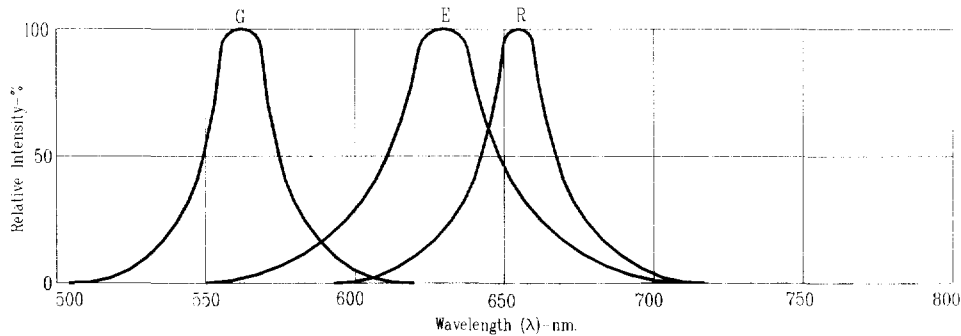


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

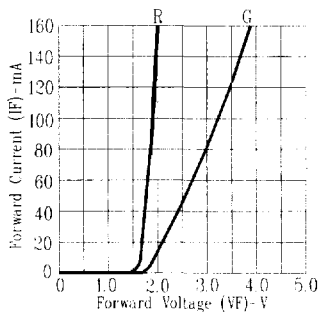


Fig2. FORWARD CURRENT VS. FORWARD VOLTAGE

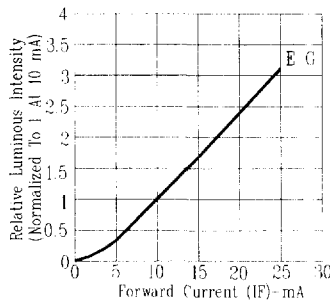


Fig3. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

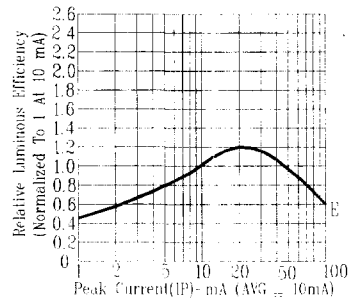


Fig4. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

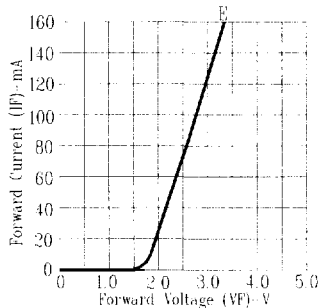


Fig5. FORWARD CURRENT VS. FORWARD VOLTAGE

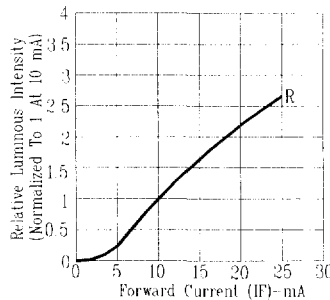


Fig6. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

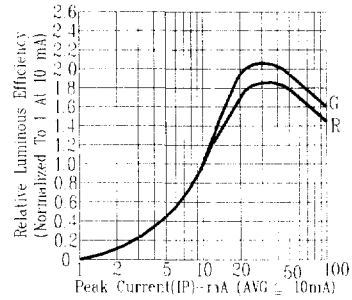


Fig7. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT

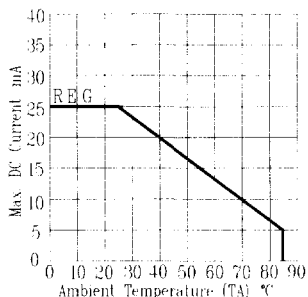


Fig8. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE

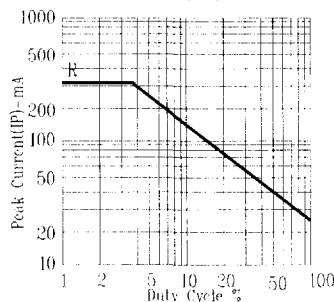


Fig9. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

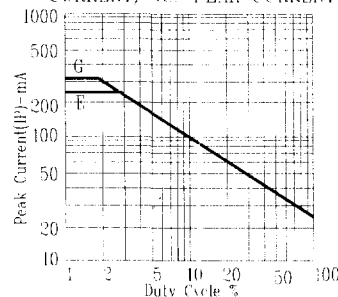


Fig10. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: R-RED G-GREEN E-ORANGE (REFRESH RATE 1KHz)

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