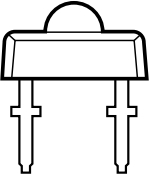
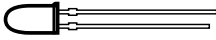













Super Flux LEDs

Device		Description			Typical Luminous Flux @ 70 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 70 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Package	Lens				
	<i>New!</i> HPWR-M300	TS AlGaAs Red 643 nm	Square with 4 Leads	Untinted, Nondiffused, 3 mm Dia. Dome	800 mlm	90°	2.25 V	1-25
	<i>New!</i> HPWA-MH00	AS AlInGaP Red-Orange 615 nm			1250 mlm	90°	2.25 V	
	<i>New!</i> HPWA-DH00					60°		
	<i>New!</i> HPWA-ML00	AS AlInGaP Amber 590 nm			1250 mlm	90°	60°	
	<i>New!</i> HPWA-DL00							
	<i>New!</i> HPWT-MH00	TS AlInGaP Red-Orange 617 nm			2500 mlm	70°	2.65 V	
	<i>New!</i> HPWT-DH00					40°		
	<i>New!</i> HPWT-ML00	TS AlInGaP Amber 592 nm			2500 mlm	70°		
<i>New!</i> HPWT-DL00								

T-13/4 (5 mm) High Performance AlInGaP LED Lamps

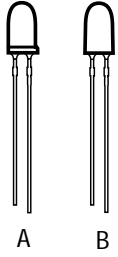
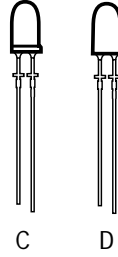
Device		Sunpower LED Lamps	Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens					
	<i>New!</i> HLMT-CL00	Amber 592 nm	Untinted, Nondiffused		8300 mcd	8°	2.0 V	1-37
	<i>New!</i> HLMT-CH00	Red-Orange 617 nm			9000 mcd			
	<i>New!</i> HLMT-DL00	Amber 592 nm			1500 mcd	24°		
	<i>New!</i> HLMT-DH00	Red-Orange 617 nm			1800 mcd			
	HLMA-CL00	Amber 590 nm	3500 mcd	7°	1.9 V			
	HLMA-CH00	Red-Orange 615 nm	3500 mcd	24°				
	HLMA-DL00	Amber 590 nm	800 mcd					
	HLMA-DH00	Red-Orange 615 nm	600 mcd					
	HLMA-DG00	Red-Orange 622 nm	500 mcd					

T-13/4, (5 mm) Precision Optical Performance AlInGaP LED Lamps


Device		Description			Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color	Lens	*				
 A	<i>New!</i> HLMP-DL08	Amber (590 nm)	Untinted, Nondiffused	A	9300 mcd	8°	1.9 V	1-31
	<i>New!</i> HLMP-GL08			B				
	<i>New!</i> HLMP-DL10			C				
	<i>New!</i> HLMP-GL10			D				
 B	<i>New!</i> HLMP-DJ08	Orange (605 nm)		A	8000 mcd			
	<i>New!</i> HLMP-GJ08			B				
	<i>New!</i> HLMP-DJ10			C				
	<i>New!</i> HLMP-GJ10			D				
 C	<i>New!</i> HLMP-DH08	Red-Orange (615 nm)		A				
	<i>New!</i> HLMP-GH08			B				
	<i>New!</i> HLMP-DH10			C				
	<i>New!</i> HLMP-GH10			D				
 D	<i>New!</i> HLMP-DG08	Red (626 nm)		A	6500 mcd			
	<i>New!</i> HLMP-GG08			B				
	<i>New!</i> HLMP-DG10			C				
	<i>New!</i> HLMP-GG10			D				
 C	<i>New!</i> HLMP-DL15	Amber (590 nm)		A	3100 mcd	15°		
	<i>New!</i> HLMP-GL15			B				
	<i>New!</i> HLMP-DL17			C				
	<i>New!</i> HLMP-GL17			D				
 D	<i>New!</i> HLMP-DJ15	Orange (605 nm)		A				
	<i>New!</i> HLMP-GJ15			B				
	<i>New!</i> HLMP-DJ17			C				
	<i>New!</i> HLMP-GJ17			D				
 C	<i>New!</i> HLMP-DH15	Red-Orange (615 nm)		A	2500 mcd			
	<i>New!</i> HLMP-GH15			B				
	<i>New!</i> HLMP-DH17			C				
	<i>New!</i> HLMP-GH17			D				
 D	<i>New!</i> HLMP-DG15	Red (626 nm)		A	2100 mcd			
	<i>New!</i> HLMP-GG15			B				
	<i>New!</i> HLMP-DG17			C				
	<i>New!</i> HLMP-GG17			D				
 C	<i>New!</i> HLMP-DL24	Amber (590 nm)		A	1800 mcd	23°	1.9 V	
	<i>New!</i> HLMP-GL24			B				
	<i>New!</i> HLMP-DL26			C				
	<i>New!</i> HLMP-GL26			D				
 D	<i>New!</i> HLMP-DJ24	Orange (605 nm)		A				
	<i>New!</i> HLMP-GJ24			B				
	<i>New!</i> HLMP-DJ26			C				
	<i>New!</i> HLMP-GJ26			D				
 C	<i>New!</i> HLMP-DH24	Red-Orange (615 nm)		A	1500 mcd			
	<i>New!</i> HLMP-GH24			B				
	<i>New!</i> HLMP-DH26			C				
	<i>New!</i> HLMP-GH26			D				

*Denotes package configuration.

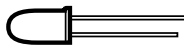
T-13/4, (5 mm) Precision Optical Performance AllnGaP LED Lamps (continued)

Device		Description				Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color	Lens	*					
 A B	<i>New!</i> HLMP-DG24	Red (626 nm)	Untinted, Nondiffused	A	1300 mcd	30°	1.9 V	1-31	
	<i>New!</i> HLMP-GG24			B					
	<i>New!</i> HLMP-DG26			C					
	<i>New!</i> HLMP-GG26			D					
	<i>New!</i> HLMP-DL30	Amber (590 nm)		A					
	<i>New!</i> HLMP-GL30			B					
	<i>New!</i> HLMP-DL32			C					
	<i>New!</i> HLMP-GL32			D					
 C D	<i>New!</i> HLMP-DJ30	Orange (605 nm)	A	1100 mcd					
	<i>New!</i> HLMP-GJ30		B						
	<i>New!</i> HLMP-DJ32		C						
	<i>New!</i> HLMP-GJ32		D						
	<i>New!</i> HLMP-DH30	Red-Orange (615 nm)	A						
	<i>New!</i> HLMP-GH30		B						
	<i>New!</i> HLMP-DH32		C						
	<i>New!</i> HLMP-GH32		D						
<i>New!</i> HLMP-DG30	Red (626 nm)	A	900 mcd						
<i>New!</i> HLMP-GG30		B							
<i>New!</i> HLMP-DG32		C							
<i>New!</i> HLMP-GG32		D							


T-13/4 (5 mm) High Performance AllnGaP, Tinted Diffused, LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	<i>New!</i> HLMA-DL05	Amber 592 nm	Tinted, Diffused	100 mcd	65°	1.9 V	1-49
	<i>New!</i> HLMA-DH05	Red-Orange 615 nm					


T-13/4 (5 mm) High Performance TS AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-8103	Deep Red 644 nm	Untinted, Nondiffused	3000 mcd	7°	1.85 V	1-44
	HLMP-8102			2000 mcd			
	HLMP-8100	1000 mcd		19°			
	HLMP-C100	750 mcd		30°			
	HLMP-C110	400 mcd		40°			


T-1³/₄ (5 mm) High Performance TS AlGaAs, Tinted Diffused, Red LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
 <i>New!</i>	HLMP-D115	Deep Red 644 nm	Tinted, Diffused	250 mcd	40°	1.85 V	1-49
	<i>New!</i>			HLMP-D120	350 mcd		

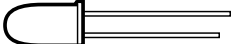
T-1³/₄ (5 mm) Wide Viewing Angle, High Intensity LED Lamps

Device		Description		Typical Luminous Intensity @ 40 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 40 mA	Page No.	
Package Outline Drawing	Part No.	Color, λ _d	Lens					
 <i>New!</i>	HLMA-VL00	AS AlInGaP Amber 592 nm	Untinted, Nondiffused	460 mcd	60° Horizontal, 30° Vertical	1.90 V	1-56	
	<i>New!</i>	HLMA-VH00						AS AlInGaP Red-Orange 615 nm
	<i>New!</i>	HLMP-V100		TS AlGaAs Deep Red 644 nm		1000 mcd		1.85 V
	<i>New!</i>	HLMP-V500		GaP Green 570 nm		270 mcd		2.2 V


T-1³/₄ (5 mm) High Intensity DH AlGaAs LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-D101	Deep Red 637 nm	Tinted, Diffused	70 mcd	65°	1.8 V	1-66
	HLMP-D105		Untinted, Nondiffused	240 mcd	24°		

T-1³/₄ (5 mm) Low Current DH AlGaAs Lamps

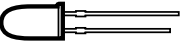
Device		Description		Typical Luminous Intensity @ 1 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 1 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-D150	Deep Red 637 nm	Tinted, Diffused	3 mcd	65°	1.6 V	1-71
	HLMP-D155		Untinted, Nondiffused	10 mcd	24°		

T-13/4 (5 mm) Very High Intensity DH AlGaAs Lamps*


Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-4100	Deep Red 637 nm	Untinted, Nondiffused	750 mcd	8°	1.8 V	*
	HLMP-4101			1000 mcd			

*Contact your local Hewlett-Packard components sales representative for information regarding these products.


T-13/4 (5 mm) Super Ultra-Bright LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-8115	DH AlGaAs Deep Red 637 nm	Aspheric Dome, Untinted, Nondiffused	1000 mcd	10°	1.8 V	1-75
	HLMP-8109			500 mcd	20°		
	HLMP-8205	GaAsP/GaP HER 626 nm		350 mcd	10°	1.9 V	
	HLMP-8209			260 mcd	20°		
	HLMP-8305	GaAsP/GaP Yellow 585 nm		350 mcd	10°	2.1 V	
	HLMP-8309			260 mcd	20°		
	HLMP-8405	GaAsP/GaP Orange 602 nm		350 mcd	10°	1.9 V	
	HLMP-8409			260 mcd	20°		
	HLMP-8505	GaP/GaP Green 569 nm		400 mcd	10°	2.2 V	
	HLMP-8509			300 mcd	20°		
	HLMP-8605	GaP/GaP Emerald Green 560 nm		75 mcd	10°		

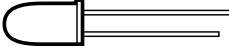
T-13/4 (5 mm) Ultra-Bright LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.		
Package Outline Drawing	Part No.	Color, λ _d	Lens						
	HLMP-3750	GaAsP/GaP HER 626 nm	Standard Dome Untinted, Nondiffused	125 mcd	24°	1.9 V	1-83		
	HLMP-3850			GaAsP/GaP Yellow 585 nm		140 mcd		2.1 V	
	HLMP-3950	GaP/GaP Green 569 nm				140 mcd		2.2 V	
	HLMP-D640			GaP/GaP Emerald Green 558 nm		21 mcd			
	HLMP-3390	GaAsP/GaP HER 626 nm		Low Profile Aspheric Dome, Untinted, Nondiffused	55 mcd	32°		1.9 V	
	HLMP-3490				GaAsP/GaP Yellow 585 nm			55 mcd	2.1 V
	HLMP-3590							GaP/GaP Green 569 nm	55 mcd

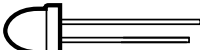
T-1³/₄ (5 mm) High Intensity LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-3315	GaAsP/GaP	Tinted, Nondiffused	40 mcd	35°	1.9 V	1-88
	HLMP-3316	HER 626 nm		60 mcd			
	HLMP-3415	GaAsP/GaP		40 mcd		2.0 V	
	HLMP-3416	Yellow 585 nm		50 mcd			
	HLMP-3517	GaP/GaP		50 mcd	24°	2.1 V	
	HLMP-3519	Green 569 nm		70 mcd			

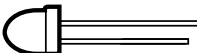
T-1³/₄ (5 mm) Diffused LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-3300	GaAsP/GaP	Tinted, Diffused	3.5 mcd	60°	1.9 V	1-94
	HLMP-3301	HER 626 nm		7 mcd			
	HLMP-3762			12 mcd			
	HLMP-D400	GaAsP/GaP		3.5 mcd		2.0 V	
	HLMP-D401	Orange 602 nm		7 mcd			
	HLMP-3400	GaAsP/GaP		4 mcd			
	HLMP-3401	Yellow 585 nm		8 mcd			
	HLMP-3862			12 mcd			
	HLMP-3502	GaP/GaP		2.4 mcd	2.1 V		
	HLMP-3507	Green 569 nm		5.2 mcd			
	HLMP-3962			14 mcd			
	HLMP-D600	GaP/GaP		3 mcd			
				Emerald Green 558 nm			

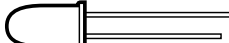
T-1³/₄ (5 mm) Low Profile LED Lamps (Non-Diffused)

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-3365	GaAsP/GaP	Aspheric Dome, Tinted, Nondiffused	10 mcd	45°	1.9 V	1-101
	HLMP-3366	HER 626 nm		18 mcd			
	HLMP-3465	GaAsP/GaP		12 mcd		2.0 V	
	HLMP-3466	Yellow 585 nm		18 mcd			
	HLMP-3567	GaP/GaP		7 mcd	40°	2.1 V	
	HLMP-3568	Green 569 nm		15 mcd			

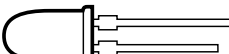
T-1³/₄ (5 mm) Low Profile LED Lamps (Diffused)

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-3350	GaAsP/GaP HER 626 nm	Aspheric, Tinted, Diffused	3.5 mcd	50°	1.9 V @ 10 mA	1-101
	HLMP-3351	HER 626 nm		7 mcd			
	HLMP-3450	GaAsP/GaP Yellow 585 nm		4 mcd			
	HLMP-3451	Yellow 585 nm		10 mcd			
	HLMP-3553	GaP/GaP		3.2 mcd			
	HLMP-3554	Green 569 nm		10 mcd			
						2.0 V @ 10 mA	
						2.1 V @ 10 mA	

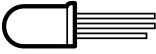
T-1³/₄ (5 mm) Low Current LED Lamps

Device		Description		Typical Luminous Intensity @ 2 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 2 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-4700	GaAsP/GaP HER 626 nm	Tinted, Diffused	2.3 mcd	50°	1.8 V	1-108
	HLMP-4719	GaAsP/GAP Yellow 585 nm		2.1 mcd		1.9 V	
	HLMP-4740	GaP/GaP Green 569 nm		2.3 mcd		1.8 V	

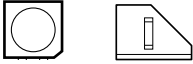

T-1³/₄ (5 mm) 5 Volt, 12 Volt, Integrated Resistor LED Lamps

Device		Description		Typical Luminous Intensity	Viewing Angle 2θ ¹ / ₂	Typical Current, Voltage	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-3600	GaAsP/GaP HER 626 nm	Tinted, Diffused	8 mcd @ 5 V	60°	10 mA @ 5 V	1-113
	HLMP-3601			8 mcd @ 12 V		13 mA @ 12 V	
	HLMP-3650	GaAsP/GaP Yellow 585 nm		8 mcd @ 5 V		10 mA @ 5 V	
	HLMP-3651			8 mcd @ 12 V		13 mA @ 12 V	
	HLMP-3680			GaP/GaP Green 569 nm		8 mcd @ 5 V	
	HLMP-3681	8 mcd @ 12 V				13 mA @ 12 V	

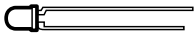
T-1³/₄ (5 mm) Bicolor LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Current @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-4000	GaAsP/GaP HER 626 nm	Untinted, Diffused	5 mcd	65°	1.9 V	1-157
		GaP/GaP Green 569 nm		8 mcd		2.1 V	

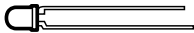
T-1³/₄ (5 mm) LED Lamp Mounting Hardware

Device		Description	Page No.
Package Outline Drawing	Part No.		
	HLMP-5029	Right Angle Mount Housing	1-120
	HLMP-0104	Panel Mount Clip and Retaining Ring	1-122

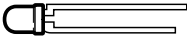
T-1 (3 mm) High Performance AS AllnGaP LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMA-KL00	AllnGaP Amber 590 nm	Untinted, Nondiffused	200 mcd	45°	1.9 V	1-37
	HLMA-KH00	AllnGaP Red-Orange 615 nm					

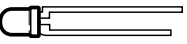
T-1 (3 mm) High Performance TS AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity	Viewing Angle 2θ ¹ / ₂	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	<i>New!</i> HLMP-J105	Deep Red 644 nm	Untinted, Nondiffused	340 mcd @ 20 mA	45°	1.9 V	1-124
	<i>New!</i> HLMP-J155 Low Current			6 mcd @ 0.5 mA		1.6 V	
	<i>New!</i> HLMP-J100	Tinted, Diffused	175 mcd @ 20 mA	55°	1.9 V		
	<i>New!</i> HLMP-J150 Low Current		3 mcd @ 0.5 mA		1.6 V		

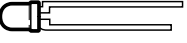
T-1 (3 mm) High Intensity DH AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-K101	Deep Red 637 nm	Tinted, Diffused	45 mcd	60°	1.8 V	1-66
	HLMP-K105		Untinted, Nondiffused	65 mcd	45°		

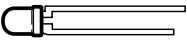
T-1 (3 mm) Low Current DH AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity @ 1 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 1 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-K150	Deep Red 637 nm	Tinted, Diffused	2 mcd	60°	1.6 V	1-71
	HLMP-K155		Untinted, Nondiffused	3 mcd	45°		

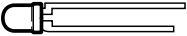
T-1 (3 mm) Ultra-Bright LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 20 mA	Page No.	
Package Outline Drawing	Part No.	Color, λ_d	Lens					
	HLMP-1340	GaAsP/GaP HER 626 nm	Untinted, Nondiffused	45 mcd	45°	1.9 V	1-83	
	HLMP-1440					GaAsP/GaP Yellow 585 nm		2.1 V
	HLMP-1540					GaP/GaP Green 569 nm		2.2 V
	HLMP-K640			GaP/GaP Emerald Green 560 nm		21 mcd		

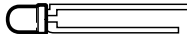
T-1 (3 mm) High Intensity LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-1320	GaAsP/GaP HER 626 nm	Untinted, Nondiffused	30 mcd	45°	1.9 V	1-128
	HLMP-1321		Tinted, Nondiffused				
	HLMP-1420	GaAsP/GaP Yellow 585 nm	Untinted, Nondiffused	15 mcd		2.0 V	
	HLMP-1421		Tinted, Nondiffused				
	HLMP-1520	GaP/GaP Green 596 nm	Untinted, Nondiffused	22 mcd		2.1 V	
	HLMP-1521		Tinted, Nondiffused				

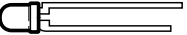
T-1 (3 mm) Diffused LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-1300	GaAsP/GaP HER 626 nm	Tinted, Diffused	5 mcd	60°	1.9 V	1-134
	HLMP-1301			5.5 mcd			
	HLMP-1302			7 mcd			
	HLMP-1385			11 mcd			
	HLMP-K400	GaAsP/GaP Orange 602 nm		5 mcd		1.9 V	
	HLMP-K401			5.5 mcd			
	HLMP-K402			7 mcd			
	HLMP-1400	GaAsP/GaP Yellow 585 nm		5 mcd		2.0 V	
	HLMP-1401			6 mcd			
	HLMP-1402			7 mcd			
	HLMP-1485			10 mcd			
	HLMP-1503	GaP/GaP Green 569 nm		5 mcd		2.1 V	
	HLMP-1523			7 mcd			
	HLMP-1585			8.5 mc			
HLMP-K600	GaP/GaP Emerald Green 560 nm	4.5 mcd	2.1 V				

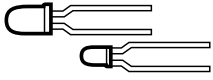
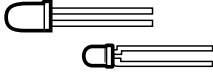
T-1 (3 mm) Low Current LED Lamps

Device		Description		Typical Luminous Intensity @ 2 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 2 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-1700	GaAsP/GaP HER 626 nm	Tinted, Diffused	2.1 mcd	50°	1.8 V	1-108
	HLMP-1719	GaAsP/GaP Yellow 585 nm		1.6 mcd		1.9 V	
	HLMP-1790	GaP/GaP Green 569 nm		2.1 mcd		1.8 V	

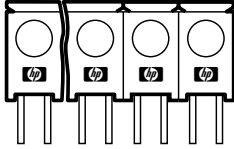
T-1 (3 mm) 5 Volt, 12 Volt, Integrated Resistor LED Lamps

Device		Description		Typical Luminous Intensity	Viewing Angle 2θ ^{1/2}	Typical Current, Voltage	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	HLMP-1600	GaAsP/GaP HER 626 nm	Tinted, Diffused	8 mcd @ 5 V		10 mA @ 5 V	1-113
	HLMP-1601			8 mcd @ 12 V		13 mA @ 12 V	
	HLMP-1620	GaAsP/GaP Yellow 585 nm		8 mcd @ 5 V		10 mA @ 5 V	
	HLMP-1621			8 mcd @ 12 V		13 mA @ 12 V	
	HLMP-1640	GaP/GaP Green 569 nm		8 mcd @ 5 V		10 mA @ 5 V	
	HLMP-1641			8 mcd @ 12 V		13 mA @ 12 V	

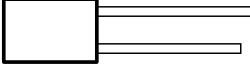
T-1^{3/4} (5 mm) and T-1 (3 mm) Tape and Reel Options

Device		Description	Page No.
Package Outline Drawing	Option No.		
 5 mm (0.197 in) Formed Leads	001	T-1 ^{3/4} , with 5 mm (0.197 in) Formed Leads, 1300 Lamps per Reel.	1-140
 2.54 mm (0.100 in) Straight Leads	002	T-1 ^{3/4} , with 2.54 mm (0.100 in) Straight Leads, 1300 Lamps per Reel.	

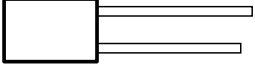
T-1 (3 mm) Right Angle LED Indicator Array Options

Device		Description	Page No.
Package Outline Drawing	Option Code		
	102	2-Element Array	1-147
	103	3-Element Array	
	104	4-Element Array	
	105	5-Element Array	
	106	6-Element Array	
	107	7-Element Array	
	108	8-Element Array	


2.5 mm X 7.6 mm Rectangular LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2 θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-R100	DH AlGaAs Red 637 nm	Tinted, Diffused	11 mcd	100°	1.6 V	1-149
	HLMP-0300	GaAsP/GaP HER 626 nm		2.5 mcd		1.9 V	
	HLMP-0301			5.3 mcd	2.1 V		
	HLMP-0400	GaAsP/GaP Yellow 585 nm		2.5 mcd			
	HLMP-0401			5 mcd			
	HLMP-0503	GaP/GaP Green 569 nm		2.5 mcd	2.2 V		
	HLMP-0504			8 mcd			

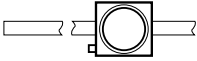



2 mm x 5 mm Rectangular LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-S100	DH AlGaAs Deep Red 637 nm	Tinted, Diffused	7.5 mcd	110°	1.8 V	1-153
	HLMP-S200	GaAsP/Ga HER 626 nm		3.5 mcd		1.9 V	
	HLMP-S201	HER 626 nm		7.5 mcd			
	HLMP-S400	GaAsP/GaP Orange 602 nm		3.5 mcd		2.1 V	
	HLMP-S401	Orange 602 nm		7.5 mcd			
	HLMP-S300	GaAsP/GaP Yellow 585 nm		2.1 mcd		4 mcd	
	HLMP-S301	Yellow 585 nm		4 mcd			
	HLMP-S500	GaP/GaP Green 569 nm		4 mcd		2.2 V	
	HLMP-S501	Green 569 nm		8 mcd			
HLMP-S600	GaP/GaP Emerald Green 560 nm	3 mcd					

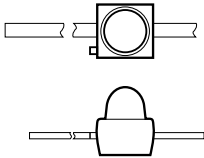
2 mm x 5 mm Rectangular Bicolor LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Current @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-0800	GaAsP/GaP HER 626 nm	Untinted, Diffused	3.5 mcd	100°	1.9 V	1-157
		GaP/GaP Green 569 nm		4 mcd		2.1 mA	

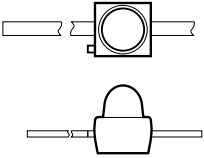
Subminiature High Performance AlInGaP LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	New! HLMT-QL00	TS AlInGaP Amber 591 nm	Dome, Untinted, Nondiffused	1000 mcd	15°	1.9 V	1-161
	New! HLMA-QL00	As AlInGaP Amber 591 nm		500 mcd		2.0 V	
	New! HLMT-QH00	TS AlInGaP Red Orange 615 nm	Nondiffused	800 mcd	125°	1.9 V	1-161
	New! HLMA-QH00	AS AlInGaP Red Orange 615 nm		500 mcd		2.0 V	
	New! HLMT-PL00	TS AlInGaP Amber 591 nm	Flat Top, Untinted, Nondiffused	150 mcd	125°	1.9 V	1-161
	New! HLMA-PL00	AS AlInGaP Amber 591 nm		75 mcd		2.0 V	
	New! HLMT-PH00	TS AlInGaP Red Orange 615 nm	Nondiffused	120 mcd	125°	1.9 V	1-161
	New! HLMA-PH00	AS AlInGaP Red Orange 615 nm		75 mcd		2.0 V	

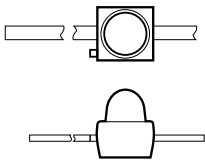
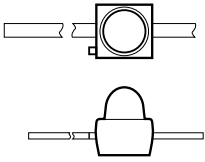
Subminiature High Performance TS AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity @ 20 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	<i>New!</i> HLMP-Q106	Deep Red 644 nm	Dome, Untinted, Nondiffused	530 mcd	15°	1.9 V	1-168
	<i>New!</i> HLMP-Q102		Dome, Tinted, Diffused	160 mcd	35°		
	<i>New!</i> HLMP-P106		Flat Top, Untinted, Nondiffused	130 mcd	75°		

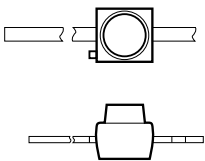
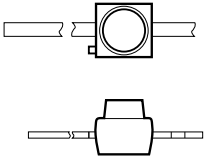
Subminiature Low Current TS AlGaAs Red LED Lamps

Device		Description		Typical Luminous Intensity @ 0.5 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 0.5 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Lens				
	<i>New!</i> HLMP-Q156	Deep Red 644 nm	Dome, Untinted, Nondiffused	7 mcd	15°	1.6 V	1-168
	<i>New!</i> HLMP-Q152		Dome, Tinted, Diffused	2 mcd	35°		
	<i>New!</i> HLMP-P156		Flat Top, Untinted, Nondiffused	2 mcd	75°		

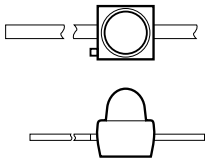
Subminiature Dome LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-6000	GaAsP Red	Dome, Tinted, Diffused	1.2 mcd	90°	1.6 V	1-174
	HLMP-6001	640 nm		3.2 mcd			
	HLMP-Q101	DH AlGaAs Deep Red 637 nm		45 mcd @ 20 mA		1.8 V @ 20 mA	
	HLMP-6300	GaAsP/GaP HER 626 nm		7 mcd		1.8 V	
	HLMP-Q400	GaAsP/GaP Orange 602 nm		3 mcd		1.9 V	
	HLMP-6400	GaAsP/GaP Yellow 585 nm				2.0 V	
	HLMP-6500	GaP/GaP Green 569 nm				2.1 V	
	HLMP-Q600	GaP/GaP Emerald Green 560 nm				1.5 mcd	
	HLMP-Q105	DH AlGaAs Deep Red 637 nm	Dome, Untinted, Nondiffused	55 mcd @ 20 mA	28°	1.8 V @ 20 mA	
	HLMP-6305	GaAsP/GaP HER 626 nm		12 mcd		1.8 V	
	HLMP-6405	GaAsP/GaP Yellow 585 nm		2.0 V			
	HLMP-6505	GaP/GaP Green 569 nm		2.1 V			

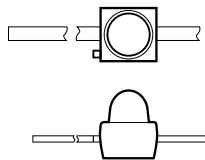
Subminiature Flat Top LED Lamps

Device		Description		Typical Luminous Intensity @ 10 mA	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-P105	DH AlGaAs Deep Red 637 nm	Flat Top Untinted, Nondiffused	30 mcd @ 20 mA	125°	1.8 V @ 20 mA	1-174
	HLMP-P205	GaAsP/GaP HER 626 nm		5 mcd		1.8 V	
	HLMP-P405	GaAsP/GaP Orange 602 nm		4 mcd		1.9 V	
	HLMP-P305	GaAsP/GaP Yellow 585 nm		4 mcd		2.0 V	
	HLMP-P505	GaP/GaP Green 569 nm		5 mcd		2.1 V	
	HLMP-P605	GaP/GaP Emerald Green 560 nm		1.5 mcd		2.2 V	
	HLMP-P102	DH AlGaAs Deep Red 637 nm	Flat Top, Untinted, Diffused	20 mcd @ 20 mA	125°	1.8 V @ 20 mA	
	HLMP-P202	GaAsP/GaP HER 626 nm		5 mcd		1.8 V	
	HLMP-P402	GaAsP/GaP Orange 602 nm		4 mcd		1.9 V	
	HLMP-P302	GaAsP/GaP Yellow 585 nm		3 mcd		2.0 V	
	HLMP-P502	GaP/GaP Green 569 nm		6 mcd		2.1 V	

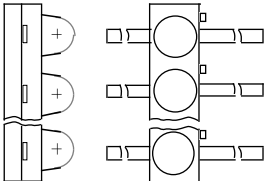
Subminiature Low Current LED Lamps

Device		Description		Typical Luminous Intensity	Viewing Angle $2\theta^{1/2}$	Typical Forward Voltage	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-Q150	DH AlGaAs Deep Red 637 nm	Dome, Tinted, Diffused	1.8 mcd @ 1 mA	90°	1.6 V @ 1 mA	1-174
	HLMP-Q155			Dome, Untinted, Nondiffused	4 mcd @ 1 mA		
	HLMP-7000	GaAsP/GaP HER 626 nm	Dome, Tinted, Diffused	1 mcd @ 2 mA	90°	1.8 V @ 10 mA	
	HLMP-7019	GaAsP/GaP Yellow 585 nm		0.6 mcd @ 2 mA		2.0 V @ 10 mA	
	HLMP-7040	GaP/GaP Green 569 nm		0.6 mcd @ 2 mA			

Subminiature Resistor LED Lamps

Device		Description		Typical Luminous Intensity @ 5.0 V	Viewing Angle $2\theta^{1/2}$	Typical Forward Current @ 5.0 V	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Lens				
	HLMP-6600	GaAsP/GaP	Dome, Tinted, Diffused	5 mcd	90°	10 mA	1-174
	HLMP-6620	HER 626 nm		2 mcd		4 mA	
	HLMP-6700	GaAsP/GaP		5 mcd		10 mA	
	HLMP-6720	Yellow 585 nm		2 mcd		4 mA	
	HLMP-6800	GaP/GaP		5 mcd		10 mA	
	HLMP-6820	Green 569 nm		2 mcd		4 mA	

Subminiature LED Lamp Arrays

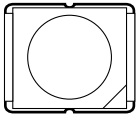
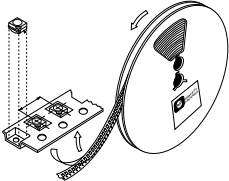
Device		Description			Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Current @ 10 mA	Page No.
Package Outline Drawing	Part No.	*	Color, λ _d	Lens				
	HLMP-6203	3	GaAsP Red 640 nm	Dome, Tinted, Diffused	1.2 mcd	90°	1.6 V	1-174
	HLMP-6204	4						
	HLMP-6205	5						
	HLMP-6206	6						
	HLMP-6208	8						
	HLMP-6653	3	GaAsP/GaP HER 626 nm		3 mcd	1.8 V		
	HLMP-6654	4						
	HLMP-6655	5						
	HLMP-6656	6						
	HLMP-6658	8						
	HLMP-6753	3	GaAsP/GaP Yellow 585 nm		3 mcd	2.0 V		
	HLMP-6754	4						
	HLMP-6755	5						
	HLMP-6756	6						
	HLMP-6758	8						
	HLMP-6853	3	GaP/GaP Green 569 nm		3 mcd	2.0 V		
	HLMP-6854	4						
	HLMP-6855	5						
HLMP-6856	6							
HLMP-6858	8							

*Number of LED Emitters per Array

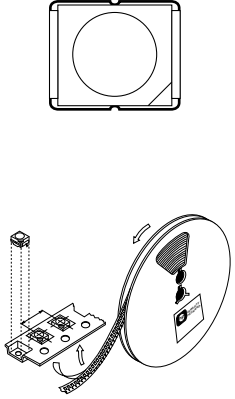
Standard SMT and Through Hole Lead Bend Options for Subminiature LED Lamps

Device		Description	Page No.
Package Outline Drawing	Option Code		
	011	SMT Gull Wing Lead, Lamp, Tape and Reel, 1500 Lamps per Reel.	1-188
	012	SMT Gull Wing Lead, Lamp, Bulk Packaging.	
	013	SMT Gull Wing Lead, Array, Shipping Tube.	
	021	SMT Yoke Lead, Lamp, Tape and Reel, 1500 Lamps per Reel.	
	022	SMT Yoke Lead, Lamp, Bulk Packaging.	
	031	SMT Z-Bend Lead, Lamp, Tape and Reel, 1500 Lamps per Reel.	
	032	SMT Z-Bend Lead, Lamp, Bulk Packaging.	
	1L1	Through Hole, 2.54 mm (0.100 in) Right Angle Bend, Long Leads.	
	1S1	Through Hole, 2.54 mm (0.100 in) Right Angle Bend, Short Leads.	
	2L1	Through Hole, 5.08 mm (0.200 in) Right Angle Bend, Long Leads.	
	2S1	Through Hole, 5.08 mm (0.200 in) Right Angle Bend, Short Leads.	

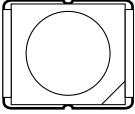
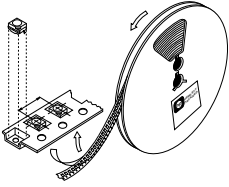
Surface Mount High Performance AlInGaP LED Indicators

Device		Description			Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 10 mA	Page No.	
Package Outline Drawing	Part No.	Color, λ _d	Package	Lens					
 	<i>New!</i>	HSMA-T425	Amber 590 nm	12 mm Tape, 7" reel, 2000 devices	Flat Circle, Untinted, Nondiffused	25 mcd	120°	1.9 V	1-199
	<i>New!</i>	HSMA-T525		12 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSMA-T625		8 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSMA-T725		8 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSMD-T425	Orange 603 nm	12 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSMD-T525		12 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSMD-T625		8 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSMD-T725		8 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSMJ-T425	Red- Orange 615 nm	12 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSMJ-T525		12 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSMJ-T625		8 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSMJ-T725		8 mm Tape, 13" reel, 8000 devices					

Surface Mount LED Indicators

Device		Description			Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 10 mA	Page No.
Package Outline Drawing	Part No.	Color, λ _d	Package	Lens				
	HSMH-T400	DH AlGaAs Deep Red 637 nm	12 mm Tape, 7" reel, 2000 devices	Flat Circle, Untinted, Nondiffused	17 mcd	120°	1.8 V	1-204
	HSMH-T500		12 mm Tape, 13" reel, 8000 devices					
	HSMH-T600		8 mm Tape, 7" reel, 2000 devices					
	HSMH-T700		8 mm Tape, 13" reel, 8000 devices					
	HSMS-T400	GaAsP/GaP HER 626 nm	12 mm Tape, 7" reel, 2000 devices		6 mcd	1.9 V		
	HSMS-T500		12 mm Tape, 13" reel, 8000 devices					
	HSMS-T600		8 mm Tape, 7" reel, 2000 devices					
	HSMS-T700		8 mm Tape, 13" reel, 8000 devices					
	HSMD-T400	GaAsP/GaP Orange 602 nm	12 mm Tape, 7" reel, 2000 devices		5 mcd	1.9 V		
	HSMD-T500		12 mm Tape, 13" reel, 8000 devices					
	HSMD-T600		8 mm Tape, 7" reel, 2000 devices					
	HSMD-T700		8 mm Tape, 13" reel, 8000 devices					

Surface Mount LED Indicators (contd.)

Device		Description			Typical Luminous Intensity @ 10 mA	Viewing Angle 2θ ^{1/2}	Typical Forward Voltage @ 10 mA	Page No.	
Package Outline Drawing	Part No.	Color, λ _d	Package	Lens					
 	HSMY-T400	GaAsP/GaP Yellow 585 nm	12 mm Tape, 7" reel, 2000 devices	Flat Circle, Untinted, Nondiffused	5 mcd	120°	2.0 V	1-204	
	HSMY-T500		12 mm Tape, 13" reel, 8000 devices						
	HSMY-T600		8 mm Tape, 7" reel, 2000 devices						
	HSMY-T700		8 mm Tape, 13" reel, 8000 devices						
	HSMG-T400	GaP/GaP Green 572 nm	12 mm Tape, 7" reel, 2000 devices		10 mcd	2.0 V			
	HSMG-T500		12 mm Tape, 13" reel, 8000 devices						
	HSMG-T600		8 mm Tape, 7" reel, 2000 devices						
	HSMG-T700		8 mm Tape, 13" reel, 8000 devices						
	<i>New!</i>	HSME-T400	GaP/GaP Emerald Green 560 nm	12 mm Tape, 7" reel, 2000 devices		1.5 mcd			2.2 V
	<i>New!</i>	HSME-T500		12 mm Tape, 13" reel, 8000 devices					
	<i>New!</i>	HSME-T600		8 mm Tape, 7" reel, 2000 devices					
	<i>New!</i>	HSME-T700		8 mm Tape, 13" reel, 8000 devices					

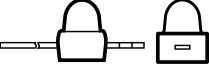

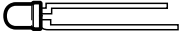
Surface Mount Chip LEDs

Device		Description			Typical Luminous Intensity @ 20 mA	Viewing Angle 2 θ ^{1/2}	Typical Forward Voltage @ 20 mA	Page No.
Package Outline Drawing	Part No.	Color, λ_d	Package Size	Lens				
<p>-C670 (805)</p> <p>-C650 (1206)</p> <p>-C655 (1210)</p>	HSMH-C650	DH AlGaAs Deep Red	1206	Cube, Diffused	16 mcd	155°	1.8 V	1-212
	HSMH-C670	637 nm	805					
	HSMS-C650	GaAsP/GaP HER	1206		5 mcd	1.9 V		
	HSMS-C670	626 nm	805		4 mcd	2.1 V		
	HSMD-C650	GaAsP/GaP Orange	1206		5 mcd	2.1 V		
	HSMD-C670	604 nm	805		9 mcd	2.2 V		
	HSMY-C650	GaAsP/GaP Yellow	1206		5 mcd	9 mcd	1.9 V	
	HSMY-C670	584 nm	805		9 mcd	2.2 V		
	HSMG-C650	GaP/GaP Green	1206		5 mcd	9 mcd	1.9 V	
	HSMG-C670	571 nm	805		9 mcd	2.2 V		
	HSMF-C655	Bicolor HER 626 nm Green 571 nm	1210		5 mcd 9 mcd	1.9 V 2.2 V		

T-1^{3/4} (5 mm), T-1 (3 mm), and Subminiature LED Lamp Mounting Options

Device		Page No.
Package Outline Drawing	Option No.	
	007	T-1 ^{3/4} Standard Dome, with HLMP-0104 Clip and Ring. 1-122
	010	T-1 ^{3/4} Standard Dome, Right Angle, Leads Sheared Even. 1-118
	100	T-1 ^{3/4} Standard Dome, Right Angle, Leads Unsheared, Uneven. Anode Longer.
	101	T-1, Right Angle, Leads Sheared Even. 1-145
	010	T1, Right Angle, Leads Unsheared, Uneven, Anode Longer.
	010	Subminiature Right Angle, Leads Sheared Even. 1-197

Emitter Components*

Device		Description		Page No.
Package Outline Drawing	Part No.	Package	Features	
	HEMT-6000	Subminiature 700 nm Deep Red High Intensity Emitter	<ul style="list-style-type: none"> • Visible (Near IR) emission facilitates alignment. • Compatible with most silicon phototransistors and photodiodes. 	*
	HEMT-3301	T-1 ³ / ₄ (5 mm) 940 nm IR High Radiant Emitter	<ul style="list-style-type: none"> • Efficiency at low currents. • Radiated spectrum matches response of silicon photodetectors. 	
	HEMT-1001	T-1 (3 mm) 940 nm IR High Radiant Emitter	<ul style="list-style-type: none"> • Non-saturated, high radiant flux output. 	

*Contact your local Hewlett-Packard components sales representative for information regarding these products.

Standard Intensity and Color Binning Options for LED Lamps

Device	Description	Page No.
Option Code		
S02	This option provides the selection of lamps from two adjacent luminous intensity, I_v , categories.	1-219
S20	Devices selected to two color bin, λ_d , categories.	
S22	Devices selected to two luminous intensity, I_v , categories and two color bin, λ_d , categories.	