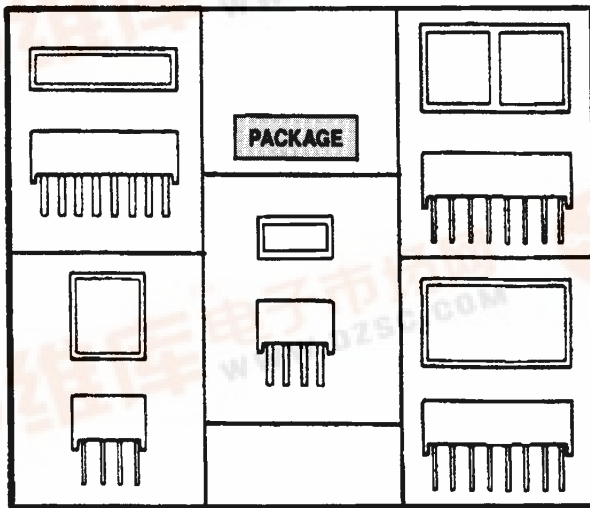




LED LIGHT BARS

**HIGH EFFICIENCY RED HLMP-2300/2600 SERIES
YELLOW HLMP-2400/2700 SERIES
HIGH EFFICIENCY GREEN HLMP-2500/2800 SERIES**



DESCRIPTION

These LED Light Bar series are bright, large emitting area, rectangular devices that are designed for backlighting legend/message annunciators.

These devices are offered in single-in-line and dual-in-line packages that contain single or segmented light-emitting area. Each package style is offered in High Efficiency Red, Yellow, or Green emission color.

FEATURES

- Large area, uniform, bright light-emitting surfaces
- Select from six package styles
- Choice of three colors
- Categorized for intensity and color
- X-Y stackable
- Easily driven with I.C.s
- Alternate source for popular backlighting components

MODEL NUMBERS

PART NO.	COLOR	DESCRIPTION		PACKAGE	PIN OUT
HLMP-2300	High Efficiency Red	2 LED Single-in-line			
HLMP-2400	Yellow	0.35 in. x 0.15 in. Area		A	A
HLMP-2500	High Efficiency Green				
HLMP-2350	High Efficiency Red	4 LED Single-in-line			
HLMP-2450	Yellow	0.75 in. x 0.15 in. Area		B	B
HLMP-2550	High Efficiency Green				
HLMP-2655	High Efficiency Red	4 LED Dual-in-line			
HLMP-2755	Yellow	0.35 in. x 0.35 in. Area		C	C
HLMP-2855	High Efficiency Green				
HLMP-2670	High Efficiency Red	Dual 0.35 in. x 0.35 in. Area			
HLMP-2770	Yellow	Dual-in-line package		D	D
HLMP-2870	High Efficiency Green				
HLMP-2685	High Efficiency Red	8 LED 0.35 in. x 0.75 in. Area			
HLMP-2785	Yellow	Dual-in-line package		E	D
HLMP-2885	High Efficiency Green				

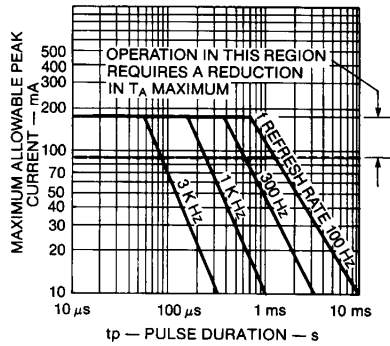


ELECTRO-OPTICAL CHARACTERISTICS (T_A=25°C)									
HIGH EFFICIENCY RED									
PARAMETER	SYMBOL	HLMP					UNIT	TEST CONDITIONS	
		-2300	-2350	-2655	-2670	-2685			
Luminous Intensity	min.		6.0	13	13	13	22	mcd	I _F =20 mA
	typ.	I _V	23	45	43	45	80	mcd	I _F =20 mA
	typ.		30	50	50	50	100	mcd	I _F =60 mA pK, 1:3 D.F.
Forward voltage	max.	V _F	2.6	2.6	2.6	2.6	2.6	V	I _F =20 mA
	typ.		2.0	2.0	2.0	2.0	2.0		
Peak wavelength	typ.	λ _p	630	630	630	630	630	nm	
Dominant wavelength	typ.	λ _d	626	626	626	626	626	nm	
Capacitance	typ.	C	45	45	45	45	45	pF	V _F =0, f=1 MHz
Reverse voltage	min.	V _R	6	6	6	6	6	V	I _R =100 μA
Thermal resistance	typ.	θ _{JL}	150	150	150	150	150	°C/W/ LED chip	

ELECTRO-OPTICAL CHARACTERISTICS (T_A=25°C)									
YELLOW									
PARAMETER	SYMBOL	HLMP					UNIT	TEST CONDITIONS	
		-2400	-2450	-2755	-2770	-2785			
Luminous Intensity	min.		6	13	13	13	26	mcd	I _F =20 mA
	typ.	I _V	20	38	35	35	70	mcd	I _F =20 mA
	typ.		33	60	60	60	115	mcd	I _F =60 mA pK, 1:3 D.F.
Forward voltage	max.	V _F	2.6	2.6	2.6	2.6	2.6	V	I _F =20 mA
	typ.		2.1	2.1	2.1	2.1	2.1		
Peak wavelength	typ.	λ _p	585	585	585	585	585	nm	
Dominant wavelength	typ.	λ _d	588	588	588	588	588	nm	
Capacitance	typ.	C	35	35	35	35	35	pF	V _F =0, f=1 MHz
Reverse voltage	min.	V _R	6	6	6	6	6	V	I _R =100 μA
Thermal resistance	typ.	θ _{JL}	150	150	150	150	150	°C/W/ LED chip	

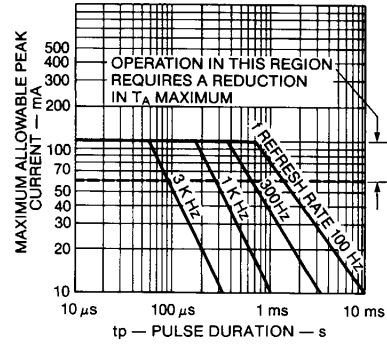
ELECTRO-OPTICAL CHARACTERISTICS (T_A=25°C)									
HIGH EFFICIENCY GREEN									
PARAMETER	SYMBOL	HLMP					UNIT	TEST CONDITIONS	
		-2500	-2550	-2855	-2870	-2885			
Luminous Intensity	min.		5	11	11	11	22	mcd	I _F =20 mA
	typ.	I _V	25	50	50	50	100	mcd	I _F =20 mA
	typ.		38	75	75	75	150	mcd	I _F =60 mA pK, 1:3 D.F.
Forward voltage	max.	V _F	2.6	2.6	2.6	2.6	2.6	V	I _F =20 mA
	typ.		2.2	2.2	2.2	2.2	2.2		
Peak wavelength	typ.	λ _p	565	565	565	565	565	nm	
Dominant wavelength	typ.	λ _d	567	567	567	567	567	nm	
Capacitance	typ.	C	40	40	40	40	40	pF	V _F =0, f=1 MHz
Reverse voltage	min.	V _R	6	6	6	6	6	V	I _R =100 μA
Thermal resistance	typ.	θ _{JL}	150	150	150	150	150	°C/W/ LED chip	

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES
(25°C Free Air Temperature Unless Otherwise Specified)



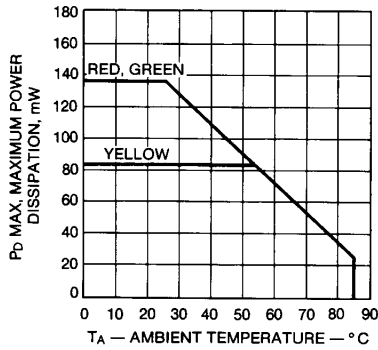
C2013

Fig. 1. Maximum Tolerable Peak Current per LED Chip vs. Pulse Duration for HLMP-23X0/-26XX/-25X0/-28XX



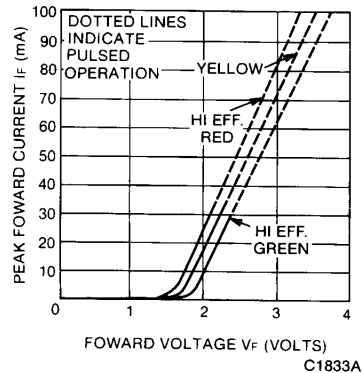
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Fig. 2. Maximum Tolerable Peak Current per LED Chip vs. Pulse Duration for HLMP-24X0/-27XX Devices



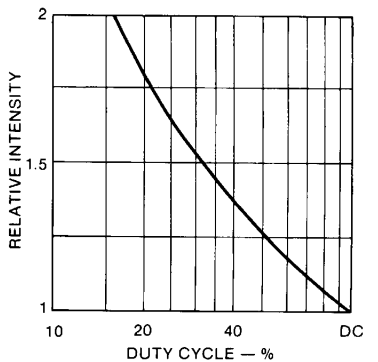
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Fig. 3. Maximum Power Dissipation per LED vs. Ambient Temperature



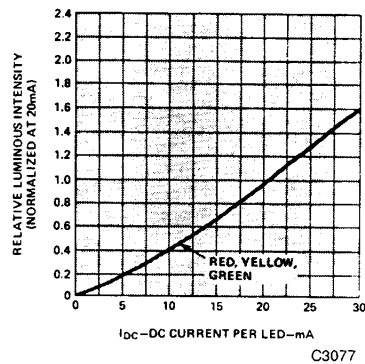
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Fig. 4. Forward Current vs. Forward Voltage



C1194C

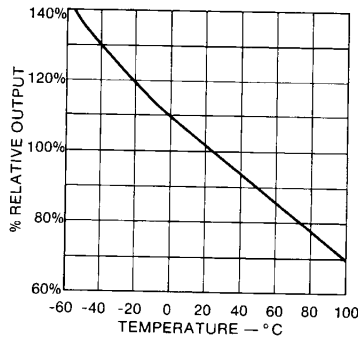
Fig. 5. Luminous Intensity vs. Duty Cycle



C3077

Fig. 6. Luminous Intensity vs. Forward Current

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES
(25°C Free Air Temperature Unless Otherwise Specified) (Cont'd)



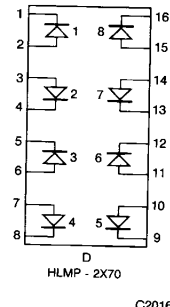
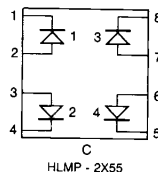
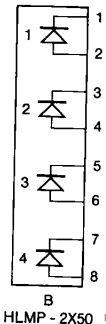
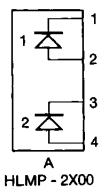
C654B

Fig. 7. Output vs. Temperature

PIN CONNECTIONS TO ELECTRICAL SCHEMATIC

PIN	ELECTRICAL CONNECTION			
	HLMP-2X00	HLMP-2X50	HLMP-2X55	HLMP-2X70/-2X85
1	1 Cathode	1 Cathode	1 Cathode	1 Cathode
2	1 Anode	1 Anode	1 Anode	1 Anode
3	2 Cathode	2 Cathode	2 Anode	2 Anode
4	2 Anode	2 Anode	2 Cathode	2 Cathode
5		3 Cathode	3 Cathode	3 Cathode
6		3 Anode	3 Anode	3 Anode
7		4 Cathode	4 Anode	4 Anode
8		4 Anode	4 Cathode	4 Cathode
9				5 Cathode
10				5 Anode
11				6 Anode
12				6 Cathode
13				7 Cathode
14				7 Anode
15				8 Anode
16				8 Cathode

ELECTRICAL SCHEMATIC



C2016



LED LIGHT BARS

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