



Technical Data Sheet

Solderless Power LED

3X-03UXC/S599

Features

- . High Flux Output.
- . Designed for High Current Operation.
- . Low Thermal Resistance: $R_{th\ J-A}=75^{\circ}\text{C/W}$
- . Low Profile.
- . Packaged in Tubes for Use with Automatic Insertion Equipment.
- . The product itself will remain within RoHS compliant version.
- . ESD-withstand voltage: up to 4KV



34-03



35-03

Descriptions

Using the solderless mounting technology, the emitters are attached to a formable metal substrate that offers both styling flexibility and ruggedness unmatched by any other LED assembly.

The brilliant luminance, flexibility, and reliability enable distinctive and durable lighting designs for vehicles, signals, and specialty lighting.

Applications

- . Automotive Lighting
- . Rear Combination Lamps
- . Front Turn Signal Lamps
- . High Mount Stop Lamps
- . Indirect Lighting
- . Electronic Signs and Signals
- . Special Lighting application

Device Selection Guide

PART NO.	Chip		Lens Color
	Material	Emitted Color	
3X-03UYC/S599	AlGaInP	Super Yellow	Water Clear
3X-03USOC/S599		Super Sunset Orange	
3X-03SURC/S599		Hyper Red	



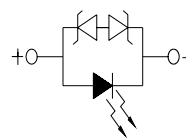
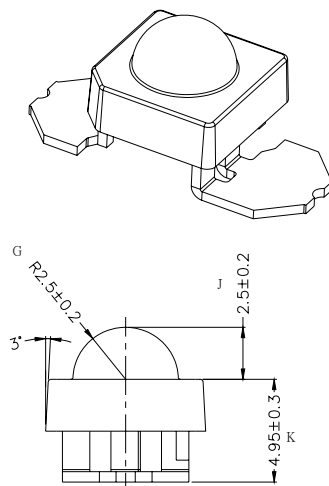
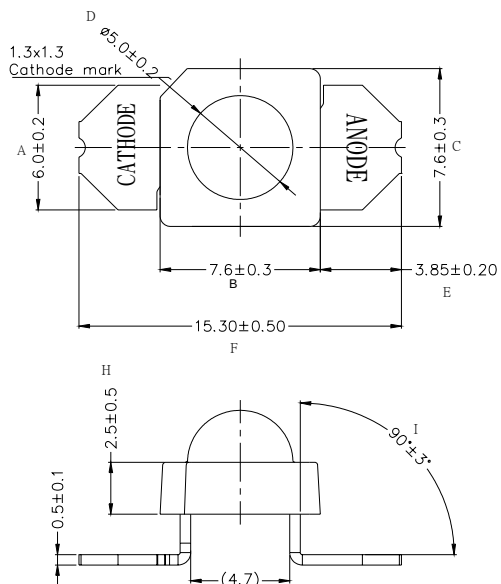
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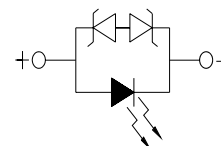
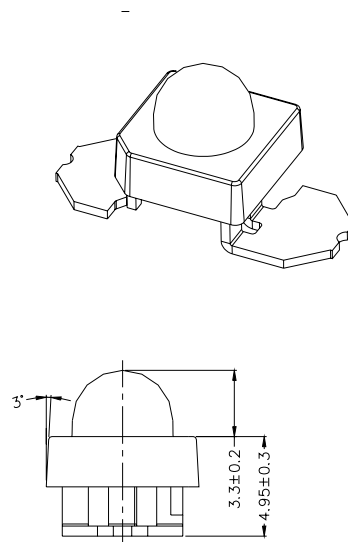
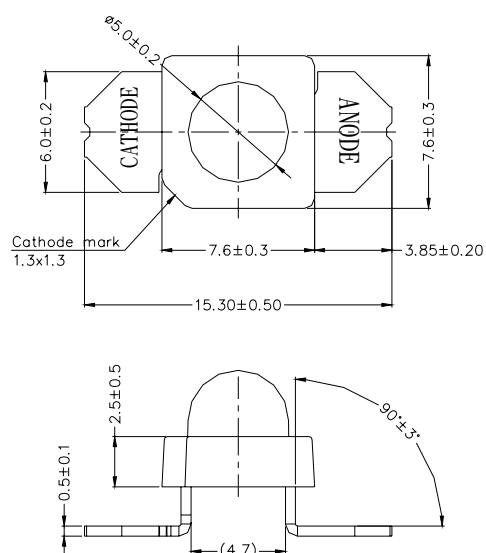
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Package Dimensions

(34-03)



(35-03)



Notes: 1.All dimensions are in millimeters

2.An epoxy meniscus may extend about 1.5mm(0.059") down the leads



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Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
Continuous Forward Current	I_F	150	mA
Peak Forward Current(Duty 1/10 @ 1KHZ)	I_{FP}	300	mA
Reverse Voltage	V_R	5	V
Operating Temperature	T_{opr}	-40 ~ +100	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Soldering Temperature(T=5 sec)	T_{sol}	260 ± 5	°C
LED Junction Temperature	T_j	115	°C
Power Dissipation	P_d	400	mW
Electrostatic Discharge	ESD	4K	V



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Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Part No.	Min.	Typ.	Max.	Condition	Unit
Total Flux	Φ_v	3X-03UYC	9000	11000	----	I _F =150mA	mlm
		3X-03USOC	9000	11000	----	I _F =150mA	mlm
		3X-03SURC	7150	8000	----	I _F =150mA	mlm
Viewing Angle	2 θ 1/2	34-03UXC	----	85	----	I _F =150mA	deg
		35-03UXC	----	30	----		
Peak Wavelength	λ_p	3X-03UYC	----	592	----	I _F =70mA	nm
		3X-03USOC	---	622	----		
		3X-03SURC		632			
Dominant Wavelength	λ_d	3X-03UYC	----	590	----	I _F =70mA	nm
		3X-03USOC	----	616	----		
		3X-03SURC		624			
Spectrum Radiation Bandwidth	$\Delta \lambda$	3X-03UYC	----	15	----	I _F =70mA	nm
		3X-03USOC	----	18	----		
		3X-03USUC		20			
Forward Voltage	V _F	3X-03UXC	----	2.3	3.1	I _F =150mA	V
Reverse Current	I _R	3X-03UXC	----	----	10	V _R =5V	uA
Zener Reverse Voltage	V _Z	3X-03UXC	5.4	----	----	I _Z =5mA	V



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Rank

(1) Vf(V)			(1)	(2)	(3)	(3) Φv(mlm)		
								
			(3X-03UYC) (2) λ d(nm)					
Bin	Min	Max	Bin	Min	Max	Bin	Min	Max
3	2.10	2.30	1	586	590	U	9000	11250
4	2.30	2.50	2	590	594	V	11250	14250
5	2.50	2.70	3	594	598	W	14250	18000
6	2.70	2.90	(3X-03USOC) (2) λ d(nm)					
7	2.90	3.10	1	610	614			
			2	614	618			
			3	618	622			
			(3X-03SURC) (2) λ d(nm)					
			1	620	624	T	7150	9000
			2	624	628	U	9000	11250
			3	628	632	V	11250	14250

*Measurement Uncertainty of Forward Voltage : $\pm 0.1V$

*Measurement Uncertainty of Luminous Intensity: $\pm 15\%$



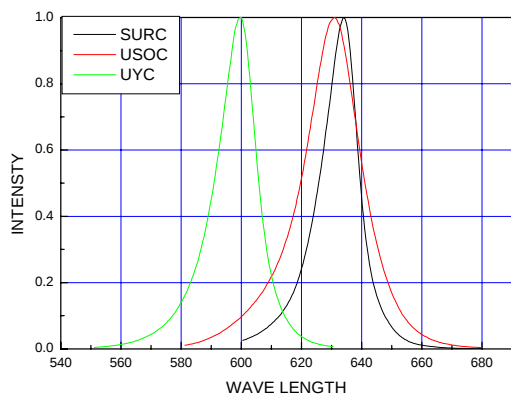
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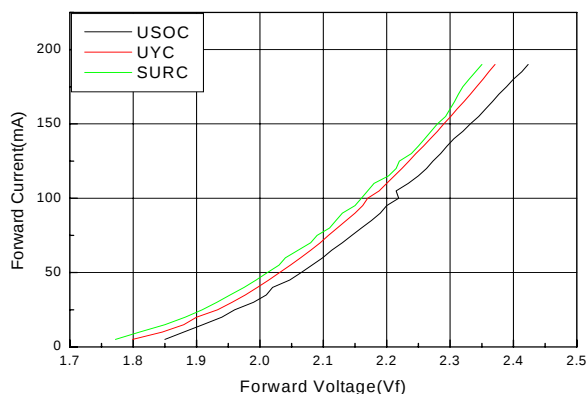
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Typical Electro-Optical Characteristics Curves

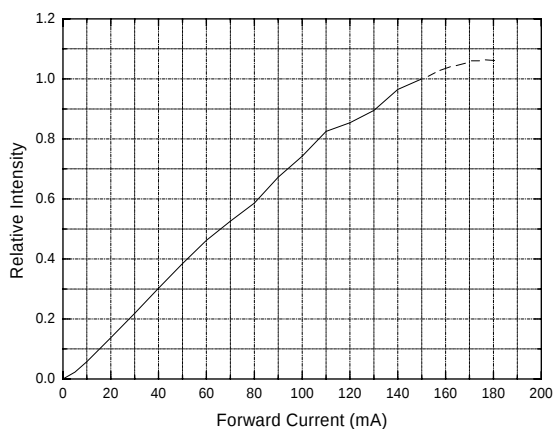
Relative Intensity vs. Wavelength



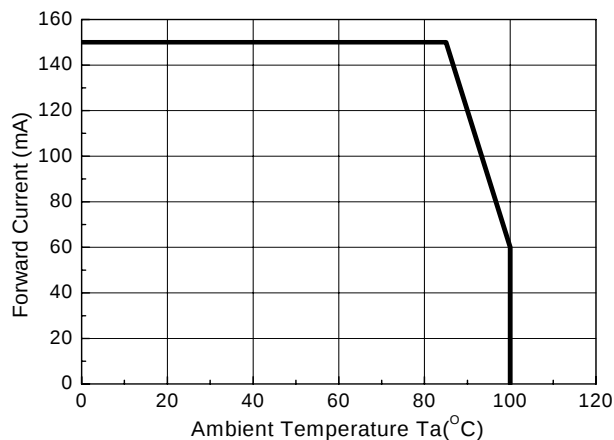
Forward Current vs. Forward Voltage



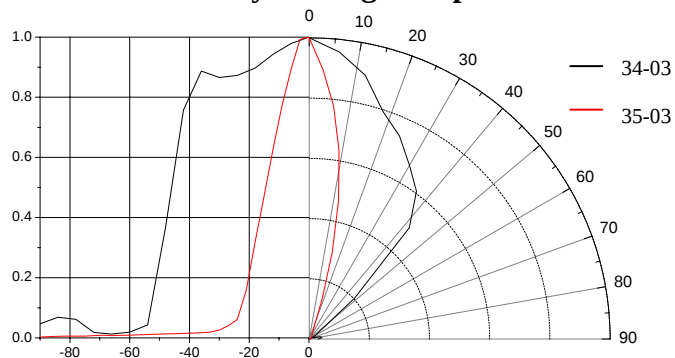
Relative Intensity vs. Forward Current



Forward Current vs. Ambient Temp.



Relative Intensity vs. Angle Displacement





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Label Form Specification

EVERLIGHT

CPN:
P/N:


RoHS

3X-03UXC/S599
QTY :
CAT:
HUE:
LOT NO :
REF:

MADE IN TAIWAN

CPN: Customer's Production Number
P/N : Production Number
QTY: Packing Quantity
CAT: Ranks of Total Flux and Forward Voltage
HUE: Rank of Dominant Wavelength
REF: Reference
LOT No: Lot Number
MADE IN TAIWAN: Production Place



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Reliability Data

1. Description

The following cumulative test results have been obtained from testing performed in accordance with the latest revision of MIL_STD_883. Everlight tests parts at the absolute maximum rated conditions recommended for the device. The actual performance you obtain depends on the electrical and environmental characteristics of your application, but will probably be better than the performance outlined in the table below.

2. Reliability Conditions

Test Item	Reference	Test Condition	Note
Steady State Operating Life of High Ambient Temperature	Internal Reference	Ta=55°C If=150mA	1000hrs.
High Temperature Humidity Operating Test	JEITA ED-4701 100 103	Ta=60 °C, RH=90% If=100mA	1000hrs.
Temperature Cycle	MIL-STD-883 Method 1010	-40 °C~120 °C, 15 min. dwell, 5min transfer	200 cycles
Power Temperature Cycle	Internal Reference	-40 °C~85 °C, 18 min. dwell, 42min. transfer, 150 mA, 5min. on/off	100 cycles
Pulse Test	Internal Reference	Ta=55 °C Pulse 50% Duty Factor, 2Hz If=200mA	1000hrs.

3. Criteria for Judging the Damage

Item	Symbol	Test Condition	Criteria For Judgment
Forward Voltage	Vf	If=150mA	Vf difference < 10%
Total Flux	Φv	If=150mA	Brightness attenuate difference (1000 hrs.)< 30%



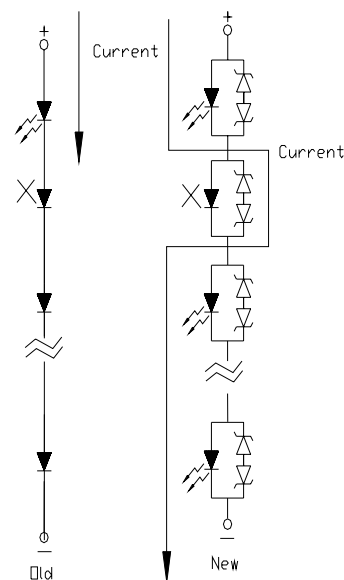
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Notes

1. Above specification may be changed without notice. EVERLIGHT will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. EVERLIGHT assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
3. These specification sheets include materials protected under copyright of EVERLIGHT corporation. Please don't reproduce or cause anyone to reproduce them without EVERLIGHT's consent.
4. When the LED is connected using serial circuit, if either piece of LED is no light up but current can't flow through causing others to light down. In new design, the LED is parallel with zener diode. if either piece of LED is no light up but current can flow through causing others to light up
5. Below the zener reference voltage V_z , all the current flows through LED and as the voltage rises to V_z , the zener diode "breakdown." If the voltage tries to rise above V_z current flows through the zener branch to keep the voltage at exactly V_z .



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