



LTC-14000 SERIES

1.4" FOUR DIGIT LED CLOCK FREQUENCY DISPLAY

FEATURES

- 1.4 INCH (35.56mm) HEIGHT CHARACTER RED OR GREEN COLOR.
- COMMON CATHODE, COMMON ANODE; DIRECT, DUPLEX AND MULTIPLEX PIN OUT ARE AVAILABLE.
- CONTINUOUS UNIFORM SEGMENTS.
- WIDE ANGLE, LONG DISTANCE VIEWING.
- COLOR FILTER PROVIDES HIGH CONTRAST. LOW POWER REQUIREMENTS, HIGH RELIABILITY AND LONG LIFE.
- PRACTICAL BRIGHTNESS ARE OBTAINED AT ABOUT 8MA/SEGMENT DIRECT DRIVE; 20MA (WITH 1/2 DUTY RATIO) FOR DUPLEX DRIVE; 50MA (WITH 1/2 DUTY RATIO) FOR MULTIPLEX DRIVE.
- BRIGHT RED (GaAsP) 4 DIGIT LED CLOCK DISPLAY VERSION STANDARD.



DESCRIPTION

The LTC-14000 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 . . . etc.

DEVICES

PART NO. LTC-	DESCRIPTION				PIN OUT			
	DRIVE		COLOR		SEG A.G.D. E.F. OF 1ST DIGIT	ALARM		AM / PM
	FORM	CIRCUIT	BRIGHT RED	GREEN		UP	LOW	
14501A1P-2	C.C.	DPX.	V		NO		V	V/V
14501A1G-2	C.C.	DPX.		V	NO		V	V/V

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ABSOLUTE MAXIMUM RATINGS AT $T_A = 25^\circ\text{C}$

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
Average Forward Current Per Segment/D.P. Direct Drive Current	I_{CF}	20	mA
Peak Forward Current Per Segment/D.P. (Duty 1/10 1 KHz)	I_{PF}	150	mA
Continuous Forward Current Duplex Circuit (Duty 1/2)	I_F/pulse	30	mA
Reverse Voltage (Segment or Decimal Point)	V_R	5	V
Operating Temperature Range	T_{opr}	-25°C to 60°C	
Storage Temperature Range	T_{stg} T_{stg}	-25°C to 70°C	
Derating Linear From 25°C	P_D	2.4	mW
Derating Linear From 25°C		0.42	$\text{mA}/^\circ\text{C}$
Max. Solder Temperature 260°C From 3 Seconds at 2mm From the Case or Reflector Edge			

NOTE: Caution

Please be careful of the following.

- 1) Avoid washing the LED DISPLAY in water.
- 2) Except for the printed wiring board, Avoid heating the LED DISPLAY over MAXIMUM RATING.
- 3) Avoid using chemicals except for the following, when washing off flux and wiping off stain on surface of the LED DISPLAY

Freon TE or TF

Methyl or Ethyl Alcohol

Dal-Fron Solvent S3 or S3-E

ELECTRICAL/OPTICAL CHARACTERISTICS AT $T_A = 25^\circ\text{C}$

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Luminous Intensity	I_v	245	600		μcd	$I_F = 10 \text{ mA}$
Peak Emission Wavelength	λ_p		697		nm	$I_F = 20 \text{ mA}$
Spectral Line Half-Width	$\Delta\lambda$		90		nm	$I_F = 20 \text{ mA}$
Forward Voltage	V_F		2.1	2.8	V	$I_F = 20 \text{ mA}$
Reverse Current	I_R			100	μA	$V_R = 5\text{V}$
Luminous Intensity Matching Ratio	I_{vm}			2:1		$I_F = 10 \text{ mA}$

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

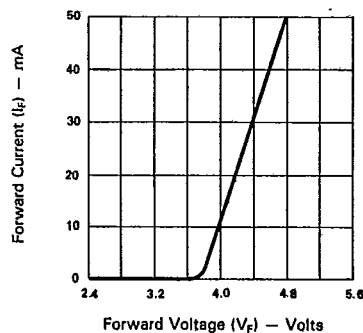


Fig. 1 FORWARD CURRENT Vs. FORWARD VOLTAGE.

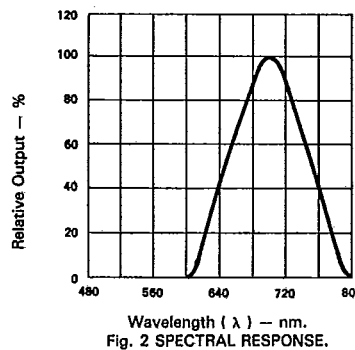


Fig. 2 SPECTRAL RESPONSE.

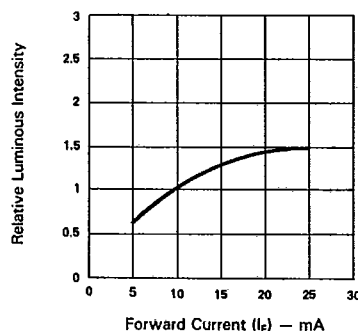


Fig. 3 RELATIVE LUMINOUS INTENSITY Vs. FORWARD CURRENT (PER SEGMENT).

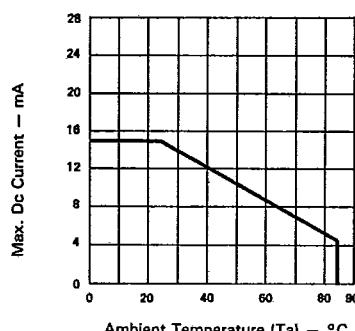


Fig. 4 MAX. ALLOWABLE DC CURRENT PER SEG. Vs AMBIENT TEMPERATURE.

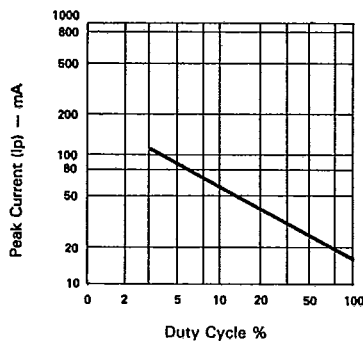


Fig. 5 MAX. PEAK CURRENT Vs. DUTY CYCLE. (REFRESH RATE - F = 1 KHz)

LED CLOCK &
FREQUENCY DISPLAYS