

PLCC Lightbar FPC 3528 Series Datasheet



Product description :

- 12/24 V constant voltage strip (SELV)
- Ideal for application on aluminum extrusions but also for various decorative lighting applications such as cove lighting, facade accent lighting etc.



Features and benefits :

- Extremely narrow pitch distance enables short distance to diffuser and outstanding homogeneity
- Small color tolerance (SDCM3-5), Ra > 80/90
- Color temperature 2700, 3000, 4000 and 5700 K
- Self-adhesive 3M tape at the backside for simple mounting on different surfaces
- Life-time 30,000-50,000 hours
- 3-5-year guarantee



Typical Applications :

- Stairway Accent Lighting
- Home or Club Lighting
- Architectural decorative Lighting
- Arch edge Lighting



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General Information

Ordering Code Format

6 L B R 1 x x N x 0 0 0 0 0 0 x
X1 X2 X3 X4 X5 X6

X1 Item	X2 Series		X3 Emitting Color		X4 Angle		X5 Driver		X6 Serial No.		
6	Module	LBR1	FPC	CW	Cool White	N	120	I	CV 12V	xxxxxxx	-
				NW	Neutral White			J	CV 24V		
				WW	Warm White						
				RX	Red						
				TX	Green						
				BX	Blue						
				PX	Pink/Deep Pink						
				M1	RTB						
				M2	RTBW						
				M7	RTBX						

Ordering Code(NEW)

6 L B R 1 x W J E 0 J x x x x x
X1 X2 X3 X4 X5 X6 X7 X8

X1 Item	X2 Series		X3 Emitting Color		X4 Driver		X5 Length		
6	Module	LBR1	FPC	CW	Cool White	I	CV 12V	E0	5.0M
				NW	Neutral White	J	CV 24V		
				WW	Warm White				

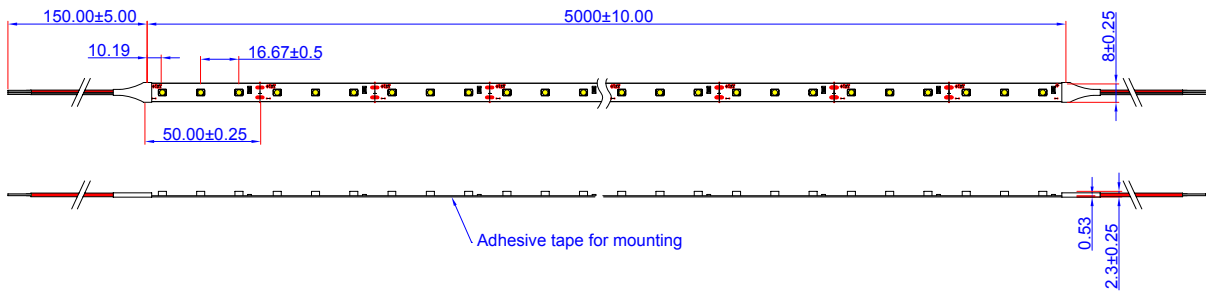
X6 Emitter	X7 Number of LEDs(M)		X8 Serial No.
J	3528	120	120pcs
		180	180pcs
		240	240pcs

Technical data

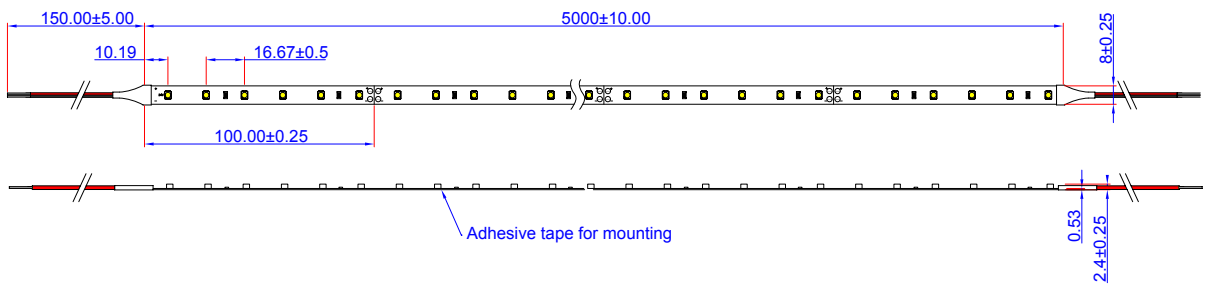
Parameter	Value	Units
Beam characteristic	120	°C
Ambient temperature range	-25~ +45	°C
Tp rated	65	°C
Tc	75	°C
Type of protection	IP20	
Color Temperature	2700	K
	3000	K
	4000	K
	5700	K
Number of connection	5	M
Risk group(EN62778)	1	
Classification acc. to	IEC62031	
	IEC62778	
	IEC62717	
	IEC61000-4-2	

Product Dimensions

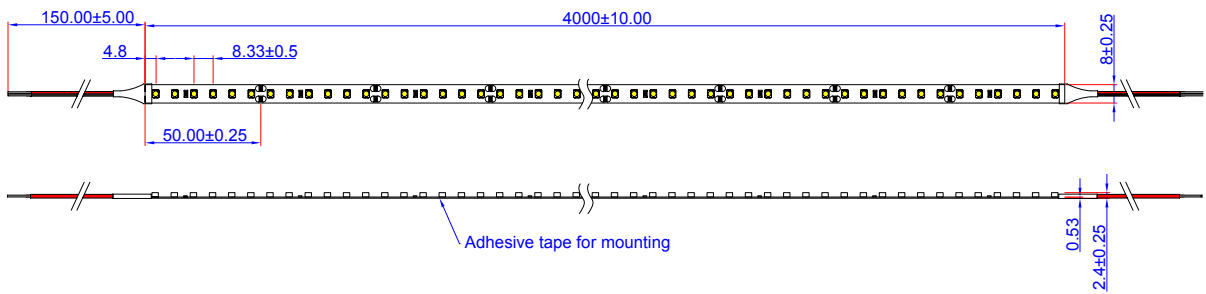
3528-60LEDs/M Series Dimensions (CV 12V IP20)



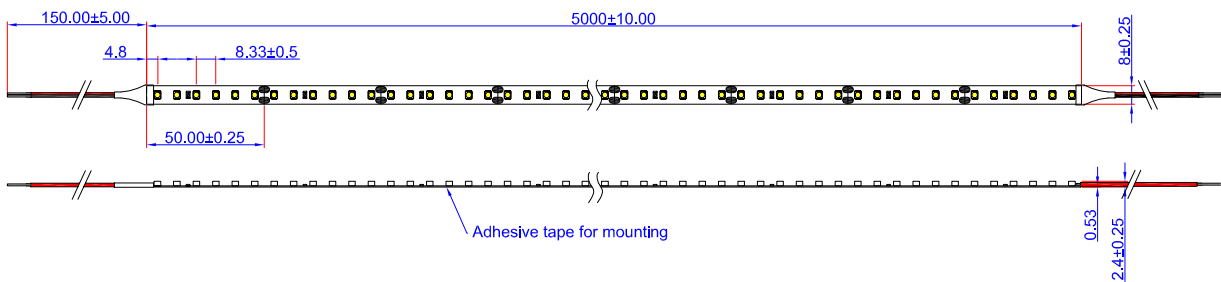
3528-60LEDs/M Series Dimensions (CV 24V IP20)



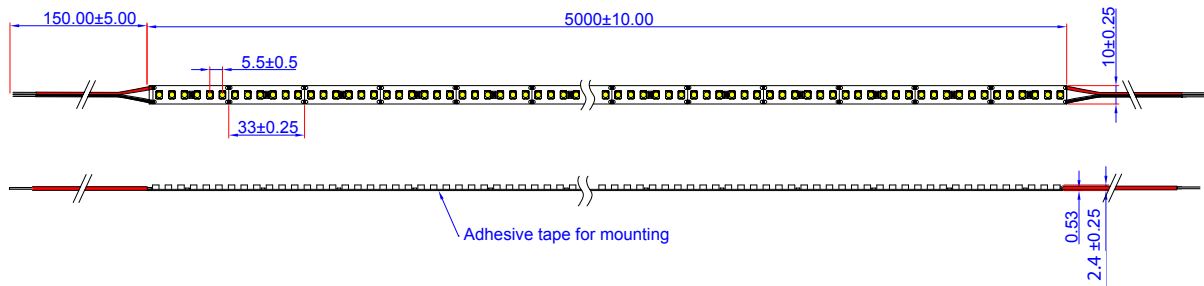
3528-120LEDs/M -4M Series Dimensions (CV 24V IP20)



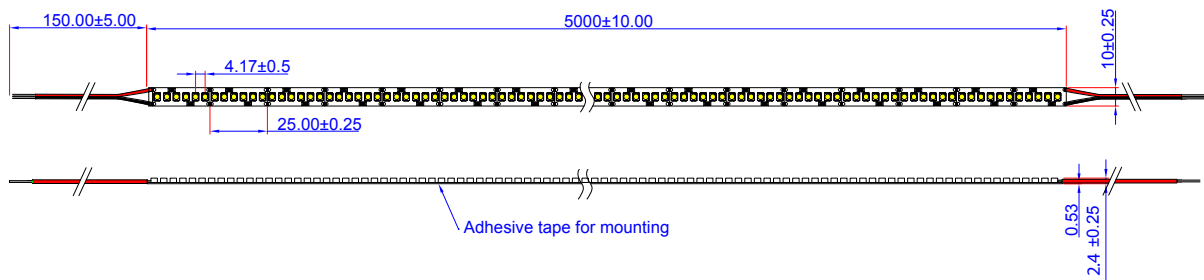
3528-120LEDs/M -5M Series Dimensions (CV 24V IP20)



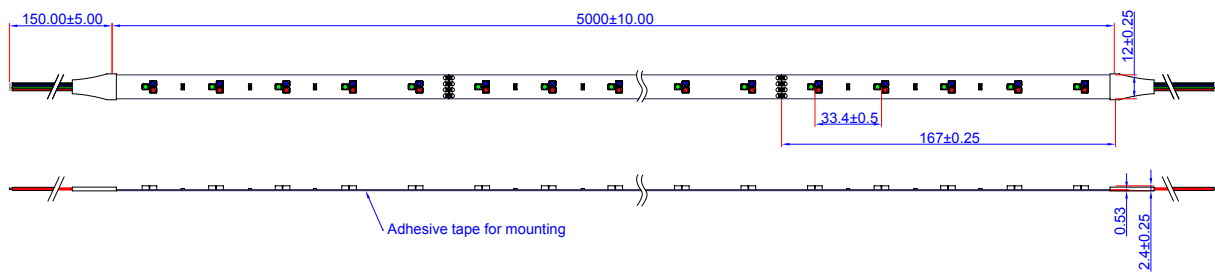
3528-180LEDs/M Series Dimensions (CV 24V IP20)



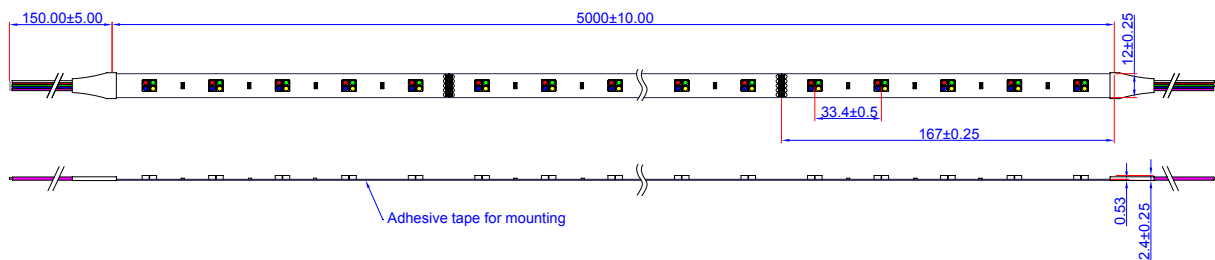
3528-240LEDs/M Series Dimensions (CV 24V IP20)



6LBR1M1NJ000002 Series Dimensions (RTB/ CV 24V IP20)



6LBR1MxNJ000000x Series Dimensions (RTBx/ CV 24V IP20)



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.20 mm

Electric-Optical Characteristics

3825-60LEDs/M Series Dimensions (CV 12V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWN10000001	5700	12	430 lm/M	387 lm/M	90 lm/W	81 lm/W	4.8	>80
6LBR1NWN10000001	4000	12	430 lm/M	387 lm/M	90 lm/W	81 lm/W	4.8	>80
6LBR1WWN10000001	3000	12	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>80
	2700	12	360 lm/M	324 lm/M	75 lm/W	68 lm/W	4.8	>80
6LBR1CWN10000010	5700	12	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>90
6LBR1NWN10000009	4000	12	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>90
6LBR1WWN10000007	3000	12	370 lm/M	333 lm/M	77 lm/W	69 lm/W	4.8	>90
	2700	12	340 lm/M	306 lm/M	71 lm/W	64 lm/W	4.8	>90
6LBR1RXN10000001	Red	12	140 lm/M	126 lm/M	29 lm/W	26 lm/W	4.8	-
6LBR1TXN10000003	Green	12	280 lm/M	252 lm/M	58 lm/W	52 lm/W	4.8	-
6LBR1BXN10000001	Blue	12	80 lm/M	72 lm/M	17 lm/W	15 lm/W	4.8	-
6LBR1PXN10000001	Deep Pink	12	300 lm/M	270 lm/M	63 lm/W	57 lm/W	4.8	>80
6LBR1PXN10000002	Pink	12	300 lm/M	270 lm/M	63 lm/W	57 lm/W	4.8	>80

3825-60LEDs/M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWNJ00000004	5700	24	430 lm/M	387 lm/M	90 lm/W	81 lm/W	4.8	>80
6LBR1NWNJ00000005	4000	24	430 lm/M	387 lm/M	90 lm/W	81 lm/W	4.8	>80
6LBR1WWNJ00000006	3000	24	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>80
	2700	24	360 lm/M	324 lm/M	75 lm/W	68 lm/W	4.8	>80
6LBR1CWNJ00000009	5700	24	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>90
6LBR1NWNJ00000013	4000	24	390 lm/M	351 lm/M	81 lm/W	73 lm/W	4.8	>90
6LBR1WWNJ00000011	3000	24	370 lm/M	333 lm/M	77 lm/W	69 lm/W	4.8	>90
	2700	24	340 lm/M	306 lm/M	71 lm/W	64 lm/W	4.8	>90
6LBR1RXNJ00000002	Red	24	140 lm/M	126 lm/M	29 lm/W	26 lm/W	4.8	-
6LBR1TXNJ00000002	Green	24	280 lm/M	252 lm/M	58 lm/W	52 lm/W	4.8	-
6LBR1BXNJ00000002	Blue	24	80 lm/M	72 lm/M	17 lm/W	15 lm/W	4.8	-
6LBR1PXNJ00000003	Deep Pink	24	300 lm/M	270 lm/M	63 lm/W	57 lm/W	4.8	>80
6LBR1PXNJ00000005	Pink	24	300 lm/M	270 lm/M	63 lm/W	57 lm/W	4.8	>80

3825-120LEDs/M-4M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWNJ0000001	5700	24	840 lm/M	756 lm/M	88 lm/W	78 lm/W	9.6	>80
6LBR1NWNJ0000001	4000	24	780 lm/M	702 lm/M	81 lm/W	73 lm/W	9.6	>80
6LBR1WWNJ0000001	3000	24	720 lm/M	648 lm/M	75 lm/W	66 lm/W	9.6	>80
	2700	24	680 lm/M	612 lm/M	71 lm/W	63 lm/W	9.6	>80
6LBR1CWNJ0000011	5700	24	740 lm/M	666 lm/M	77 lm/W	69 lm/W	9.6	>90
6LBR1NWNJ0000014	4000	24	680 lm/M	612 lm/M	71 lm/W	64 lm/W	9.6	>90
6LBR1WWNJ0000012	3000	24	620 lm/M	558 lm/M	65 lm/W	59 lm/W	9.6	>90
	2700	24	600 lm/M	540 lm/M	62 lm/W	56 lm/W	9.6	>90
6LBR1RXNJ0000001	Red	24	200 lm/M	180 lm/M	21 lm/W	19 lm/W	9.6	-
6LBR1TXNJ0000001	Green	24	440 lm/M	396 lm/M	46 lm/W	41 lm/W	9.6	-
6LBR1BXNJ0000001	Blue	24	100 lm/M	90 lm/M	10 lm/W	9 lm/W	9.6	-
6LBR1PXNJ0000002	Deep Pink	24	520 lm/M	468 lm/M	54 lm/W	49 lm/W	9.6	>80
6LBR1PXNJ0000004	Pink	24	520 lm/M	468 lm/M	54 lm/W	49 lm/W	9.6	>80

3825-120LEDs/M-5M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWJE0J12009	5700	24	860 lm/M	774 lm/M	90 lm/W	81 lm/W	9.6	>80
6LBR1NWJE0J12009	4000	24	860 lm/M	774 lm/M	90 lm/W	81 lm/W	9.6	>80
6LBR1WWJE0J12009	3000	24	780 lm/M	702 lm/M	81 lm/W	73 lm/W	9.6	>80
	2700	24	680 lm/M	612 lm/M	71 lm/W	63 lm/W	9.6	>80
6LBR1CWJE0J12011	5700	24	780 lm/M	702 lm/M	81 lm/W	73 lm/W	9.6	>90
6LBR1NWJE0J12011	4000	24	780 lm/M	702 lm/M	81 lm/W	73 lm/W	9.6	>90
6LBR1WWJE0J12011	3000	24	740 lm/M	666 lm/M	77 lm/W	69 lm/W	9.6	>90
	2700	24	640 lm/M	576 lm/M	67 lm/W	60 lm/W	9.6	>90

3825-180LEDs/M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWJE0J18002	5700	24	1300 lm/M	1170 lm/M	90 lm/W	81 lm/W	14.4	>80
6LBR1NWJE0J18002	4000	24	1300 lm/M	1170 lm/M	90 lm/W	81 lm/W	14.4	>80
6LBR1WWJE0J18002	3000	24	1165 lm/M	1049 lm/M	81 lm/W	73 lm/W	14.4	>80
	2700	24	1020 lm/M	918 lm/M	70 lm/W	63 lm/W	14.4	>80
6LBR1CWJE0J18001	5700	24	1165 lm/M	1049 lm/M	81 lm/W	73 lm/W	14.4	>90
6LBR1NWJE0J18001	4000	24	1165 lm/M	1049 lm/M	81 lm/W	73 lm/W	14.4	>90
6LBR1WWJE0J18001	3000	24	1095 lm/M	985 lm/M	76 lm/W	68 lm/W	14.4	>90
	2700	24	950 lm/M	855 lm/M	66 lm/W	59 lm/W	14.4	>90

3825-240LEDs/M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1CWJE0J24004	5700	24	1705 lm/M	1535 lm/M	89 lm/W	80 lm/W	19.2	>80
6LBR1NWJE0J24004	4000	24	1705 lm/M	1535 lm/M	89 lm/W	80 lm/W	19.2	>80
6LBR1WWJE0J24004	3000	24	1535 lm/M	1382 lm/M	80 lm/W	72 lm/W	19.2	>80
	2700	24	1385 lm/M	1247 lm/M	72 lm/W	65 lm/W	19.2	>80
6LBR1CWJE0J24003	5700	24	1535 lm/M	1382 lm/M	80 lm/W	72 lm/W	19.2	>90
6LBR1NWJE0J24003	4000	24	1535 lm/M	1382 lm/M	80 lm/W	72 lm/W	19.2	>90
6LBR1WWJE0J24003	3000	24	1440 lm/M	1296 lm/M	75 lm/W	68 lm/W	19.2	>90
	2700	24	1290 lm/M	1161 lm/M	67 lm/W	60 lm/W	19.2	>90

3825-180LEDs/M Series Dimensions (CV 24V IP20)

Order code	CCT (K)	Voltage (CV)	Luminous flux TP25°C	Luminous flux TP65°C	Efficacy TP25°C	Efficacy TP65°C	Power (W/M)	Ra
6LBR1M1NJ0000002	Red	24	48 lm/M	43 lm/M	17 lm/W	15 lm/W	2.88	-
	Green	24	108 lm/M	97 lm/M	38 lm/W	34 lm/W	2.88	-
	Blue	24	24 lm/M	22 lm/M	8 lm/W	7 lm/W	2.88	-
6LBR1M2NJ0000002	Cool White	24	210 lm/M	189 lm/M	73 lm/W	66 lm/W	2.88	>80
	Red	24	48 lm/M	43 lm/M	17 lm/W	15 lm/W	2.88	-
	Green	24	108 lm/M	97 lm/M	38 lm/W	34 lm/W	2.88	-
	Blue	24	24 lm/M	22 lm/M	8 lm/W	7 lm/W	2.88	-
6LBR1M7NJ0000001	Warm White	24	180 lm/M	162 lm/M	63 lm/W	57 lm/W	2.88	>80
	Red	24	48 lm/M	43 lm/M	17 lm/W	15 lm/W	2.88	-
	Green	24	108 lm/M	97 lm/M	38 lm/W	34 lm/W	2.88	-
	Blue	24	24 lm/M	22 lm/M	8 lm/W	7 lm/W	2.88	-

Notes:

1. The Maximum and minimum lumen flux are based on $\pm 10\%$ of the typical rate.
2. The Maximum and minimum Power are based on $\pm 10\%$ of the typical rate.

Standards

Energy classification

Type	CCT	Energy Classification
3825-12v-60LED/M Series	2700/3000K	A+
	4000/5700K	A+
3528-24v-60LED/M Series	2700/3000K	A+
	4000/5700K	A+
3528-24v-120LED/M Series	2700/3000K	A
	4000/5700K	A+
3528-24v-180LED/M Series	2700/3000K	A
	4000/5700K	A+
3528-24v-240LED/M Series	2700/3000K	A
	4000/5700K	A

Thermal details

Energy classification

Storage temperature:-35 ... +70 °C

Operation only in non condensing environment.

Humidity during processing of the module should be between 0 to 70 %

Life time

Life-time, lumen maintenance and failure rate

1. The light output of an LED Module decreases over the life-time, this is characterized with the L value.
2. L70 means that the LED module will give 70 % of its initial luminous flux. This value is always related to the number of operation hours and therefore defines the life-time of an LED module.
3. As the L value is a statistical value and the lumen maintenance may vary over the delivered LED modules value defines the amount of modules which are below the specific L value, e.g. L70B10 means 10 % of the LED modules are below 70 % of the initial luminous flux, respectively 90 % will be above 70 % of the initial value. In addition the percentage of failed modules (fatal failure) is characterized by the C value.
4. The F value is the combination of the B and C value. That means for F degradation and complete failures are considered, e.g. L70F10 means 10 % of the LED Modules may fail or below 70% of the initial luminous flux.

Lumen maintenance for 3528-12v-60LED/M Series

Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
12V	40	>22,000 h	>22,000 h	>24,000 h	>30,000 h	>30,000 h	>30,000 h
12V	45	>22,000 h	>22,000 h	>24,000 h	>30,000 h	>30,000 h	>30,000 h
12V	55	>20,000 h	>19,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
12V	65	>18,000 h	>17,000 h	>20,000 h	>30,000 h	>30,000 h	>30,000 h
12V	75	>15,000 h	>16,000 h	>18,000 h	>30,000 h	>30,000 h	>30,000 h

Lumen maintenance for 3528-24v-60LED/M Series

Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
24V	40	>22,000 h	>22,000 h	>24,000 h	>30,000 h	>30,000 h	>30,000 h
24V	45	>22,000 h	>22,000 h	>24,000 h	>30,000 h	>30,000 h	>30,000 h
24V	55	>20,000 h	>19,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
24V	65	>18,000 h	>17,000 h	>20,000 h	>30,000 h	>30,000 h	>30,000 h
24V	75	>15,000 h	>16,000 h	>18,000 h	>30,000 h	>30,000 h	>30,000 h

Lumen maintenance for 3528-24v-120LED/M Series

Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
24V	40	>23,000 h	>24,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
24V	45	>23,000 h	>24,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
24V	55	>18,000 h	>19,000 h	>18,000 h	>30,000 h	>30,000 h	>30,000 h
24V	65	>16,000 h	>17,000 h	>16,000 h	>30,000 h	>30,000 h	>30,000 h
24V	75	>12,000 h	>13,000 h	>15,000 h	>30,000 h	>30,000 h	>30,000 h

Lumen maintenance for 3528-24v-180LED/M Series

Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
24V	40	>23,000 h	>24,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
24V	45	>22,000 h	>23,000 h	>21,000 h	>30,000 h	>30,000 h	>30,000 h
24V	55	>18,000 h	>19,000 h	>18,000 h	>30,000 h	>30,000 h	>30,000 h
24V	65	>16,000 h	>17,000 h	>16,000 h	>30,000 h	>30,000 h	>30,000 h
24V	75	>12,000 h	>13,000 h	>15,000 h	>30,000 h	>30,000 h	>30,000 h

Lumen maintenance for 6LBR1MXNJ000000X Series

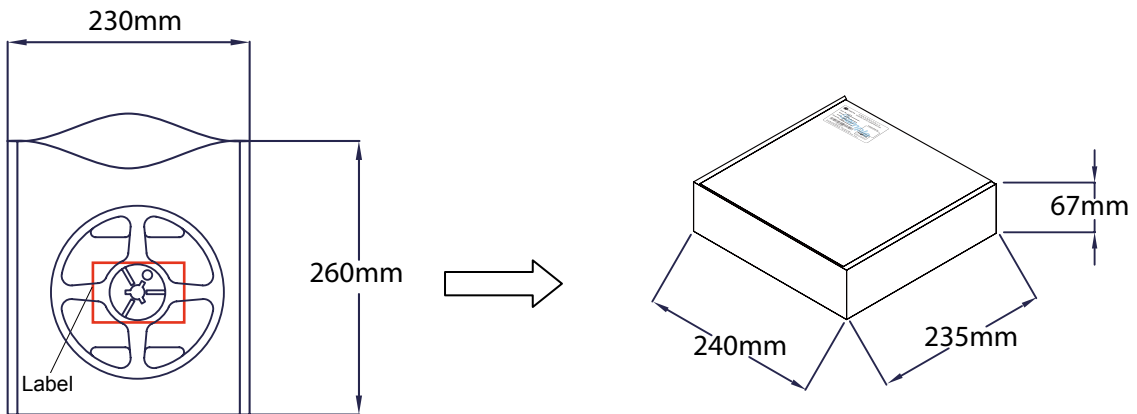
Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
24V	40	>18,000 h	>20,000 h	>24,000 h	>30,000 h	>30,000 h	>30,000 h
24V	45	>17,000 h	>18,000 h	>23,000 h	>30,000 h	>30,000 h	>30,000 h
24V	55	>15,000 h	>16,000 h	>20,000 h	>30,000 h	>30,000 h	>30,000 h
24V	65	>12,000 h	>14,000 h	>18,000 h	>30,000 h	>30,000 h	>30,000 h
24V	75	>10,000 h	>12,000 h	>16,000 h	>30,000 h	>30,000 h	>30,000 h

Lumen maintenance for 6LBR1MXNJ000000X Series

Supply Voltage	Tp temperature	L90/F10	L90/F50	L80/F10	L80/F50	L70/F10	L70/F50
24V	40	>22,000 h	>24,000 h	>26,000 h	>30,000 h	>30,000 h	>30,000 h
24V	45	>20,000 h	>22,000 h	>25,000 h	>30,000 h	>30,000 h	>30,000 h
24V	55	>18,000 h	>20,000 h	>23,000 h	>30,000 h	>30,000 h	>30,000 h
24V	65	>16,000 h	>18,000 h	>22,000 h	>30,000 h	>30,000 h	>30,000 h
24V	75	>15,000 h	>16,000 h	>20,000 h	>30,000 h	>30,000 h	>30,000 h

Product Packaging Information

Type	Anti-static bag size(mm)	Anti-static bags/ inner box(pcs)	Inner box/carton(pcs)	Outside Carton size(mm)	GW±5% (kg)
3528-12V-60LED/M Series	260x230x10	5	10	488x261x364	7.2
3528-24V-60LED/M Series	260x230x10	5	10	488x261x364	7.2
3528-24V-120 LED/M Series	260x230x10	5	10	488x261x364	7.3
3528-24V-180 LED/M Series	260x230x10	4	10	488x261x364	7.5
3528-24V-240 LED/M Series	260x230x10	4	10	488x261x364	7.9



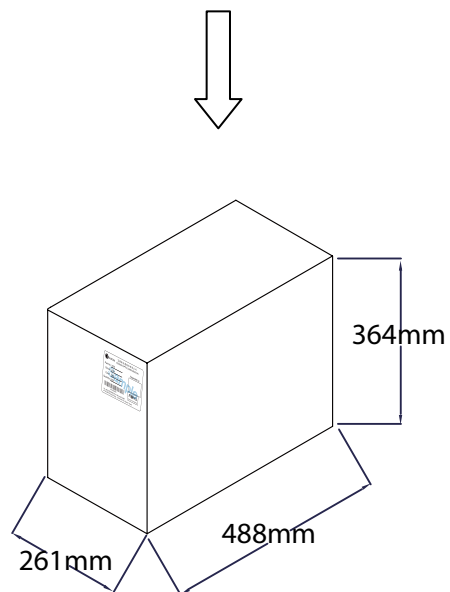
EX:



EDISON 艾笛森光電股份有限公司
 EDISON OPTO CORPORATION
 Part No : _____ Inspected By: _____
 Color : _____
 Quantity : _____
 Lot No : _____
 TEL: 886-2-82276996 FAX: 886-2-82276997
 4F, No. 800, Chung-Cheng Rd., Chung-Ho City, Taipei, Taiwan.

Label information

Part NO. : Order code
 Color : Color(Emitter BIN color)
 Quantity : The number of packing
 Lot NO. : Date code



Precaution for Use

1. DO NOT use the products with materials has Sulfur.
2. DO NOT assemble in humid environment or the conditions of containing oxidizing gas such as C1, H₂S, NH₃, SO₂, NOX, etc.
3. DO NOT add or change wires while the circuit of Module is active. Long time exposure to sunlight or UV should be avoided.
4. DO NOT press the product; even a slight pressure may damage the product. The environments such as high temperatures, high humidity or direct expose to sunlight should be avoided since the product is sensitive to these conditions.
5. Installation of LED modules (with power supplies) needs to be made with regard to all applicable and safety standards. Only qualified personnel should be allowed to perform installations.
6. Assembly must not damage or destroy conducting paths on the circuit board.
7. Please ensure that the power supply is of adequate power to operate the total load.
8. The maximum run length from any power feed should be limited to 5000 mm

Environmental Compliance

PLCC lightbar FPC series are compliant to the Restriction of Hazardous Substances Directive or RoHS. The restricted materials including lead, mercury cadmium hexavalent chromium, polybrominated biphenyls (PBB) and polybrominated diphenyl ether (PBDE) are not used in PLCC lightbar FPC series to provide an environmentally friendly product to the customers.

Application Notes

PLCC Lightbar series are available in red, yellow, green, blue, white, neutral white and warm white for application such as under-cabinet lighting, cove lighting and wall washing. Moreover, additional fine-tuned high color rendering index (CRI) version of white, neutral white and warm white all make PLCC Lightbar the ideal lighting choice for vividly building or decoration products, presenting the products outline.

Revision History

Versions	Description	Release Date
1	Establish order code information	2013/06/20
2	1. Update the Emitting Color of order code format and Ra 2. Add the label information	2013/07/23
3	Add Pink order code (12V, 24V)	2013/11/29
4	Add Order Code	2014/12/25
5	1. Add characteristic 2. Add Ordering Code Format (New) 3. Add 6LBR1xWJEOJxx001 Series information 4. Revise CRI Value from 70/75 to 80 5. Revise Mechanical Dimensions	2016/01/18
6	Add Precaution for Use Revise Typ. Flux Value	2017/05/08
7	Add 6LBR1xWJEOJxx009 Series Information	2017/11/09
8	Add Lightbar Series (CV 24V and CV 12V) Ra90 Information	201810/18
9	Add Lightbar Series (180D/M and 240D/M) Ra80 Information	2019/01/10
10	Upgrade version	2019/08/30

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

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