7.3   SOLDERING TECHNIQUES

7.3.1   General soldering techniques

Method:

- Carefully unsolder the soldering leads of the semiconductor one after the other.

- Remove all superfluous soldering material. Use desoldering wick, ordering code: 4822 321 40042.

- Verify that the leads of the replacement part are clean and have pre-tinned leads.

- Place the replacement semiconductor exactly in the same position, and solder each lead to the relevant printed circuit pad on the PCB.

NOTE: *The maximum permissible soldering time is 10 seconds during which the temperature of the leads must not exceed 250C. The use of solder with a low melting point is recommended. Take care not to damage the plastic encapsulation of the semiconductor (softening point of the plastic is 150C).*

CAUTION: **When you are soldering inside the instrument it is essential to use a low voltage soldering iron, the tip of which must be connected to the ground of the ScopeMeter.**

A suitable soldering iron is:

- Mini soldering iron station, WECP-COD3 (regulated transformer) and Weller LR-20 (soldering iron).

Ordinary 60/40 tin/lead solder with flux core and a 35W to 40W pencil- type soldering iron can be used to do most of the soldering. If a higher wattage soldering iron is used on the circuit PCB, excessive heat may cause the circuit wiring to separate from the PCB base material.

7.3.2   Soldering micro-miniature semiconductors

Because of the small dimensions of these SOT semiconductors and the lack of space between the components on the PCB, it is necessary to use a miniature soldering iron with a pinpoint tip (max. diameter 1 mm.) to solder a SOT onto a PCB.

Suitable soldering tools are:

- Mini soldering iron station, WECP-COD3 (regulated transformer) and Weller MLR-20 (mini soldering iron).

- A hot-air solder tool: Leister Hot-Jet

Next, the following materials are recommended:

- Soldering tin, diameter 0.8 mm., SnPb 60/40 with a Resin Mildly Activated (RMA) flux. Ordering code: 4822 390 80133.

- Desolder braided wire. Ordering code 4822 321 40042.

- Solder paste 26.

- Non-corrosive and Resin Mildly Activated (RMA) flux-Colophony. Ordering code: 4822 390 50025.

Refer to the **Support Bulletin OSC 296 (ordering code 4822 872 08407)** for a complete discussion of the soldering techniques for SMD's.