0.6" Four Digit Clock LED Displays

LTC-637 Series

Features

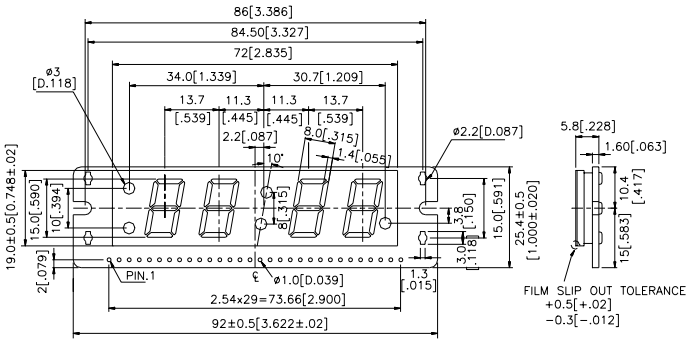
- 0.6 inch (15.0mm) height character red or green color.
- Flexible to select both 12/24 hours and full feature.
- Continuous uniform segments.
- Wide angle, long distance viewing.
- Color filter provides high contrast.
- Low power requirements, high reliability and long life.

Description

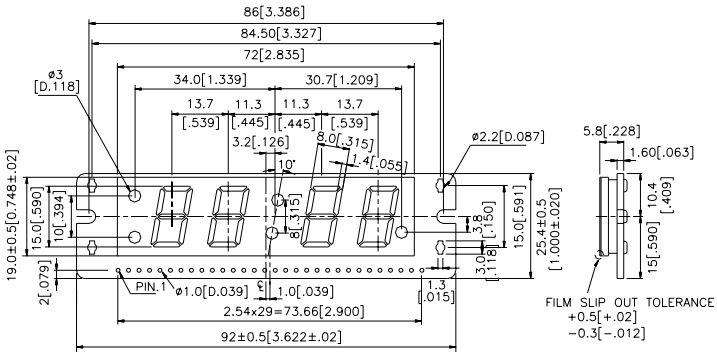
The LTC-6000 series devices are designed for viewing distance of up to two meters and for using in instrument, test equipment, communication equipment, business machines, computers, micro processor...ect.

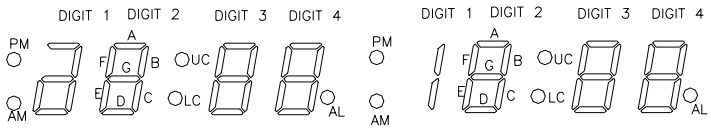
Package Dimensions

A. LTC-637C1X Series



B.LTC-637D1 × Series





Notes:All dimensions are in millimeters (inches).Tolerance:
± 0.25mm (0.010") unless otherwise noted.

Devices

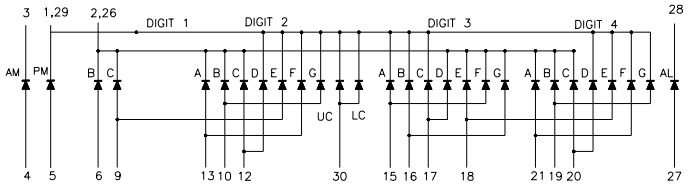
Part No. LTC-		Description				Package Dimension	Internal Circuit Diagram
Bright Red	Green	Drive Mode	Clock	AM/PM	Alarm		
637C1P-12	637C1G-12	Common Cathode	12Hr	AM/PM	LOW	A	A
637C1P	637C1G	Common Cathode	24Hr	AM/PM	LOW	A	B
637D1P-12	637D1G-12	Common Cathode	12Hr	AM/PM	LOW	B	A
637D1P	637D1G	Common Cathode	24Hr	AM/PM	LOW	B	B

Pin Connection

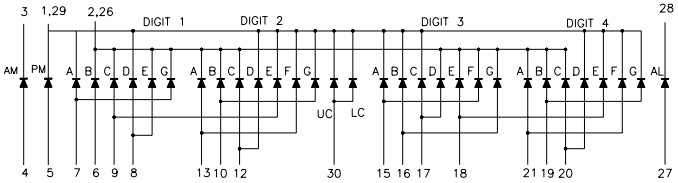
Pin No.	LTL-637C1P-12/LTC-637D1P-12 LTC-637C1G-12/LTC-637D1G-12	LTL-637C1P/LTC-637D1P LTC-637C1G/LTC-637D1G
1	Common Cathode 1	Common Cathode 1
2	Common Cathode 2	Common Cathode 2
3	Cathode AM	Cathode AM
4	Anode AM	Anode AM
5	Anode PM	Anode PM
6	Digit 1 Anode B	Digit 1 Anode B
7	No Use	Digit 1 Anode A, Digit 1 Anode G
8	No Use	Digit 1 Anode D, Digit 1 Anode E
9	Digit 2 Anode E, Digit 1 Anode C	Digit 2 Anode E, Digit 1 Anode C
10	Digit 2 Anode B, Digit 2 Anode G	Digit 2 Anode B, Digit 2 Anode G
11	No Use	No Use
12	Digit 3 Anode A, Digit 2 Anode D	Digit 2 Anode C, Digit 2 Anode D
13	Digit 2 Anode A, Digit 2 Anode F	Digit 2 Anode A, Digit 2 Anode F
14	No Use	No Use
15	Digit 3 Anode A, Digit 3 Anode F	Digit 3 Anode A, Digit 3 Anode F
16	Digit 3 Anode B, Digit 3 Anode G	Digit 3 Anode B, Digit 3 Anode G
17	Digit 3 Anode C, Digit 3 Anode D	Digit 3 Anode C, Digit 3 Anode D
18	Digit 3 Anode E, Digit 4 Anode E	Digit 3 Anode E, Digit 4 Anode E
19	Digit 4 Anode B, Digit 4 Anode G	Digit 4 Anode B, Digit 4 Anode G
20	Digit 4 anode C, Digit 4 Anode D	Digit 4 Anode C, Digit 4 Anode D
21	Digit 4 Anode A, Digit 4 Anode F	Digit 4 Anode A, Digit 4 Anode F
22	No Connection	No Connection
23	No Connection	No Connection
24	No Connection	No Connection
25	No Connection	No Connection
26	Common Cathode 2	Common Cathode 2
27	Anode AL	Anode AL
28	Cathode AL	Cathode AL
29	Common Cathode 1	Common Cathode 1
30	Anode UC, Anode LC	Anode UC, Anode LC

Internal Circuit Diagrams

A. LTC-637C1P-12/637D1P-12/637C1G-12/637D1G-12



B. LTC-637C1P/637D1P/637C1G/637D1G



Absolute Maximum Ratings at Ta=25℃

Parameter	Bright Red	Green	Unit
Power Dissipation Per Segment	40	75	mW
Peak forward Current Per Segment (1/10 Duty Cycle, 0.1ms Pulse Width)	60	100	mA
Continuous forward Current Per Segment Derating Linar From 25℃ Per segment	15 0.2	25 0.33	mA mA/℃
Reverse Voltage Per Segment	5	5	V
Operating Temperature Range	-25℃ to +65℃		
Storage Temperature Range	-25℃ to +65℃		
Ma x. solder Temperature 260℃ from 3 Seconds at 2 mm from The Case or Reflector Edge			

Electrical/Optical Characteristics at Ta=25℃
Bright Red

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I_V	125	350		μ cd	I_F=10mA
Peak Emission Wavelength	λ P		697		nm	I_F=20mA
Spectral Line Half-Width	$\Delta\lambda$		90		nm	I_F=20mA
Dominant Wavelength	λ d		638		nm	I_F=20mA
Forward Voltage, any Segment or D.P.	V_F		2.1	2.6	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

Green

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Average Luminous Intensity	I_V	200	600		μ cd	I_F=10mA
Peak Emission Wavelength	λ P		565		nm	I_F=20mA
Spectral Line Half-Width	$\Delta\lambda$		30		nm	I_F=20mA
Dominant Wavelength	λ d		569		nm	I_F=20mA
Forward Voltage, any Segment or D.P.	V_F		2.1	2.6	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

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℃ Ambient Temperature Unless Otherwise Noted)

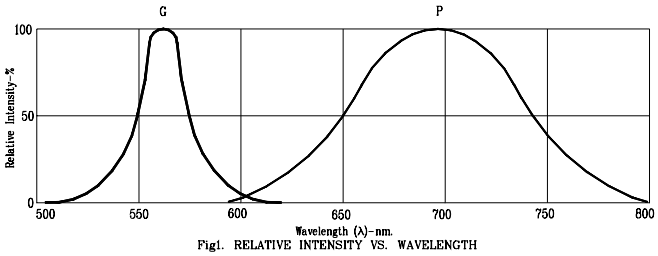


Fig1. RELATIVE INTENSITY VS. WAVELENGTH

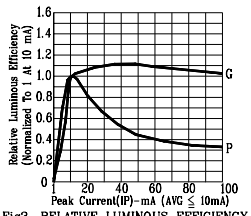


Fig2. RELATIVE LUMINOUS EFFICIENCY (LUMINOUS INTENSITY PER UNIT CURRENT) VS. PEAK CURRENT (REFRESH RATE 1KHz)

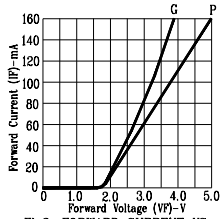


Fig3. FORWARD CURRENT VS. FORWARD VOLTAGE

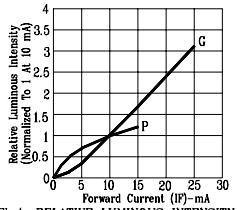


Fig4. RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

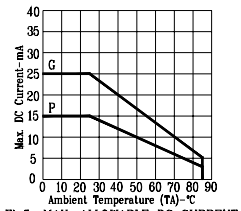


Fig5. MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE.

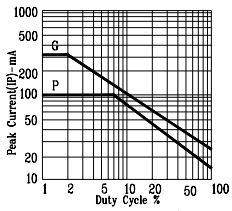


Fig6. MAX. PEAK CURRENT VS. DUTY CYCLE % (REFRESH RATE 1KHz)

NOTE: G=GREEN P=BRIGHT RED (REFRESH RATE 1KHz)