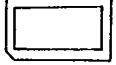

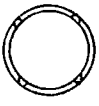
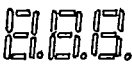
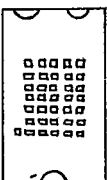
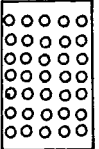
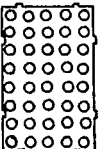


LED DIGIT DISPLAYS

T-41-33

OK

Display Size	Type No. and Remark (*)	New Model No.	Chip		C. C. or C. A.	Peak Wave Length λ_p (nm)	Absolute Maximum Ratings				Electro-Optical Characteristics						Pack- age Fig.
			Material	Emitted Color			$\Delta\lambda$ (nm)	P_o (mW)	I_f (mA)	Peak I_f (mA)	V_f (V)			I_v (μ cd)			
											Min.	Typ.	Max.	Rec. I_f (mA)	Min.	Typ.	
12.7mm x 6.35mm Light Bar LED Lamp 	B1010ID **	ELB-57173HR	GaAsP/GaP	Hi-Eff. Red	-	635	48	100	30	160	1.7	2.0	2.8	10-20	3800	9800	28
	B1010GD *	ELB-54173G	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	3800	9800	
	B1010YD	ELB-53173Y	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	3800	9800	
	B1010ED	ELB-57173E	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	3800	9800	
16mm x 14 mm Light Bar LED Lamp 	B1020ID **	-	GaAsP/GaP	Hi-Eff. Red	-	635	45	100	30	160	1.7	2.0	2.8	10-20	3800	9800	29
	B1020GD *	-	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	3800	9800	
	B1020YD	-	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	3800	9800	
	B1020ED	-	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	3800	9800	
Round Type 20.0mm Big Lamp 	1100ID	EL-811HR	GaAsP/GaP	Hi-Eff. Red	-	635	45	100	30	160	1.7	2.0	2.8	10-20	11000	25000	30
	1100GD	EL-811G	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	11000	25000	
	1100YD	EL-811Y	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	9000	22000	
	1101ID	EL-1001ID	GaAsP/GaP	Hi-Eff. Red		635	45	100	30	160	1.7	2.0	2.8	10-20	11000	25000	
	1101GD	EL-1101GD	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	11000	25000	
0.56 inch Tri-Digit 	T511RDB	ELT-571R	GaAsP	Red	Common	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	31
	T511HWB *	ELT-571P	GaP	Bright Red		697	90	45	15	50	1.7	2.1	2.8	5-10	300	700	
	T511IDR	ELT-571HR	GaAsP/GaP	Hi-Eff. Red		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	
	T511GWA *	ELT-571G	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
	T511YWB	ELT-571Y	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	700	1700	
	T511EDE	ELT-571E	GaAsP/GaP	Orange	635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000		
	T512RDB	ELT-561R	GaAsP	Red	Common	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	
	T512HWB *	ELT-561P	GaP	Bright Red		697	90	45	15	50	1.7	2.1	2.8	5-10	300	700	
	T512IDR	ELT-561HR	GaAsP/GaP	Hi-Eff. Red		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	
	T512GWA *	ELT-561G	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
T512YWB	ELT-561Y	GaAsP/GaP	Yellow	585		35	85	20	160	1.7	2.0	2.8	10-20	700	1700		
T512EDE	ELT-561E	GaAsP/GaP	Orange	635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000			
0.3 inch 5x7 Dot Matrix 	M301RT	-	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	220	400	32
	M301IT	-	GaAsP/GaP	Hi-Eff. Red		635	45	100	30	160	1.7	2.0	2.8	10-20	650	1500	
	M301GT	-	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	650	1500	
	M301YT	-	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	400	900	
	M301ET	-	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	650	1500	
	M302RT **	ELM-305R	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	220	400	
	M302IT	ELM-305HR	GaAsP/GaP	Hi-Eff. Red		635	45	100	30	160	1.7	2.0	2.8	10-20	650	1500	
	M302GT *	ELM-305G	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	650	1500	
	M302YT	ELM-305Y	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	400	900	
M302ET	ELM-305E	GaAsP/GaP	Orange	635	45	100	30	160	1.7	2.0	2.8	10-20	650	1500			
1.2 inch 5x7 Dot Matrix 	M1001RDB	ELM-1157AR	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	33
	M1001GWA *	ELM-1157AG	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
	M1001YWA	ELM-1157AY	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	450	900	
	M1001EWA	ELM-1157AE	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	
	M1002RDB	ELM-1057AR	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	
	M1002GWA	ELM-1057AG	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
	M1002YWA	ELM-1057AY	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	450	900	
	M1002EWA	ELM-1057AE	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	
1.4 inch 5x8 Dot Matrix 	M1081RDB	ELM-1081RDB	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	34
	M1081GWA	ELM-1081GWA	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
	M1081YWA	ELM-1081YWA	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	450	900	
	M1081EWA	ELM-1081EWA	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	
	M1082RDB	ELM-1082RDB	GaAsP	Red	Column	655	40	110	40	200	1.5	1.7	2.0	10-20	200	500	
	M1082GWA	ELM-1082GWA	GaP	Green		565	30	100	30	160	1.7	2.1	2.8	10-20	800	2000	
	M1082YWA	ELM-1082YWA	GaAsP/GaP	Yellow		585	35	85	20	160	1.7	2.0	2.8	10-20	450	900	
	M1082EWA	ELM-1082EWA	GaAsP/GaP	Orange		635	45	100	30	160	1.7	2.0	2.8	10-20	800	2000	

LED DIGIT DISPLAYS

EVERLIGHT

T-4(-33)

TEST CONDITION FOR EACH PARAMETER:

Parameter:	Symbol	Unit	Test Condition
Reverse Voltage	V_R	VOLT	$V_R = 5.0$ Volt
Reverse Current	I_R	μ A	$I_F = 20$ mA
Forward Voltage	V_F	VOLT	$I_F = 10$ mA
Luminous Intensity	I_v	μ CD	$I_F = 20$ mA
Luminous Intensity Matching Ratio	$I_v - m$		
Spectral Line Half-Width	$\Delta\lambda$	nm	
Power Dissipation	P_D	mW	
Peak Forward Current (Duty 1/10 1KHz)	I_F (Peak)	mA	
Recommended Operating Current	I_F (Rec)	mA	

ABSOLUTE MAXIMUM RATINGS: (Ta = 25°C)

Reverse Voltage	5 Volt
Reverse Current ($V_R = 5V$)	10 μ A
Operating Temperature Range	-40°C To 85°C
Storage Temperature Range	-40°C To 100°C
Lead Soldering Temperature	260°C For 5 Seconds
(1.6mm (1/16 inch) From Body)	

REMARKS:

- $I_v - m = 2.1$
- The most popular Types • Common Types The rest are special Types
- Hi-Eff. Red -- High Efficiency Red

PACKAGE DIMENSIONS:

Fig-28

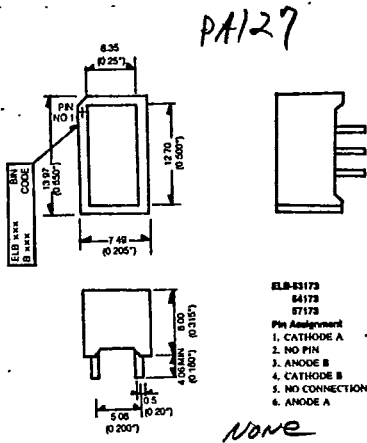


Fig-29

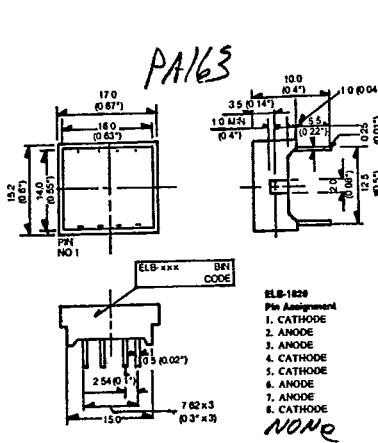


Fig-30

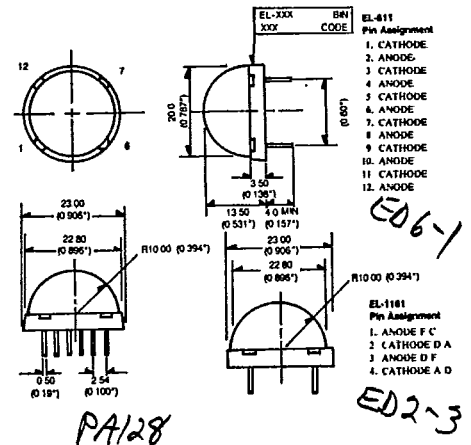


Fig-31

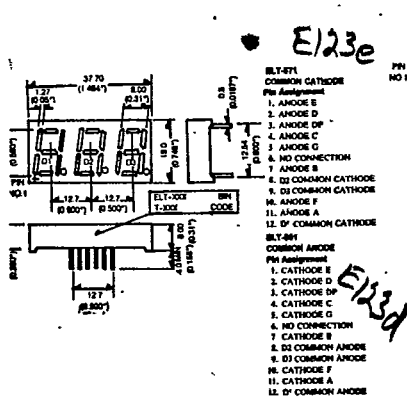


Fig-32

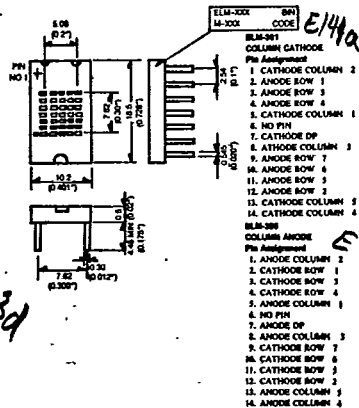


Fig-33

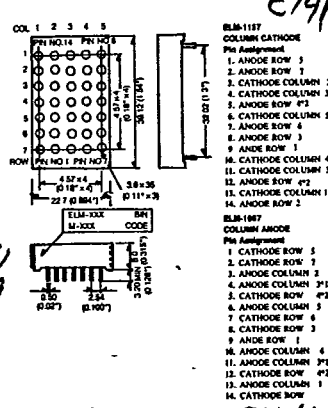
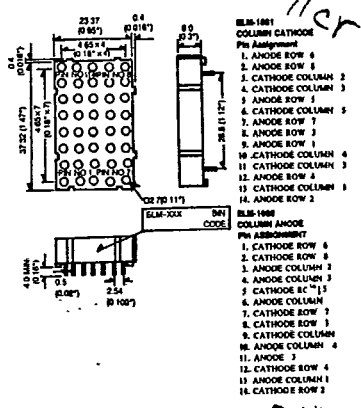


Fig-34



NOTE:

1. The average luminous intensity is obtained by summing the luminous intensity of each segment and divided by the total number of segments. The displays are categorized for luminous intensity with the intensity category designed by a letter located on the side of the package.
2. Luminous intensity is measured with a light sensor and filter, combination that approximates the CIE (International Commission, on Illumination) eye-response curve.
3. Clean only in water, isopropanol, ethanel, Freon TF or TF (or equivalent)
4. All dimensions are in millimeters/inches. Tolerance = ± 0.25 mm / ± 0.1 inch