Ironwood ELECTRONICS — RoHS — High Performance Sockets & Adapters

Thermal Management Systems

Ironwood Electronics recently released a new product line called thermal socket lid -**TSL-ST-01** that allows any IC devices to be placed inside any socket and operated at IC's extreme temperature to determine its thermal capability.

Figure 1: Active thermal management system

Ironwood Electronics Thermal Socket Lid & Control Systems enable temperature control of IC devices during thermal characterization. Direct thermal contact technology provides accurate and stable temperatures on IC resulting in precise characterization.

In order to ensure high product reliability, thermal management is a key factor. When power is applied to IC devices, heat is generated. This heat needs to be dissipated to atmosphere before exceeding maximum allowed junction temperature of silicon die. Prior to be used in end products, ICs need to be characterized thermally. IC sockets are used for connecting ICs to the characterization system. Socket lid designed with heat sinks, fans, liquid pipes, etc along with control systems has been used for proper thermal characterization.

The three main components of the thermal management system are the thermal socket lid, the chiller and the controller. The chiller supplies chilled liquid to the thermal socket lid. The controller has a constant feed back to monitor the thermal socket lid and supply the necessary electrical input to accurately control the temperature. The thermal socket lid has two main functions. One is to transfer heat to the IC device and the other is to compress the IC device on the interconnect unit. Thermal socket lid along with control system precisely controls the temperature of the IC while it is being tested. Thermal socket lid replaces actual socket lid on top of a test socket. The thermal socket lid has replaceable compression plate to accommodate various IC sizes. An additional accessory called "socket frame" is needed to interface thermal socket lid to the socket body.

In addition to hardware, we also provide software that enables more features than just representing the front panel of the controller by itself. It also has an easy to use graphical user interface (GUI). Features include the ability to set a temperature, tune the system, change and save configurations setting, log data and run custom scripts.

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