

SMART

SOLUTION

The Problem

A manufacturer of medical equipment was using an array of 14 discrete rectangular LEDs. Their problem is that color and intensity varied from LED to LED. There was also a secondary problem of having the LEDs line up uniformly.



Lumex's SMART Solution

Lumex designed a drop in, chips-on-board light bar which mechanically accommodated the same area, and simultaneously fitted on the existing power circuit on the board. All of the LEDs utilized in the Lumex design were color and intensity matched.



The Result

Lumex was able to provide the customer with a product that is more attractive, allowing for maximum intensity and consistency in color. The customer also saved lots of money on the final installed assembly costs by making it easy to place on the board and eliminating expensive rework.

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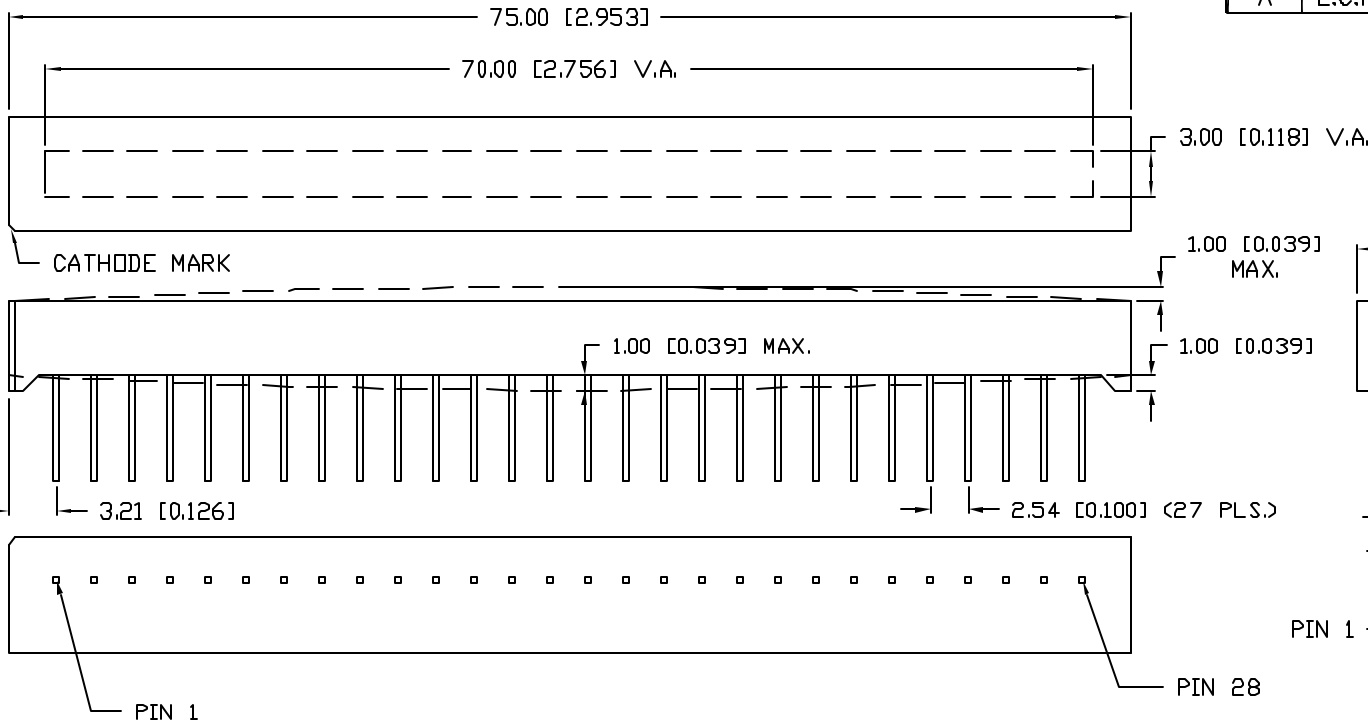
Solution Part Number
SSB-LX7003SIW
Available June
2007.

UNCONTROLLED DOCUMENT

PART NUMBER
SSB-LX7003SIW

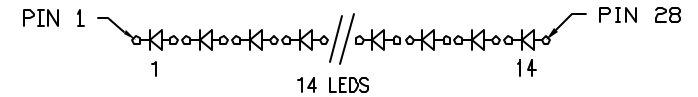
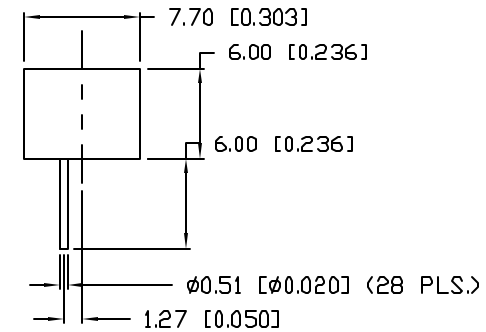
REV.
A

| REV. | E.C.N. NUMBER AND REVISION COMMENTS | DATE |
|------|-------------------------------------|----------|
| A | E.C.N. #11390. | 01.15.07 |



NOTES:

LUMEX P/N, DATE CODE, AND BIN CODE ARE STAMPED AT THE SIDE OF THE PART.



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

| PARAMETER | MIN | TYP | MAX | UNITS | TEST COND |
|--------------------|----------------------|-----|-----|------------|----------------------|
| PEAK WAVELENGTH | | 636 | | nm | |
| FORWARD VOLTAGE | | 2.0 | 2.5 | V_f | |
| REVERSE VOLTAGE | 5.0 | | | V_r | $I_r=100\mu\text{A}$ |
| AXIAL INTENSITY | 100 | 200 | | mcd | $I_f=20\text{mA}$ |
| VIEWING ANGLE | | 110 | | $2x$ theta | |
| EMITTED COLOR: | RED | | | | |
| EPOXY LENS FINISH: | MILKY WHITE DIFFUSED | | | | |

LIMITS OF SAFE OPERATION AT 25°C

| PARAMETER | MAX | UNITS |
|--------------------------------|------------|----------------------------|
| PEAK FORWARD CURRENT* | 150 | mA |
| STEADY CURRENT | 30 | mA |
| POWER DISSIPATION | 105 | mW |
| DERATE FROM 25°C | -1.2 | $\text{mW}/^\circ\text{C}$ |
| OPERATING, STORAGE TEMP. | -40 TO +85 | $^\circ\text{C}$ |
| SOLDERING TEMP. | +260 | $^\circ\text{C}$ |
| 2.0mm FROM BODY | 3 SEC. MAX | |


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



UNCONTROLLED DOCUMENT



*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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|--|------------------------------|--|---|---|
| REV. A | PART NUMBER SSB-LX7003SIW | CONFIDENTIAL INFORMATION THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES. |  | 290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw |
| 70x3mm CHIPS ON BOARD LIGHT BAR, 636nm RED, MILKY WHITE DIFFUSED. | | 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: 1.20.06 PAGE: 1 OF 1 SCALE: N/A |