



STANDARD LED LAMPS (ROUND TYPES)

Package	Part No.	Chip		Lens Appearance	Absolute Maximum Ratings				Electro-optical Data (At 20mA)			Viewing Angle 2q 1/2 (deg)	Drawing No.
		Material/Emitted Color	Peak Wave Length λp (nm)		Dl (mm)	Pd (mw)	If (mA)	Peak (mA)	Vf (V)		Iv (mcd)		
									Typ	Max	Typ.		
T-1 Standard 1.0" Lead 3 φ	BL-B4541	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	40.0	35	L-005
	BL-B2141	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	40.0		
	BL-B3141	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30.0		
	BL-B2441	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	80.0	30	
	BL-B3441	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	65.0		
	BL-B2341	GaP/GaP/Green	568	Water Clear	30	80	30	150	2.2	2.6	80.0		
	BL-BX1341	GaP/GaP/Hi-Eff Green	568		35	80	30	150	2.1	2.6	120.0		
T-1 Standard 1.0" Lead 3 φ	BL-B45V1	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	40	35	L-006
	BL-B21V1	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	40		
	BL-B31V1	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30		
	BL-B24V1	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	80	30	
	BL-B34V1	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	65		
	BL-B43V1	GaAsP/GaP/Hi-Eff Red	635	Water Clear	45	80	30	150	2.0	2.6	80		
	BL-BX13V1	GaP/GaP/Hi-Eff Green	568		35	80	30	150	2.1	2.6	120		
T-1 1.0" Lead 3 φ	BL-B45V1G	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	40	35	L-007
	BL-B21V1G	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	40		
	BL-B31V1G	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30		
	BL-B24V1G	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	80	30	
	BL-B34V1G	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	65		
	BL-B43V1G	GaAsP/GaP/Hi-Eff Red	635	Water Clear	45	80	30	150	2.0	2.6	80		
	BL-BX13V1G	GaP/GaP/Hi-Eff Green	568		35	80	30	150	2.1	2.6	120		
1.0 Lead High Flangeless 3.4 φ	BL-B51V1H	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	13.0	30	L-008
	BL-B45V1H	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	40.0		
	BL-B21V1H	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	50.0		
	BL-B31V1H	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30.0	25	
	BL-B24V1H	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	100		
	BL-B46V1H	GaAsP/GaP/Hi-Eff Red	635	Red Trans	45	80	30	150	2.0	2.6	100		
T-1 1.0 Lead High Flangeless 3.0 φ	BL-B51V1J	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	13.0	35	L-009
	BL-B45V1J	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	40.0		
	BL-B21V1J	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	50.0		
	BL-B31V1J	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30.0	30	
	BL-B24V1J	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.0	2.6	100		
T-1 1.0 Lead 3.0 φ	BL-B43V1M	GaAsP/GaP/Hi-Eff Red	635	Water Clear	45	80	30	150	2.0	2.6	100	15	L-010
	BL-B23V1M	GaP/GaP/Green	568		30	80	30	150	2.0	2.6	100		
	BL-B33V1M	GaAsP/GaP/Yellow	585	35	80	30	150	2.1	2.6	30			
	BL-B44V1M	GaAsP/GaP/Hi-Eff Red	635	Orange Trans	45	80	30	150	2.0	2.6	100		
	BL-B24V1M	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.0	2.6	100		
T-1 1.0 Lead 3.0 φ	BL-B2141P	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	35	40	L-011
	BL-B3141P	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	30		
	BL-B4541P	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	35		
	BL-B2341P	GaP/GaP/Green	568	Water Clear	30	80	30	150	2.2	2.6	80	30	
	BL-B3341P	GaAsP/GaP/Yellow	585		35	80	30	150	2.1	2.6	60		
	BL-B4341P	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	80		
T-1 Standard 1.0 Lead 3.1 φ	BL-B4541Q	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	60.0	40	L-012
	BL-B2141Q	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	60.0		
	BL-B3141Q	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	50.0		
	BL-B4141Q	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	60.0	35	
	BL-B3341Q	GaAsP/GaP/Yellow	585	Water Clear	35	80	30	150	2.1	2.6	90.0		
	BL-B2341Q	GaP/GaP/Green	568		30	80	30	150	2.2	2.6	110.0		
	BL-BX1341Q	GaP/GaP/Hi-Eff Green	568		30	80	30	150	2.1	2.6	150.0		

Remark: 1. Hi-Eff Red/High-Efficiency Red.

2. Trans/Transparent.

3. 2θ 1/2 The off-axis angle at which the luminous intensity is half the axial luminous intensity.



STANDARD LED LAMPS (ROUND TYPES)

L-005 BL-Bxx41 Series	L-006 BL-BxxV1 Series
<p>FLAT DENOTES CATHODE</p>	<p>FLAT DENOTES CATHODE</p>
L-007 BL-BxxV1G Series	L-008 BL-BxxV1H Series
L-009 BL-BxxV1J Series	L-010 BL-BxxV1M Series
	<p>FLAT DENOTES CATHODE</p>
L-011 BL-Bxx41P Series	L-012 BL-Bxx41Q Series
<p>Flat Denotes Cathode</p>	

Notes: 1. All Dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.25\text{mm}$ (.010")



STANDARD LED LAMPS (ROUND TYPES)

Package	Part No.	Chip		Lens Appearance	Absolute Maximum Ratings				Electro-optical Data (At 20mA)			Viewing Angle 2q 1/2 (deg)	Drawing No.	
		Material/Emitted Color	Peak Wave Length λp (nm)		Dl (mm)	Pd (mw)	If (mA)	Peak (mA)	Vf (V)		Iv (mcd)			
									Typ	Max	Typ.			
T-1 1.0" Lead 3.55 φ	BL-B51V1T	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	6.0	35	L-013	
	BL-B45V1T	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	70.0			
	BL-B21V1T	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	70.0			30
	BL-B31V1T	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	60.0			
	BL-B24V1T	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	120.0			
	BL-B34V1T	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	100.0			
Standard 1.0" Lead 4.0 φ	BL-B5132	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	12.0	55	L-014	
	BL-B4532	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	70.0			
	BL-B2132	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	70.0			
	BL-B3132	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	60.0			
	BL-B4132	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	70.0			
	BL-B4632	GaAsP/GaP/Hi-Eff Red	635	Red Trans	45	80	30	150	2.0	2.6	120.0			
Medium Profile Flangeless 1.0" Lead 4.7 φ	BL-B4533	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	80.0	40	L-015	
	BL-B2133	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	80.0			
	BL-B3133	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	70.0			
	BL-B4133	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	80.0			
	BL-B3333	GaAsP/GaP/Yellow	585	Water Clear	35	80	30	150	2.1	2.6	100.0	30		
	BL-B2333	GaP/GaP/Green	568		30	80	30	150	2.2	2.6	130.0			
	BL-B4333	GaAsP/GaP/Orange	635		45	80	30	150	2.0	2.6	130.0			
1.0" Lead 4.8 φ	BL-B5134B	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	4.0	30	L-016	
	BL-B4534B	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	25.0			
	BL-B2134B	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	25.0			
	BL-B3134B	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	20			
	BL-B2434B	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	100			
	BL-B4634B	GaAsP/GaP/Orange	635	Red Trans	45	80	30	150	2.0	2.6	100			
Medium Profile Flangeless 1.0" Lead 4.8 φ	BL-B5133N	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	25.0	40	L-017	
	BL-B4533N	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	80.0			
	BL-B2133N	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	80.0			
	BL-B3133N	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	70.0			
	BL-B2433N	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	130.0			
	BL-B3433N	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	100.0			
T-13/4 Standard 0.8" Lead 5.0 φ	BL-B5114	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	6.0	45	L-018	
	BL-B4114	GaAsP/GaP/Orange	635		45	80	30	150	2.0	2.6	50.0			
	BL-B2114	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	50.0			
	BL-B3114	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	40.0			
	BL-B2414	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.0	2.6	55.0			
	BL-B4614	GaAsP/GaP/Hi-Eff Red	635	Red Trans	45	80	30	150	2.0	2.6	55.0			
T-13/4 Standard 0.5" Lead 5.0 φ	BL-B4524	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	25.0	40	L-019	
	BL-B2124	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	25.0			
	BL-B3124	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	20.0			
	BL-B4124	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	25.0			
	BL-B2424	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.2	2.6	65.0	30		
	BL-B3424	GaAsP/GaP/Yellow	585	Yellow Trans	35	80	30	150	2.1	2.6	50.0			
	BL-B2324	GaP/GaP/Green	568	Water Clear	30	80	30	150	2.2	2.6	65.0			
T-13/4 Standard 1.0" Lead 5.0 φ	BL-B5134	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	12.0	35	L-020	
	BL-B4534	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	80.0			
	BL-B2134	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	80.0			
	BL-B3134	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	70.0			
	BL-B2434	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.0	2.6	200			
	BL-B4634	GaAsP/GaP/Yellow	635	Red Trans	45	80	30	150	2.0	2.6	200			



STANDARD LED LAMPS (ROUND TYPES)

L-013 BL-BxxV1T Series	L-014 BL-Bxx32 Series
L-015 BL-Bxx33 Series	L-016 BL-Bxx34B Series
L-017 BL-Bxx33N Series	L-018 BL-Bxx14 Series
L-019 BL-Bxx24 Series	L-020 BL-Bxx34 Series

Notes: 1. All Dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.25\text{mm}$ (.010")



STANDARD LED LAMPS (ROUND TYPES)

Package	Part No.	Chip		Lens Appearance	Absolute Maximum Ratings				Electro-optical Data (At 20mA)			Viewing Angle 2q 1/2 (deg)	Drawing No.
		Material/Emitted Color	Peak Wave Length λp (nm)		Dl (nm)	Pd (mw)	If (mA)	Peak (mA)	Vf (V)		Iv (mcd)		
									Typ	Max	Typ.		
T1 3/4 Wide Viewing Angle 1.0" Lead 5.0	BL-B4534G-1	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	65.0	45	L-021
	BL-B2134G-1	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	65.0		
	BL-B3131G-1	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	60.0		
	BL-B4134G-1	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	65.0		
	BL-B3334G-1	GaAsP/GaP/Yellow	585	Water Clear	35	80	30	150	2.1	2.6	140.0	20	
	BL-B2334G-1	GaP/GaP/Green	568		30	80	30	150	2.2	2.6	150.0		
	BL-B4334G-1	GaAsP/GaP/Orange	635		45	80	30	150	2.0	2.6	150.0		
T1 3/4 Wide Viewing Angle 1.0" Lead 5.0	BL-B4534J	GaAsP/GaP/Hi-Eff Red	635	Red Diffused	45	80	30	150	2.0	2.6	65.0	40	L-022
	BL-B2134J	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	65.0		
	BL-B3134J	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	60.0		
	BL-B4134J	GaAsP/GaP/Orange	635	Orange Diffused	45	80	30	150	2.0	2.6	65.0		
	BL-B3334J	GaAsP/GaP/Yellow	585	Water Clear	35	80	30	150	2.1	2.6	120.0	20	
	BL-B2334J	GaP/GaP/Green	568		30	80	30	150	2.2	2.6	140.0		
	BL-B4334J	GaAsP/GaP/Orange	635		45	80	30	150	2.0	2.6	140.0		
T1 3/4 Flangeless 1.0" Lead 5.0	BL-B5134N	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	13.0	40	L-023
	BL-B4534N	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	80.0		
	BL-B2134N	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	80.0		
	BL-B3134N	GaAsP/GaP/Yellow	585	Yellow Diffused	35	80	30	150	2.1	2.6	70.0		
	BL-B2434N	GaP/GaP/Green	568	Green Trans	30	80	30	150	2.0	2.6	140.0	20	
	BL-B4334N	GaAsP/GaP/Orange	635	Water Clear	45	80	30	150	2.0	2.6	140.0		
T1 3/4 Flangeless 1.0" Lead 5.0	BL-B5134Q	GaP/GaP/Bright Red	700	Red Diffused	90	40	15	50	2.2	2.6	5.0	50	L-024
	BL-B4534Q	GaAsP/GaP/Hi-Eff Red	635		45	80	30	150	2.0	2.6	55		
	BL-B2134Q	GaP/GaP/Green	568	Green Diffused	30	80	30	150	2.2	2.6	55		



STANDARD LED LAMPS (ROUND TYPES)

L-021 BL-Bxx34G-1 Series	L-022 BL-Bxx34J Series
<p>Technical drawing of BL-Bxx34G-1 Series LED lamp. Side view dimensions: diameter $\phi 5.0(.197)$, height $8.62(.339)$, max height $1.5(.059)$ MAX., cathode length $25.4(1.0)$ MIN., base length $1.0(.01)$ MIN., base diameter $2.54(.10)$ NOM. End view diameter $5.7(.22)$. Label: CATHODE, FLAT DENOTES CATHODE.</p>	<p>Technical drawing of BL-Bxx34J Series LED lamp. Side view dimensions: diameter $\phi 5.00(.197)$, height $8.70(.343)$, max height $1.5(.059)$ MAX., cathode length $25.4(1.00)$ MIN., base length $1.00(.039)$ MIN., base diameter $2.54(.100)$ NOM. End view diameter $5.80(.228)$. Label: Cathode, FLAT DENOTES CATHODE.</p>
L-023 BL-Bxx34N Series	L-024 BL-Bxx34Q Series
<p>Technical drawing of BL-Bxx34N Series LED lamp. Side view dimensions: diameter $\phi 5.0(.197)$, height $8.80(.346)$, max height $1.50(.059)$ MAX., cathode length $25.4(1.0)$ MIN., base length $1.0(.01)$ MIN., base diameter $2.54(.10)$ NOM. End view diameter $5.0(.197)$. Label: CATHODE, FLAT DENOTES CATHODE.</p>	<p>Technical drawing of BL-Bxx34Q Series LED lamp. Side view dimensions: diameter $\phi 5.10(.200)$, height $7.6(.299)$, max height $1.5(.059)$ MAX., cathode length $25.4(1.0)$ MIN., base length $1.0(.01)$ MIN., base diameter $2.54(.10)$ NOM. End view diameter $5.60(.220)$. Label: CATHODE, FLAT DENOTES CATHODE.</p>

Notes: 1. All Dimensions are in millimeters (inches).
 2. Tolerance is $\pm 0.25\text{mm}$ (.010")