

TEST REPORT

Changzhou Fengsheng Optoelectronics CO., LTD

Y-Axis Thermal Expansion

Sample Designation: PMMA LIGHT GUID PANEL

Report Number: 02183

(1 of 5)



This report applies only to the sample(s) tested, and is not necessarily indicative of the quality or condition of apparently identical or similar products. All or part of the processes involved in the testing may be subcontracted at Microtek Laboratories discretion. As a mutual protection to clients, the public, and Microtek Laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Microtek Laboratories. In addition, this report shall not be reproduced, except in full, without the written approval of Microtek Laboratories.

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SUBMISSION IDENTIFICATION

The following sample(s) were submitted and received in a suitable condition for testing as requested:

TEST SAMPLES SUBMITTED: 2009-10-12

TEST DATE: 2008-10-15

SAMPLE DESIGNATION: PMMA LIGHT GUID PANEL

SAMPLE QUANTITY: 1pcs

* * * * *

IN ACCOUNT WITH:

NO.406 Hanjiang Road, New North District Changzhou, Jiangsu, China

0519-85172288

Contact: Jing Chen

THERMAL MECHANICAL ANALYSIS
(TMA)

SPECIMENS

Two Y-direction specimens were subject to test.

REFERENCE

IPC-TM-650 method 2.4.24 Glass Transition Temperature and Z-Axis Thermal Expansion
(TMA Method)

Customer Master Drawing

METHOD

Two specimens was prepared by cutting out and sanding any rough edges. The specimens was preconditioned by baking for 2 hours, at 40°C, then cooled to room temperature in a desiccator.

Measure and record the thickness of the specimens. Mount the specimen on the stage of the TMA and apply a load 5 g. Start the scan at a temperature no higher than 35°C to 100°C, at a rate of 10°C per minute.

RESULTS

The samples were tested as given by the methods above. See attached “Thermal Mechanical Analysis Test” data sheet and TMA scans for actual measurements.

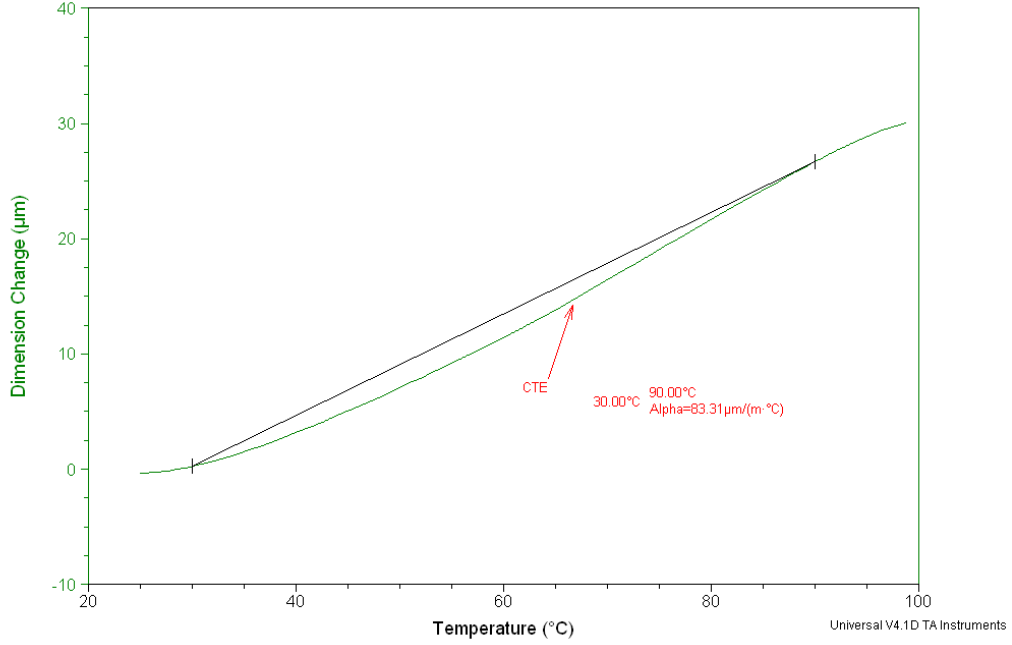
THERMAL MECHANICAL ANALYSIS TEST

Sample Designation	PMMA LGP	Sample Identification	/
Test Date	2009-10-15	Ambient	23°C, 58%RH
Sample No.	Y-Axis Thermal Expansion (µm/m.°C)		
	(30~90)°C		
	Measurement	Requirement	
02183-1	83.31	/	
02183-2	83.47		

Sample: 02183-1
 Size: 5.2850 mm
 Method: Tg
 Comment: Y - CTE

TMA

File: X:\Thermal Analysis\Job\2183\02183-1.001
 Operator: Vicky He
 Run Date: 15-Oct-2009 14:22
 Instrument: 2940 TMA V2.4E

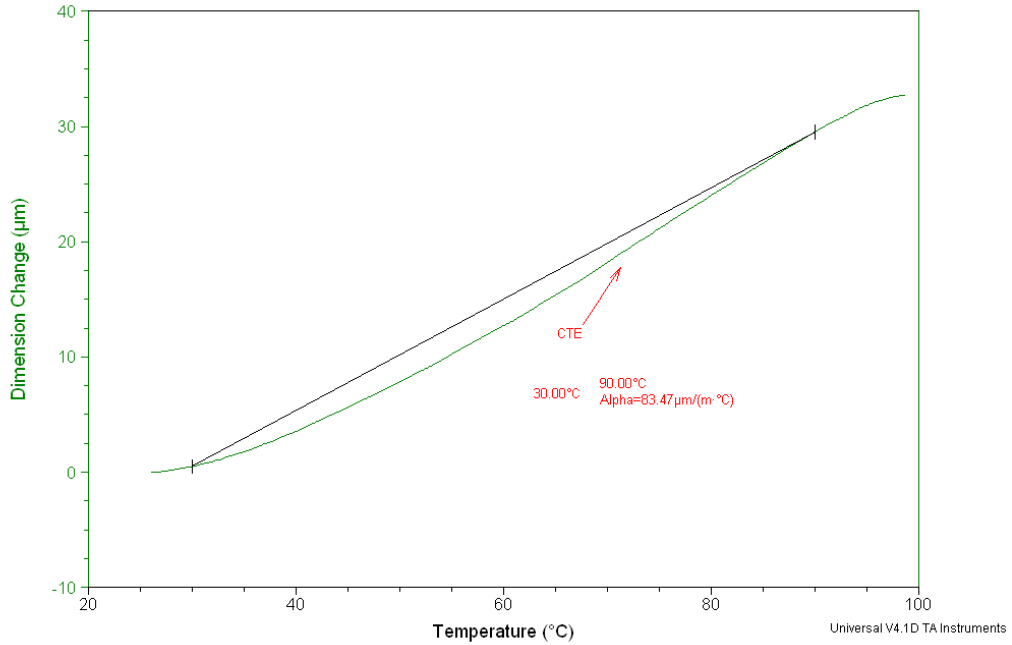


02183-1

Sample: 02183-2
 Size: 5.7953 mm
 Method: Tg
 Comment: Y - CTE

TMA

File: X:\Thermal Analysis\Job\2183\02183-2.001
 Operator: Vicky He
 Run Date: 15-Oct-2009 15:42
 Instrument: 2940 TMA V2.4E



02183-2

CERTIFICATE OF CONFORMANCE

Microtek (Changzhou) Laboratories certifies that the test equipment used complies with the calibration requirements of correlation criterion and that the data contained in this report is accurate within the tolerance limitation of this equipment.

The materials and/or devices furnished on this order have been tested/analyzed/and inspected in accordance with all designated instructions and specifications. Physical reports and other data pertinent to applicable specifications are on file and available for inspection at this plant.

All test procedures detailed are complete. If any additional information or clarification of this report is required, please contact us.

Thank you for selecting Microtek (Changzhou) Laboratories for your testing requirements.

Edited by:



Vicky He

Date: 2009-10-16

Reviewed by:



Susan Le

Date: 2009-10-16

Approved by:



Steven Zhang

Date: 2009-10-16