PRODUCT RELEASE

Thermal Test Vehicle (TTV) Family of Products

SANTA CLARA, CA. — JUNE 8, 2010 — Thermal Engineering Associates, Inc. (TEA) announces the immediate availability of a new family of Thermal Test Vehicles (TTV) that offer flexibility, standardization, and low cost. These TTVs are composed of various sizes of the TEA Thermal Test Chips (TTC) arrays enclosed in a BGA package for surface mounting. Because TEA has created a family of standard off-the-shelf TTV products, the prices are much lower than traditional custom designed and built TTVs. TTVs have a variety of uses, including the analysis of Thermal Interface Materials (TIM), simulation of PCB and chip performance in various thermal environments, and evaluation of thermal-mechanical stress.

TEA offers TTVs containing a TTC single die and die arrays of 2x2, 3x3, 4x4, and 5x5. Each die is 2.5mm square in a BGA package with dimensions of 17mm X 17mm. Each chip in each array is capable of dissipating up to 12 watts of power in two resistors. There are four thermal measurement diodes on each chip in each array which can be used to measure temperature (for TTC technical information: http://thermengr.net/html/thermal_test_chip.html)

TTV Product Numbers:

TTV-1101	Unit Cell
TTV-1201	2X2 Unit Cell Array
TTV-1102	3X3 Unit Cell Array
TTV-1202	4X4 Unit Cell Array
TTV-1103	5X5 Unit Cell Array

Figure 1 shows 2x2 through 5x5 arrays mounted on the package substrates.

All the chips on all the TTVs are 631µm (0.025") thick with the backside left as wafer processed (typically silicon oxide coated). Other thickness and backside treatment is optionally available on a custom basis.

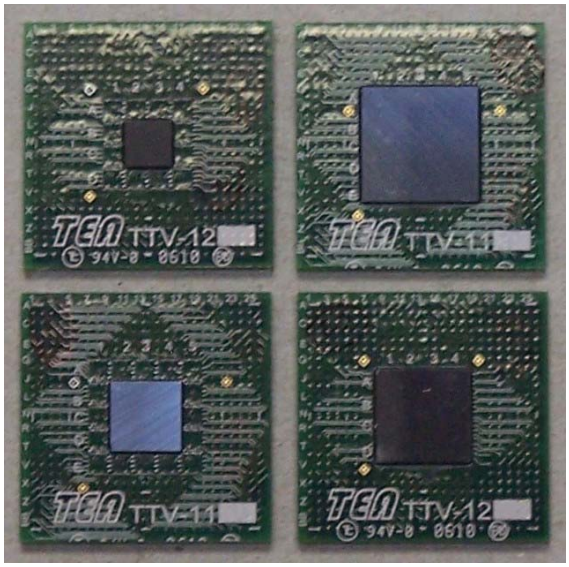

Figure 1

Contact Thermal Engineering Associates for price and availability information.

About Thermal Engineering Associates:

TEA and its president, Bernie Siegal, have been providing thermal test and measurement hardware, software, and consulting services since 1973. Siegal has been chairman of the JEDEC JC15 committee and is the principle author of many MILSTD 750 thermal test methods. All major semiconductor companies, packaging companies, and many system level OEMs have utilized TEA products and/or services during its long history. Siegal is a founding member of IEEE SEMI-THERM, has delivered numerous papers and articles on thermal testing, and is frequently sought out as a lecturer and expert in the field. For more information on products and services, go to www.thermengr.com.

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