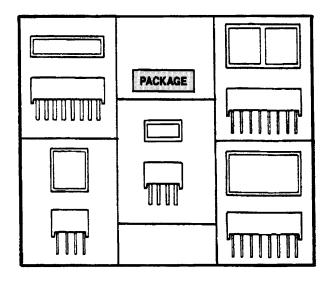


# HIGH EFFICIENCY RED HLMP-2300/2600 SERIES YELLOW HLMP-2400/2700 SERIES HIGH EFFICIENCY GREEN HLMP-2500/2800 SERIES



# 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 HLMP-2400 HLMP-2500	High Efficiency Red Yellow High Efficiency Green	2 LED Single-in-line 0.35 in.×0.15 in. Area	A	A
HLMP-2350 HLMP-2450 HLMP-2550	High Efficiency Red Yellow High Efficiency Green	4 LED Single-in-line 0.75 in.×0.15 in. Area	В	В
HLMP-2655 HLMP-2755 HLMP-2855	High Efficiency Red Yellow High Efficiency Green	4 LED Dual-in-line 0.35 in.×0.35 in. Area	С	с
HLMP-2670 HLMP-2770 HLMP-2870	High Efficiency Red Yellow High Efficiency Green	Dual 0.35 in.×0.35 in. Area Dual-in-line package	D	D
HLMP-2685 HLMP-2785 HLMP-2885	High Efficiency Red Yellow High Efficiency Green	8 LED 0.35 in. ×0.75 in. Area Dual-in-line package	E	D



SEMICONDUCTOR

	HIGH EFFICIENCY RED HIGH EFFICIENCY GREEN HLMP-2300/-2500 -2600/-2800 SERIES	YELLOW HLMP-2400/ -2700 SERIES
Power dissipation per LED chip (See Note 1)	135 mW	85 mW
Peak forward current per LED chip,		
T <sub>A</sub> =50°C (max. pulse width=2 ms) (See Notes 1 and 2)	90 mA	60 mA
Average forward per LED chip pulsed conditions,		
T <sub>A</sub> =50°C (See Note 2)	25 mA	20 mA
DC forward current per LED chip,		
T <sub>A</sub> =50°C (See Note 3)	30 mA	25 mA
Reverse voltage per LED chip	6V	6V
Storage and operating temperature range	-40°C to +85°C	-40°C to +85°C
Soldering time at 260°C (See Note 4)	260°C for 3 sec.	260°C for 3 sec.

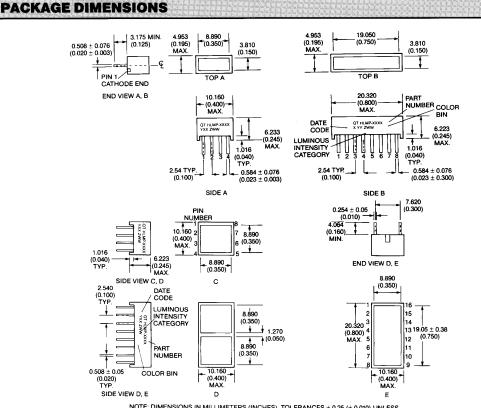
#### NOTES

1. For HLMP-2300/-2500/-2600/-2800 Series, derate above T<sub>A</sub>=25°C at 1.8 mW/°C per LED chip. For HLMP-2400/-2700 Series, derate above T<sub>A</sub>=50°C at 1.8 mW/°C per LED chip.

2. See Figure 1/2 to establish pulse operating conditions.

For HLMP-2300/-2500/-2600/-2800 Series, derate above T<sub>A</sub>=50°C at 0.5 mA/°C per LED chip. For HLMP-2400/-2700 Series derate above T<sub>A</sub>=60°C at 9.5 mA/°C per LED chip.

4. Lead immersed to 1/16 in. from body of the device. Maximum unit surface temperature is 140°C.



NOTE: DIMENSIONS IN MILLIMETERS (INCHES). TOLERANCES ± 0.25 (± 0.010) UNLESS OTHERWISE INDICATED C2015



SEMICONDUCTOR

					HLMP				TEST
PARAMETER		SYMBOL	-2300	-2350	-2655	-2670	-2685	UNIT	CONDITIONS
Luminous	min.		6.0	13	13	13	22	mcd	I <sub>F</sub> =20 mA
Intensity	typ.	l <sub>v</sub>	23	45	43	45	80	mcd	l <sub>⊧</sub> =20 mA
intensity	typ.		30	50	50	50	100	mcd	I <sub>F</sub> =60 mA pK, 1:3 D.F
Forward	max.	VF	2.6	2.6	2.6	2.6	2.6	v	l₌=20 mA
voltage	typ.	VF	2.0	2.0	2.0	2.0	2.0	v	1F-20 MA
Peak wavelength	typ.	$\lambda_{p}$	630	630	630	630	630	nm	
Dominant wavelength	typ.	$\lambda_{d}$	626	626	626	626	626	nm	
Capacitance	typ.	С	45	45	45	45	45	pF	V <sub>F</sub> =0, f=1 MHz
Reverse voltage	min.	V <sub>R</sub>	6	6	6	6	6	v	I <sub>R</sub> =100 μA
Thermal resistance	typ.	θ <sub>JL</sub>	150	150	150	150	150	°C/W/ LED chip	

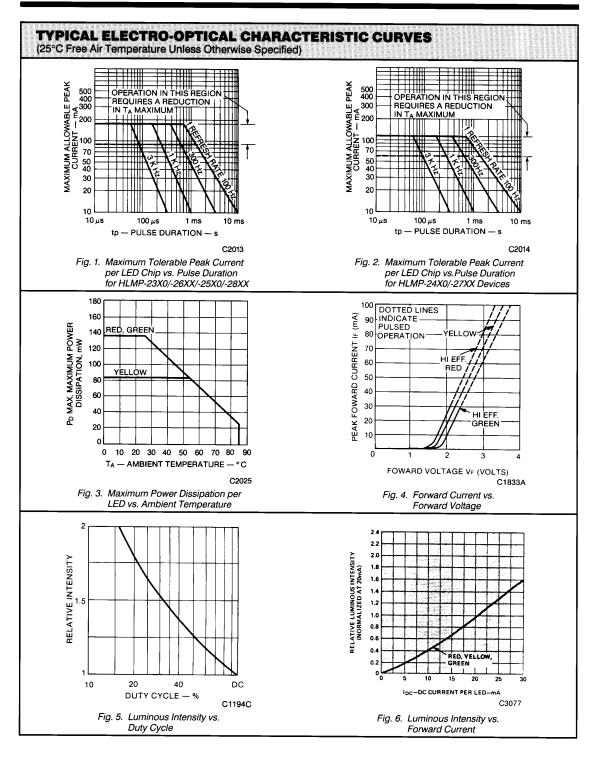
ELECTRO-OPTICAL CHARACTERISTICS (T<sub>A</sub>=25°C) YELLOW

					HLMP				TEST
PARAMETER		SYMBOL	-2400	-2450	-2755	-2770	-2785	UNIT	CONDITIONS
Luminous	min.		6	13	13	13	26	mcd	I <sub>F</sub> =20 mA
	typ.	l <sub>v</sub>	20	38	35	35	70	mcd	l₅=20 mA
Intensity	typ.		33	60	60	60	115	mcd	l <sub>F</sub> =60 mA pK, 1:3 D.F.
Forward	max.	VF	2.6	2.6	2.6	2.6	2.6	v	l₌=20 mA
voltage	typ.	VF	2.1	2.1	2.1	2.1	2.1	v	I <sub>F</sub> ≡20 mA
Peak wavelength	typ.	$\lambda_{p}$	585	585	585	585	585	nm	
Dominant wavelength	typ.	$\lambda_{d}$	588	588	588	588	588	nm	
Capacitance	typ.	С	35	35	35	35	35	pF	V <sub>F</sub> =0, f=1 MHz
Reverse voltage	min.	V <sub>R</sub>	6	6	6	6	6	V	I <sub>R</sub> =100 μA
Thermal resistance	typ.	θ"	150	150	150	150	150	°C/W/ LED chip	

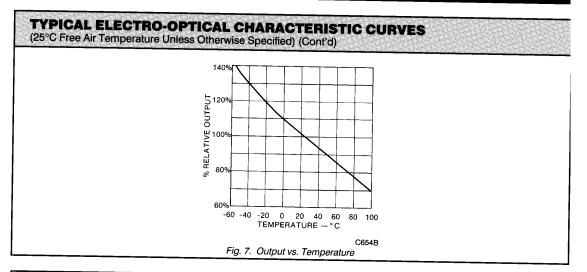
ELECTR HIGH EFFI			CHARA	CTERIS	STICS (1	ſ₄=25°C)			
		****			HLMP				TEST
PARAMETER		SYMBOL	-2500	-2550	-2855	-2870	-2885	UNIT	CONDITIONS
Luncingues	min.		5	11	11	11	22	mcd	I <sub>F</sub> =20 mA
Luminous	tvp.	L.	25	50	50	50	100	mcd	L=20 mA

Intensity	typ.	v	25	50	50	50	100	mcu	$I_F = 20 \text{ mA}$
intensity	typ.		38	75	75	75	150	mcd	I <sub>F</sub> =60 mA pK, 1:3 D.F.
Forward	max.	VF	2.6	2.6	2.6	2.6	2.6	v	l₌=20 mA
voltage	typ.	VF	2.2	2.2	2.2	2.2	2.2	v	I <sub>F</sub> =20 MA
Peak wavelength	typ.	$\lambda_p$	565	565	565	565	565	nm	
Dominant wavelength	typ.	$\lambda_{d}$	567	567	567	567	567	nm	
Capacitance	typ.	С	40	40	40	40	40	pF	$V_F = 0$ , f=1 MHz
Reverse voltage	min.	V <sub>R</sub>	6	6	6	6	6	v	I <sub>B</sub> =100 μA
Thermal resistance	typ.	ϴϧϲ	150	150	150	150	150	°C/W/ LED chip	1

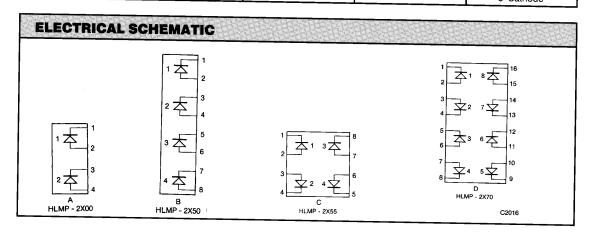








PIN	ELECTRICAL CONNECTION									
	HLMP-2X00	HLMP-2X50	HLMP-2X55	HLMP-2X70/-2X85						
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	1 Cathode 1 Anode 2 Cathode 2 Anode	1 Cathode 1 Anode 2 Cathode 2 Anode 3 Cathode 3 Anode 4 Cathode 4 Anode	1 Cathode 1 Anode 2 Anode 2 Cathode 3 Cathode 3 Anode 4 Anode 4 Cathode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





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