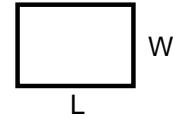


1. Scope:

This test method is designed to determine the temperature rise characteristic of varying the thermal resistance value with corresponding to power with our insulated aluminum substrate.

2. Test specimens

- a) 4 specimens with different square size: L X W
- a). 15mm X 15mm
 - b). 20mm X 20mm
 - c). 25mm X 25mm
 - d). 30mm X 30mm



b) Board thickness: 1.27mm

c) Mounted the LED onto the center of the boards, apply the thermal conductive adhesive onto the beneath metal part and cured. Refer to diagram 1.

Thermal conductive adhesive: AMICON E3503-1

d) LED specification:

- i). Luxeon Emitter i). LXHL-PW09
- ii). Color: White
- iii). Radiation pattern: Lambertian
- iv). Max. wattage: 3W



Diagram 1

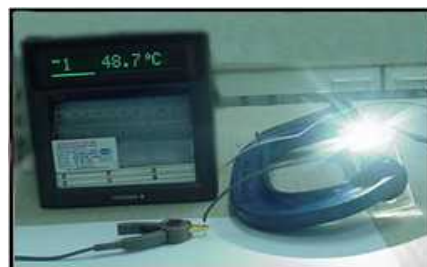
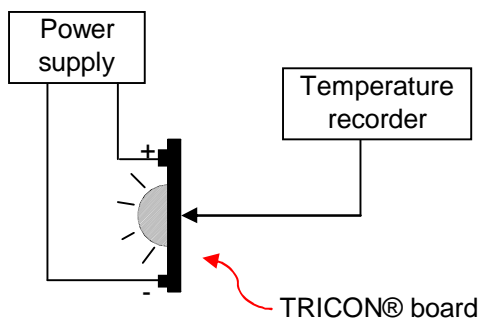
3. Apparatus

- 3.1. **Power Supply source:** Kenwood Regulated DC power supply PR18-3.
- 3.2. **Measurement Meter:** Advantest R6871E digital multimeter.
- 3.3. **Temperature Recording:** Yokogawa Temperature Recorder.

4. Procedure

4.1. Prepare the circuit connection as below diagram, each individual test specimen will apply to 3 different power. i.e.: 1W, 2W and 3W. Record each temperature rise when it was reached the saturation level.

4.2. After finishing each test, the test specimens must be cool down to room temperature before start for the next test. The procedure will repeat for other test.

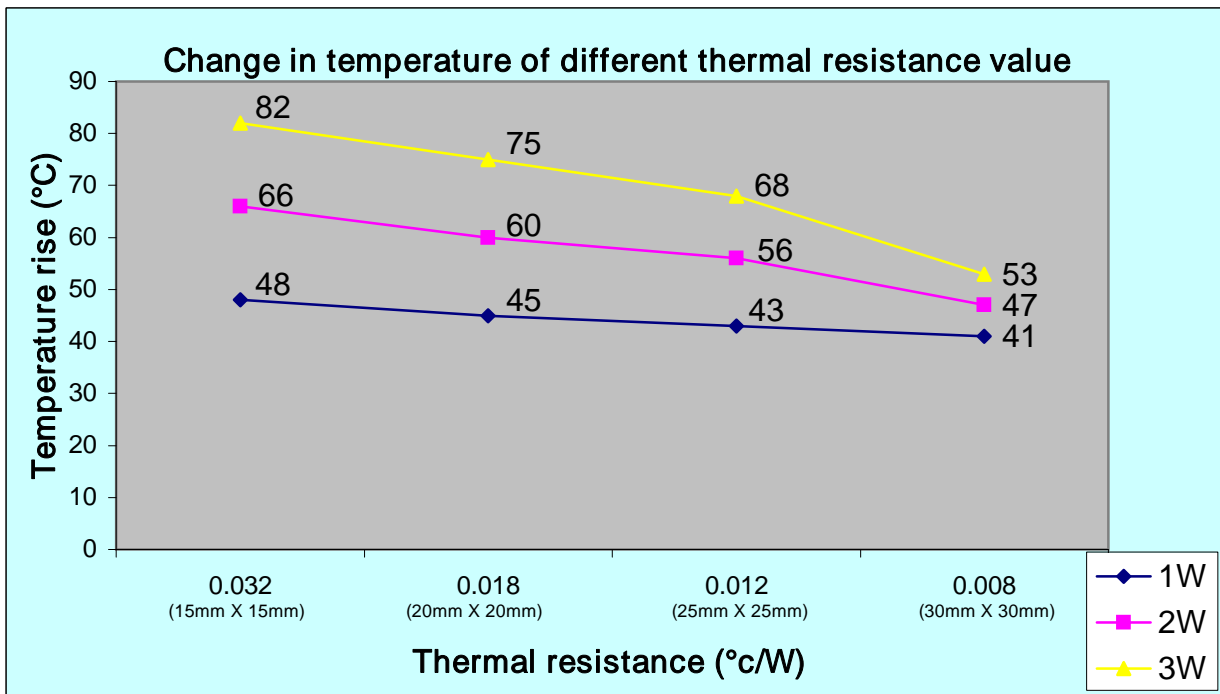


5. Result

Room temperature: 25°C

Board size (mm X mm)	Thermal Resistance (°C/W)	Power Supply (Wattage)		
		1W	2W	3W
15 X 15	0.032	48	66	82
20 X 20	0.018	45	60	75
25 X 25	0.012	43	56	68
30 X 30	0.008	41	47	53

Note: Thermal conductivity: 175W/m-K



NC Ong
 Technical Manager
 Jan 25th 2006