

254-186



Inspection Record

Customer: *Farrell*

OMC No:

Qty:

Part No: *LTR74 \$3804R*

☒ Sample/100% visual inspection*

☒ Sample/100% electrical inspection*

* = Tick whichever applies

Inspector

Date

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Recommendations for the handling of backlight components, (Please ensure the end user receives a copy of these recommendations).

General Note

The backlight LED is a delicate miniature component which requires gentle handling at all times and particular attention needs to be paid to soldering techniques. Customers are strongly recommended to study and evaluate their handling and installation procedures to ensure no component damage. Heat is transferred up the legs of the LED during the solder process and if the temperature of the encapsulation raised above 130 deg. C, it can soften and induce internal stresses. It is also possible to soften or melt the case of the LED and cause failure.

If excess heating is combined with stress on the L.E.D. legs, critical damage will result.

NB: To minimise any mechanical stresses induced by soldering and subsequent assembly processes, OMC offer an optional accessory which can be ordered by quoting a special suffix, additional to the standard identification code.

For more information please contact the OMC Sales Department.

1.0 Soldering

- 1.1 Maximum solder temperature should be 260 deg. C
- 1.2 Lower melting point solder is very strongly recommended. Controlled hand soldering is preferred. **NB:** Flow soldering is **not** recommended.
- 1.3 Absolute maximum duration of soldering should be 5 seconds.
- 1.4 Soldering should take place at least 1mm from the base of the backlight panel or 2mm from the base of the LED, whichever is the greater.

2.0 Printed Circuit Boards

- 2.1 The temperature gradient over a through-plated hole is very small indeed therefore the point of the hole nearest the backlight panel should be considered as the point of soldering.
- 2.2 Since the use of the through-plated hole can contribute to reduced control of the soldering process, non through-plated holes are recommended for backlights.

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2.3 PCB hole size should be 1 mm in diameter (check drawing tolerances).

3.0 *Component Pre-forming*

3.1 Component legs should be pre-formed, if necessary, **before** installation to the PCB.

3.2 Attention should be paid to ensuring that the body of the device is not used as a fulcrum when the leads are being pre-formed.

3.3 Attention should be paid to ensuring that stress is not applied to the pins during installation into the circuit board.

4.0 *Circuit Design*

4.1 The correct method of connecting the backlight emitters is to wire them in series with a current limiting resistor.

4.2 If parallel connection is required, then each emitter should have a separate series limiting resistor (for clarification and more details see our latest backlight catalogue)

5.0 *Cleaning*

5.1 It is essential that cleaning agents used are tested with the backlight as some solvents will remove the backing layer from the light guide.

5.2 Suggested cleaning agents include Isopropanol and other alcohol based materials, (not to be used on painted surfaces). Use only a short cleaning process.

5.3 Solvents such as Trichloroethane are known to damage the light guide.

6.0 *Product Handling*

6.1 Static handling precautions: Whilst this type of L.E.D. product is not normally regarded as static sensitive, statistical studies have shown that the medium to long term M.T.B.F. performance is enhanced by anti-static handling precautions of all semi-conductors, which are therefore suggested with reference to this product.

Authority:



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