

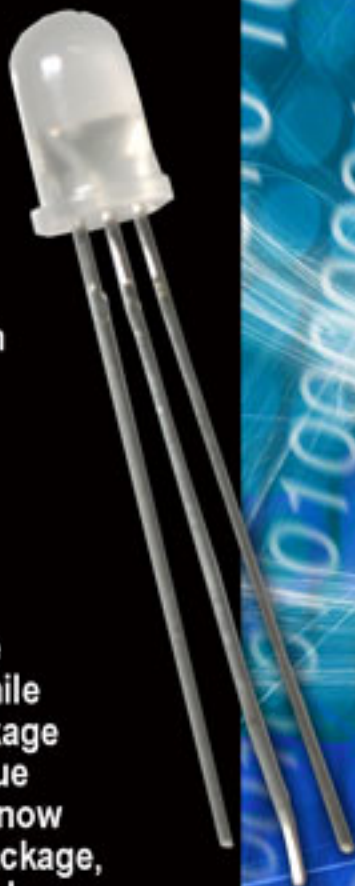
# SmartSolution

## THE PROBLEM

A customer needed to be able to detect multiple objects using a visible and infrared LED. The problem arose that the geometry required that both light sources emit from approximately the same location. The photo sensor used also required that these LEDs meet a minimum output power.

## The Solution

Lumex was able to design a single epoxy package for both the infrared and visible LED die. The unique LED design and chip selection also ensured that the minimum output power requirement would be met consistently and reliably.



## The Result!

Once again, Lumex saves the customer time and money while developing an attractive package solution! Thanks to the unique Lumex design, the customer now has only one discrete LED package, with both a red diode chip and an infrared diode chip, within its limited space restriction, versus the two it would have had to have used. This ultimately reduced both the customer's materials costs and production time. An all-in-one time-saving, attractive and cost-effective solution.

**Only from Lumex!**



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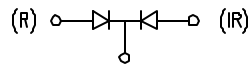
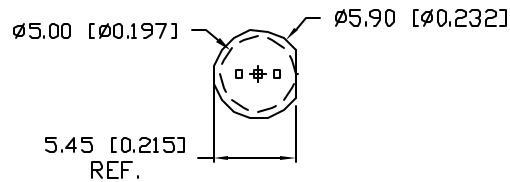
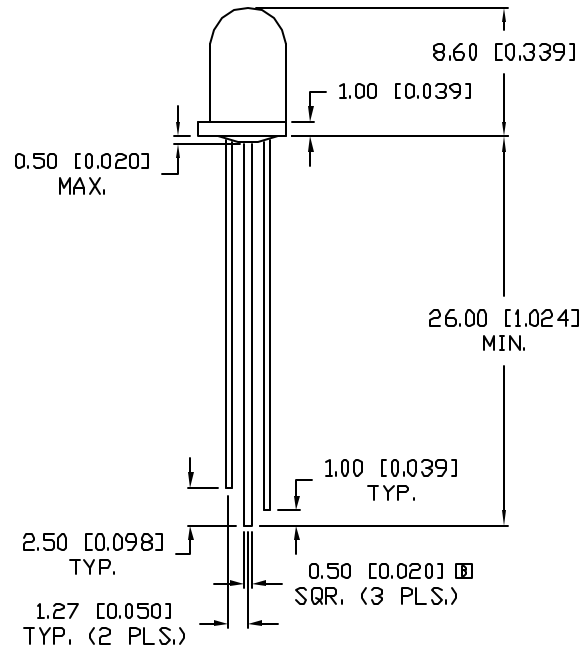
**Solution Part Number  
SSL-LX5097EW  
Available  
Now**

UNCONTROLLED DOCUMENT

PART NUMBER  
SSL-LX5097EIW

REV.  
C

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10485.	12.7.98
B	E.C.N. #10BRDR. & #10947.	1.22.03
C	E.C.N. #11148	11.03.06



COMMON CATHODE

ELECTRO-OPTICAL CHARACTERISTICS  $T_A=25^{\circ}\text{C}$   $I_f=20\text{mA}$

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH		940 (IR)		nm	
		635 (RED)		nm	
FORWARD VOLTAGE (IR/R)		1.2/2.0	1.6/2.5	V <sub>f</sub>	
REVERSE VOLTAGE	5.0			V <sub>r</sub>	$I_f=100\mu\text{A}$
AXIAL INTENSITY (IR)	7	20		mW/SR	$I_f=20\text{mA}$
AXIAL INTENSITY (R)	36	65		mcd	
VIEWING ANGLE		60		2x theta	
EMITTED COLOR:	IR/RED				
EPOXY LENS FINISH:	MILKY WHITE DIFFUSED				

LIMITS OF SAFE OPERATION AT 25°C

PARAMETER	COLORS	MAX	UNITS
PEAK FORWARD CURRENT*	(IR/R)	1200/150	mA
STEADY CURRENT	(IR/R)	50/30	mA
POWER DISSIPATION	(IR/R)	100/105	mW
DERATE FROM 25°C		-1.2	mW/°C
OPERATING, STORAGE TEMP.		-40 TO +85	°C
SOLDERING TEMP.		+260	°C
2.0mm FROM BODY			3 SEC. MAX

\*  $t < 10\mu\text{s}$



\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030), MIN=+0.00 DECIMAL PRECISION MAX.=+0.00 DECIMAL PRECISION

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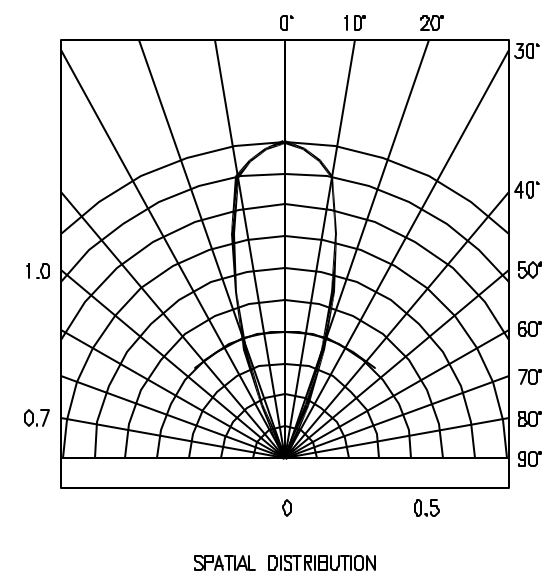
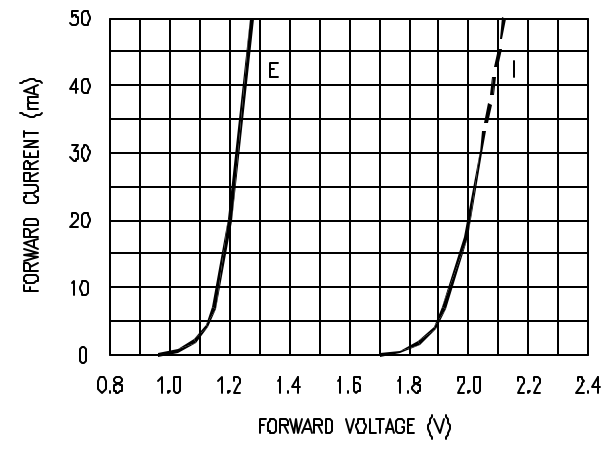
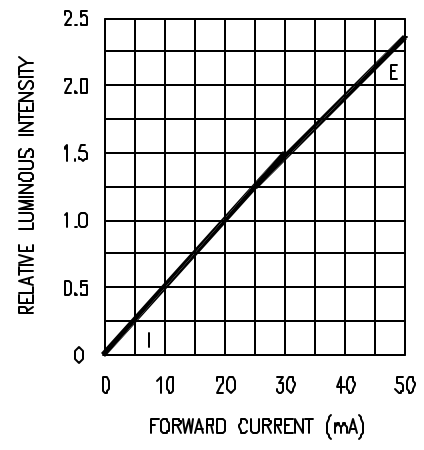
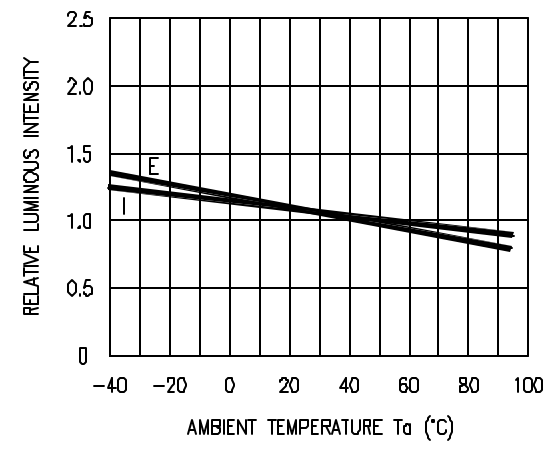
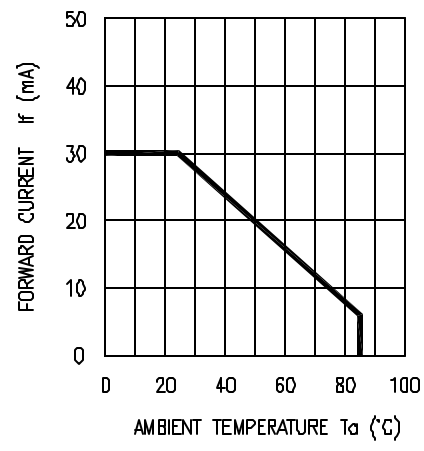
T-5mm (T-1 3/4) LED, IR/RED BIPOLAR LED,  
COMMON CATHODE, 0.05" LEAD SPACING,  
MILKY WHITE DIFFUSED LENS.

RELIABILITY NOTE  
OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.

DRAWN BY: JC	CHECKED BY:	APPROVED BY:	DATE: 11.03.06
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			SCALE: N/A

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REV.	PART NUMBER
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