



## Certificate of non-use of The Controlled Substances

Company name           Littelfuse, L.P. (Subsidiary of Littelfuse, Inc.)

Product Covered        Thyristor TO-263 Package (D<sup>2</sup>-PAK, Non-isolated)

Issue Date              May 14, 2007

It is hereby certified by Littelfuse, LP, that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/package materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/package materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by

\_\_\_\_\_  
< Product Engineer, Littelfuse, L.P.>

(1) Parts, sub-materials and unit parts

This document covers Thyristor TO-263 / D<sup>2</sup> Package (non-isolated) series products manufactured by Littelfuse, LP. Actual values in this report are taken from Q8025N5 and the result is generally applicable to all Thyristor TO-263 / D<sup>2</sup> Package series products supplied by Littelfuse, LP. Please see page 2 for the complete list of part number covered by this report.

< Homogeneous Materials used >

Please see figure and table 1 on page 3 and table 2 on page 4 of this document.

(2) The analytical data on all measurable substances

Please see annex 1 through 13, attached to this document

Remarks :

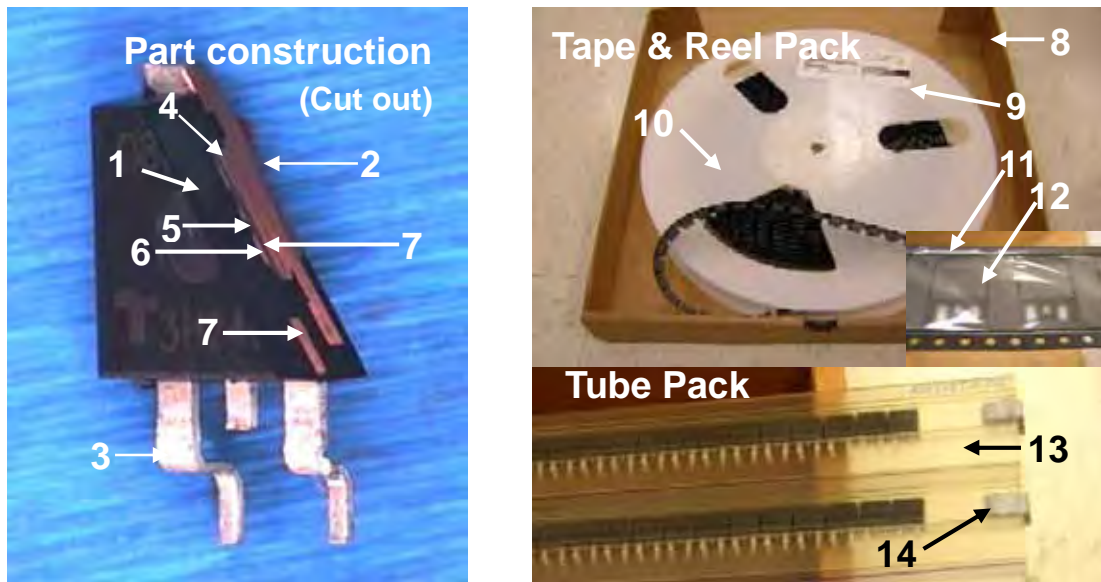
**1. Pb (lead) contained in die bonding solder (item 7 on page 3) and passivation glass (item 6) to be categorized as exempt in RoHS Annex 5 and 7.**

**Please refer to Annex 14 of this report for the extract of the applicable exemptions of RoHS (EU Directive 2002/95/EC)**



**Littelfuse Part Number covered by this report**

Standard (Catalog) Part Number All P/N will be followed by "RP" or "TP"						
Q2006N4	Q6008N4	QK016NH3	S2016N			
Q2006N5	Q6008N5	QK016NH4	S2025N			
Q2006NH4	Q6008NH4	QK016NH6	S2040N			
Q2008N4	Q6010N4	QK025N5	S2055N			
Q2008N5	Q6010N5	QK025NH6	S4016N			
Q2008NH4	Q6010NH5		S4025N			
Q2010N4	Q6012NH5		S4040N			
Q2010N5	Q6015N5		S4055N			
Q2010NH5	Q6016NH3		S6016N			
Q2012NH5	Q6016NH4		S6025N			
Q2015N5	Q6016NH6		S6040N			
Q2016NH3	Q6025N5		S6055N			
Q2016NH4	Q6025NH6		S8016N			
Q2016NH6	Q6035NH5		S8025N			
Q2025N5	Q8006N5		S8040N			
Q2025NH6	Q8006NH4		S8055N			
Q2035NH5	Q8008N5		SK016N			
Q4006N4	Q8008NH4		SK025N			
Q4006N5	Q8010N4		SK040N			
Q4006NH4	Q8010N5		SK055N			
Q4008N4	Q8010NH5					
Q4008N5	Q8012NH5					
Q4008NH4	Q8015N5					
Q4010N4	Q8016NH3					
Q4010N5	Q8016NH4					
Q4010NH5	Q8016NH6					
Q4012NH5	Q8025N5					
Q4015N5	Q8025NH6					
Q4016NH3	QK006N5					
Q4016NH4	QK006NH4					
Q4016NH6	QK008N5					
Q4025N5	QK008NH4					
Q4025NH6	QK010N4					
Q4035NH5	QK010N5					
Q6006N4	QK010NH5					Any Special P/N that has base standard P/N listed in this table
Q6006N5	QK012NH5					
Q6006NH4	QK015N5					



**Material Used (where used)**

**Table 1: Homogeneous Material Used**

#	Description	Name of Material	Type	ICP data
1	Molding compound	epoxy resin	plastic	annex 1.
2	Lead Frame	copper alloy	metal	annex 2.
3	Preform	copper alloy	metal	annex 3 TO-263 uses the same copper material as DO-214. ICP report is from DO-214 Material.
4	Matte-Tin plating	Tin	metal	annex 4, tested as plating cathode
5	Nickel electrode	nickel	metal	annex 5, tested as Nickel-plated wafer.
6	Silicon die	silicon	metal	
7	Passivation glass	glass	glass	annex 6. Pb in this glass is exempted by RoHS Annex 7.
8	Die bonding solder	solder	metal	annex 7. Pb in this solder is exempted by RoHS Annex 5.
9	Cardboard box	cardboard	paper	annex 8, tested with label TO-263 uses the same paper material as DO-214. ICP report is from DO-214 Material.
10	Product label	paper	paper	annex 8, tested with the box (item 9)
11	Plastic Reel		plastic	annex 9. TO-263 uses the same plastic material as DO-214. ICP report is from DO-214 Material.
12	Pocket Tape		plastic	annex 10. TO-263 uses the same plastic material as DO-214. ICP report is from DO-214 Material.
13	Cover Tape	polystyrene	plastic	annex 11. TO-263 uses the same plastic material as DO-214. ICP report is from DO-214 Material.
14	Loading Tube	polyethylene	plastic	annex 12. TO-263 uses the same plastic material as TO-220. ICP report is from TO-220 Material.
15	End Plug	rubber	plastic	annex 13. TO-263 uses the same plastic material as DO-214. ICP report is from TO-220 Material..

**Table 2: RoHS-regulated substance in raw materials**

Components	Analysis Result						
	Weight (typical)	Cd Cadmium	Cr Chromium	Hg Mercury	Pb Lead	PBB	PBDE
<b>As Component Total</b> (Values of Q8025N5, as representative of Thyristor, TO-263 Package)	1,610mg	< 2ppm	< 2ppm	< 2ppm	<10ppm* <sup>2</sup> (1.3%* <sup>3</sup> )	< 5ppm	< 5ppm
<b>Epoxy Resin compound</b> (mixture of phenolix resin, epoxy resin, filler and Sb <sub>2</sub> O <sub>3</sub> as fire retardant) See Annex 1 for the detail.	612mg	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	<5 ppm
<b>Lead frame / Preform</b> (Copper Alloy, C14420 / CDA110)  See Annex 2 & 3 for the detail.	946mg	< 2ppm	< 2ppm	< 2ppm	< 2ppm	---	---
<b>Outside lead finish</b> (Matte-Tin plated, Sn 100%)  See Annex 4 for the detail.	12mg	< 2ppm	< 2ppm	< 2ppm	174.5 ppm	---	---
<b>Silicon Die</b> (Silicon + Ni electrode)  See Annex 5 for the detail.	18mg	< 2ppm	< 2ppm	< 2ppm	52ppm* <sup>4</sup>	---	---
<b>Passivation Glass</b>  See Annex 6 for the detail.	0.7mg	< 2ppm	< 2ppm	< 2ppm	39% * <sup>5</sup>	---	---
<b>Die Bonding Solder</b> (Pb/Sn=90/10)  See Annex 7 for the detail.	22mg	< 2ppm	< 2ppm	< 2ppm	90% * <sup>6</sup>	---	---
<b>Packing Materials</b> (Box, Reel, Tapes, Plastic bag)  See Annex 8-13 for the detail	---	< 2ppm	< 2ppm	< 2ppm	< 2ppm	< 5ppm	< 5ppm

\*1 Other products may contain equal or less amount of Pb as Q8025N value shown here, but not more than the value shown here.

\*2 Less than 10ppm Pb content overall, excluding Pb from the die bonding solder and the passivation glass on the silicon die.

\*3 1.3wt% or 21mg of Pb (lead) content overall, including the RoHS-exempted use of Pb



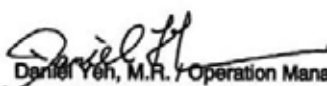
\*4 Pb (lead) contained in outside finish and Nickel-plated silicon wafer is not exempted from restriction by RoHS, but considered as process contamination. Littelfuse does not add Pb (lead) intentionally.

\*5 Pb (lead) contained in passivation glass is exempted from restriction by RoHS Annex 5.

\*6 Pb (lead) contained in die bonding solder is exempted from restriction by RoHS Annex 7, first item.

**Please refer to Annex 13 of this report for the applicable exemptions of RoHS (EU Directive 2002/95/EC)**

**Annex 1: Analysis Result of Molding Compound (Page 1 of 4)**

	
<b>Test Report</b>	
Report No : CE/2006/91634    Date : 2006/09/13	Page: 1 of 4
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: MOLDING COMPOUND LS-16S
Style/Item No	: 1003010-16
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/09/06
Testing Period	: 2006/09/06 TO 2006/09/13
=====	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry. (5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.
<b>Test Result(s)</b>	: - Please see the next page(s) -
 Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 1: Analysis Result of Molding Compound (Page 2 of 4)



### Test Report

Report No : CE/2006/91634    Date : 2006/09/13  
 LITTELFUSE INC.  
 800 E. NORTHWEST HWY. DES PLAINES, IL 60016

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#### Test Result(s)

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	8.0	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
<b>Total PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Total PBBEs(PBDEs)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Total of Mono to Nona(Note 5)</b>		n.d.	-

#### Test Part Description

PART NAME NO.1 : BLACK LUMP

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**Annex 1: Analysis Result of Molding Compound (Page 3 of 4)****SGS****Test Report**

Report No : CE/2006/91634    Date : 2006/09/13  
LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 3 of 4



- Note :
- (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)
  - (2) n.d. = N.D. = ND = Not Detected
  - (3) MDL = Method Detection Limit
  - (4) Sample was totally digested for Pb, Cd, Hg
  - (5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.
  - (6) "-" = Not Regulated

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**Annex 1: Analysis Result of Molding Compound (Page 4 of 4)****SGS****Test Report**

Report No : CE/2006/91634    Date : 2006/09/13  
LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

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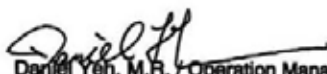
**\*\* End of Report \*\***

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**Annex 2: Analysis Result of Lead frame (Page 1 of 3)**

	
<b>Test Report</b>	
Report No : CE/2006/91766    Date : 2006/09/12	Page: 1 of 3
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: LEAD FRAME
Part No	: 7001004-05
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/9/6
Testing Period	: 2006/9/6 TO 2006/09/12
-----	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.
<b>Test Result(s)</b>	: - Please see the next page(s) -
 Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 2: Analysis Result of Lead frame (Page 2 of 3)




### Test Report

Report No : CE/2006/91766    Date : 2006/09/12

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 3



**Test Result(s)**

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No. 1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2

**Test Part Description**

PART NAME NO.1 : COPPER COLORED METAL

Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)  
 (2) n.d. = N.D. = ND = Not Detected  
 (3) MDL = Method Detection Limit  
 (4) Sample was totally digested for Pb, Cd, Hg


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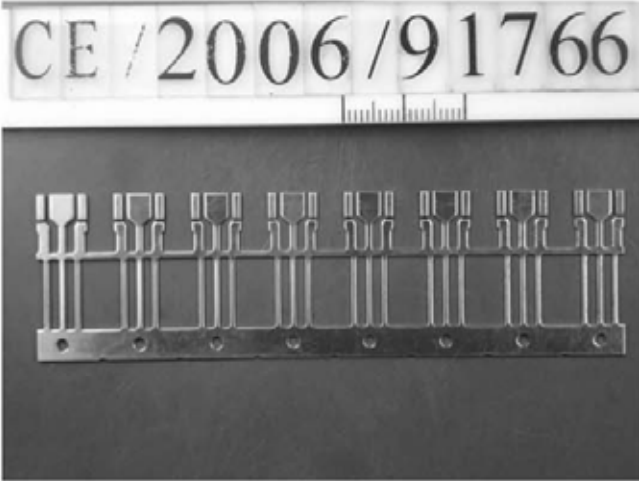
Annex 2: Analysis Result of Lead frame (Page 3 of 3)

**SGS**

**Test Report**

Report No : CE/2006/91766    Date : 2006/09/12    Page: 3 of 3  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

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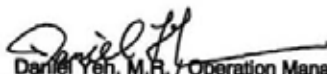


**\*\* End of Report \*\***


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**Annex 3: Analysis Result of Preform (Page 1 of 3)**

	
<b>Test Report</b>	
Report No : CE/2006/91765    Date : 2006/09/12	Page: 1 of 3
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: PREFORM
Part No	: 7101814-00
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/9/6
Testing Period	: 2006/9/6 TO 2006/09/12
-----	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.
<b>Test Result(s)</b>	: - Please see the next page(s) -
 Daniel Yen, M.P., Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 3: Analysis Result of Preform (Page 2 of 3)




### Test Report

Report No : CE/2006/91765    Date : 2006/09/12

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 3



**Test Result(s)**

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No. 1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2

**Test Part Description**

PART NAME NO.1 : COPPER COLORED METAL

Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)

(2) n.d. = N.D. = ND = Not Detected

(3) MDL = Method Detection Limit

(4) Sample was totally digested for Pb, Cd, Hg


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**Annex 3: Analysis Result of Preform (Page 3 of 3)**

**SGS**

**Test Report**

Report No : CE/2006/91765    Date : 2006/09/12    Page: 3 of 3  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

CE / 2006 / 91765



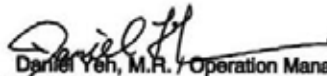


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**Annex 4: Analysis Result of Tin plating cathode (page 1 of 3)**


	
<b>Test Report</b>	
Report No : CE/2006/96119    Date : 2006/09/29	Page: 1 of 3
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
 <b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: TIN PLATING CATHODE BALL
Style/Item No	: TIN PLATING CATHODE BALL
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/09/22
Testing Period	: 2006/09/22 TO 2006/09/29
-----	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.
<b>Test Result(s)</b>	: - Please see the next page(s) -
  Daniel Yen, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 4: Analysis Result of Tin plating cathode (page 2 of 3)



### Test Report

Report No : CE/2006/96119    Date : 2006/09/29  
 LITTELFUSE INC.  
 800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 3  


**Test Result(s)**  
 Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	58.2	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2

**Test Part Description**  
 PART NAME NO.1 : SILVER COLORED TIN BALL

Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)  
 (2) n.d. = N.D. = ND = Not Detected  
 (3) MDL = Method Detection Limit  
 (4) Sample was totally digested for Pb, Cd, Hg

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**Annex 4: Analysis Result of Tin plating cathode (page 3 of 3)**

**SGS**

**Test Report**

Report No : CE/2006/96119    Date : 2006/09/29    Page: 3 of 3  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



**CE / 2006 / 96119**

**\*\* End of Report \*\***

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**Annex 5: Analysis Result of Ni-plated Wafer (Page 1 of 3)****SGS****Test Report**

Report No : CE/2006/91815A Date : 2006/09/14  
LITTELFUSE INC.  
800 EAST NORTHWEST HIGHWAY DES PLAINES,  
IL 60016

Page: 1 of 3



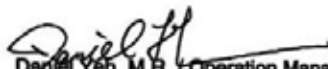
**The following sample(s) was/were submitted and identified by/on behalf of the client as :**

Sample Description : SILICON WAFER ELECTRODE  
Style/Item No : 7101505xx  
Manufacturer/Supplier : LITTELFUSE INC.  
Name  
Country of Destination : TAIWAN  
Country of Origin : USA  
Sample Received : 2006/09/07  
Testing Period : 2006/09/07 TO 2006/09/14

**Test Requested** : With reference to the RoHS Directive 2002/95/EC, and its amendment directives.

**Test Method** : (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.  
(2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.  
(3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.  
(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.

**Test Result(s)** : - Please see the next page(s) -

  
Daniel Yen, M.P., Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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## Annex 5: Analysis Result of Ni-plated Wafer (Page 2 of 3)



### Test Report

Report No : CE/2006/91815A Date : 2006/09/14  
 LITTELFUSE INC.  
 800 EAST NORTHWEST HIGHWAY DES PLAINES,  
 IL 60016

Page: 2 of 3



#### Test Result(s)

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No. 1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	52.4	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2

#### **Test Part Description**

PART NAME NO.1 : SILICON WAFER WITH NICKEL ELECTRODE

Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)  
 (2) n.d. = N.D. = ND = Not Detected  
 (3) MDL = Method Detection Limit  
 (4) Sample was totally digested for Pb, Cd, Hg  
 (5) The report number of CE/2006/91815 is invalid.

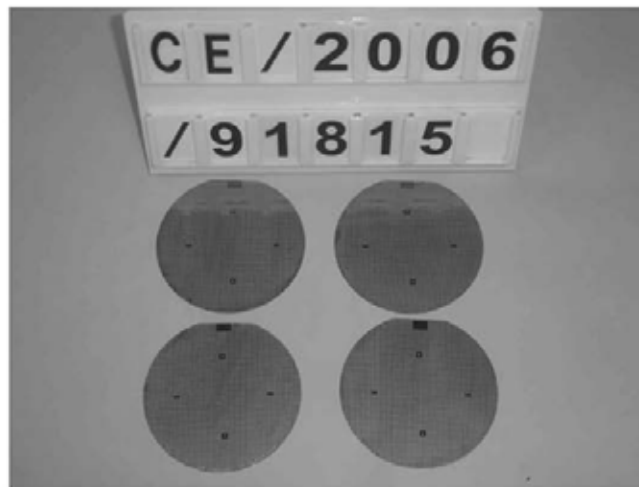
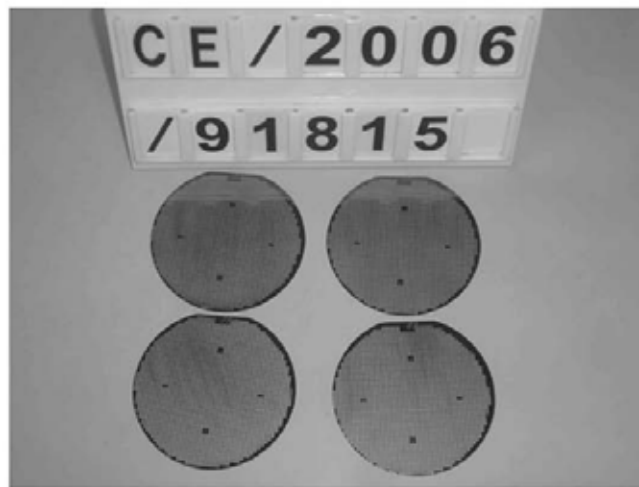
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**Annex 5: Analysis Result of Ni-plated Wafer (Page 3 of 3)****SGS****Test Report**

Report No : CE/2006/91815A Date : 2006/09/14  
LITTELFUSE INC.  
800 EAST NORTHWEST HIGHWAY DES PLAINES,  
IL 60016



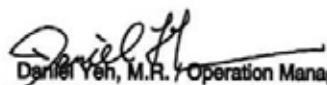
Page: 3 of 3

**\*\* End of Report \*\***


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**Annex 6: Analysis Result of Passivation Glass (Page 1 of 3)**


	
<b>Test Report</b>	No. : CE/2007/24376    Date : 2007/03/01    Page : 1 of 3
LITTELFUSE INC. 800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: PASSIVATION GLASS
Style/Item No.	: 110233600
Facility	: TECCOR
Sample Receiving Date	: 2007/2/25
Testing Period	: 2007/2/25 TO 2007/03/01
=====	
<b>Test Requested</b>	: In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products. <ul style="list-style-type: none"><li>(1) Determination of Cadmium by ICP-AES.</li><li>(2) Determination of Lead by ICP-AES.</li><li>(3) Determination of Mercury by ICP-AES.</li><li>(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.</li><li>(5) Determination of PBB and PBDE by GC/MS.</li></ul>
<b>Test Result(s)</b>	: Please refer to next page(s).
  Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 6: Analysis Result of Passivation Glass (Page 2 of 3)



**Test Report**      No. : CE/2007/24376      Date : 2007/03/01      Page : 2 of 3

LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	359000	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

**TEST PART DESCRIPTION:**  
NO.1 : WHITE GLASS POWDER

Note : 1. mg/kg = ppm  
2. n.d. = Not Detected  
3. MDL = Method Detection Limit  
4. According to 2005/717/EC DecaBDE is exempt.  
5. "-" = Not Regulated

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**Annex 6: Analysis Result of Passivation Glass (Page 3 of 3)**

**SGS**

**Test Report**      No. : CE/2007/24376      Date : 2007/03/01      Page : 3 of 3

LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



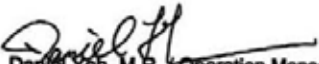
  


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**Annex 7: Analysis Result of Die Bonding Solder (Page 1 of 3)**


	
<b>Test Report</b>	No. : CE/2007/24393    Date : 2007/03/01    Page : 1 of 3
LITTELFUSE, INC. 800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: SOLDER PASTE
Style/Item No.	: 410284408
Facility	: TECCOR
Sample Receiving Date	: 2007/02/16
Testing Period	: 2007/02/16 TO 2007/03/01
=====	
<b>Test Requested</b>	: In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products. <ul style="list-style-type: none"><li>(1) Determination of Cadmium by ICP-AES.</li><li>(2) Determination of Lead by ICP-AES.</li><li>(3) Determination of Mercury by ICP-AES.</li><li>(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.</li></ul>
<b>Test Result(s)</b>	: Please refer to next page(s).
  Daniel Yeh, M.R. / Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 7: Analysis Result of Die Bonding Solder (Page 2 of 3)



**Test Report**      No. : CE/2007/24393      Date : 2007/03/01      Page : 2 of 3

LITTELFUSE, INC.      

800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2

**TEST PART DESCRIPTION:**  
NO.1 : DK. GRAY SOLDER PASTE

Note : 1. mg/kg = ppm  
2. n.d. = Not Detected  
3. MDL = Method Detection Limit

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**Annex 7: Analysis Result of Die Bonding Solder (Page 3 of 3)**

**SGS**

**Test Report**      No. : CE/2007/24393      Date : 2007/03/01      Page : 3 of 3

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016



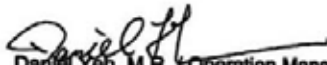
  


**\*\* End of Report \*\***


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**Annex 8: Analysis Result of Packing Box (Page 1 of 4)**

	
<b>Test Report</b>	
Report No : CE/2006/91636    Date : 2006/09/13	Page: 1 of 4
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
 <b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: REEL BOX
Style/Item No	: 110233200
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/09/06
Testing Period	: 2006/09/06 TO 2006/09/13
-----	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry. (5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.
<b>Test Result(s)</b>	: - Please see the next page(s) -
 Daniel Yeh, M.P., Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 8: Analysis Result of Packing Box (Page 2 of 4)




### Test Report

Report No : CE/2006/91636    Date : 2006/09/13

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 4



**Test Result(s)**

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
<b>Total PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Total PBDEs(PBDEs)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Total of Mono to Nona(Note 5)</b>		n.d.	-

**Test Part Description**

PART NAME NO.1 : BROWN CARTON WITH BLACK PRINTING

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**Annex 8: Analysis Result of Packing Box (Page 3 of 4)****SGS****Test Report**

Report No : CE/2006/91636    Date : 2006/09/13  
LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 3 of 4



- Note :
- (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)
  - (2) n.d. = N.D. = ND = Not Detected
  - (3) MDL = Method Detection Limit
  - (4) Sample was totally digested for Pb, Cd, Hg
  - (5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.
  - (6) "-" = Not Regulated

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**Annex 8: Analysis Result of Packing Box (Page 4 of 4)****SGS****Test Report**

Report No : CE/2006/91636    Date : 2006/09/13  
LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



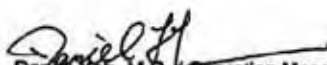
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**Annex 9: Analysis Result of Plastic Reel (Page 1 of 4)**

	
<b>Test Report</b>	
Report No : CE/2006/91637    Date : 2006/09/13	Page: 1 of 4
LITTELFUSE INC.	
800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
 <b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: 13' PLASTIC REEL
Style/Item No	: 410296600
Manufacturer/Supplier Name	: LITTELFUSE INC.
Country of Destination	: TAIWAN
Country of Origin	: USA
Sample Received	: 2006/09/06
Testing Period	: 2006/09/06 TO 2006/09/13
=====	
<b>Test Requested</b>	: With reference to the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES. (2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES. (3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES. (4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry. (5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.
<b>Test Result(s)</b>	: - Please see the next page(s) -
  Daniel Yeh, M.P., Operation Manager Signed for and on behalf of SGS TAIWAN LTD.	
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## Annex 9: Analysis Result of Plastic Reel (Page 2 of 4)



# Test Report


Report No : CE/2006/91637    Date : 2006/09/13    Page: 2 of 4  
 LITTELFUSE INC.   
 800 E. NORTHWEST HWY. DES PLAINES, IL 60016

**Test Result(s)**  
 Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No. 1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
<b>Total PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Total PBBEs(PBDEs)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Total of Mono to Nona(Note 5)</b>		n.d.	-


**Test Part Description**  
 PART NAME NO.1 : WHITE PLASTIC REEL

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**Annex 9: Analysis Result of Plastic Reel (Page 3 of 4)**



## Test Report

Report No : CE/2006/91637    Date : 2006/09/13    Page: 3 of 4  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)  
(2) n.d. = N.D. = ND = Not Detected  
(3) MDL = Method Detection Limit  
(4) Sample was totally digested for Pb, Cd, Hg  
(5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.  
(6) "-" = Not Regulated


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**Annex 9: Analysis Result of Plastic Reel (Page 4 of 4)**

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**Test Report**

Report No : CE/2006/91637    Date : 2006/09/13    Page: 4 of 4  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

**CE / 2006**  
**/ 91637**



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## Annex 10: Analysis Result of Carrier Tape (page 1 of 4)



### Test Report

Report No : CE/2006/91633    Date : 2006/09/13    Page: 1 of 4  
LITTELFUSE INC.      
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

**The following sample(s) was/were submitted and identified by/on behalf of the client as :**

Sample Description : POCKET TAPE  
Style/Item No : 1102076-03  
Manufacturer/Supplier Name : LITTELFUSE INC.  
Country of Destination : TAIWAN  
Country of Origin : USA  
Sample Received : 2006/09/06  
Testing Period : 2006/09/06 TO 2006/09/13

=====

**Test Requested** : With reference to the RoHS Directive 2002/95/EC, and its amendment directives.

**Test Method** : (1) With reference to BS EN 1122:2001, Method B for Cadmium Content. Analysis was performed by ICP-AES.  
(2) With reference to US EPA Method 3050B for Lead Content. Analysis was performed by ICP-AES.  
(3) With reference to US EPA Method 3052 for Mercury Content. Analysis was performed by ICP-AES.  
(4) With reference to US EPA Method 3060A & 7196A for Hexavalent Chromium. Analysis was performed by UV/Vis Spectrometry.  
(5) With reference to US EPA 3540C, Analysis was performed by GC/MS and screening via US EPA 3550C with HPLC/DAD/MS.


**Test Result(s)** : - Please see the next page(s) -

  
Daniel Yeh, M.P., Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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## Annex 10: Analysis Result of Carrier Tape (Page 2 of 4)



### Test Report

Report No : CE/2006/91633    Date : 2006/09/13  
 LITTELFUSE INC.  
 800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 2 of 4  


**Test Result(s)**  
 Test results by chemical method (Unit: mg/kg)


Test Item (s):	Method (Refer to)	Result	MDL
		No. 1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Chromium VI (Cr+6)	(4)	n.d.	2
<b>Total PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Total PBBEs(PBDEs)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Total of Mono to Nona(Note 5)</b>		n.d.	-

**Test Part Description**  
 PART NAME NO.1                    :    BLACK PLASTIC POCKET TAPE

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**Annex 10: Analysis Result of Carrier Tape (Page 3 of 4)**




## Test Report

Report No : CE/2006/91633    Date : 2006/09/13  
LITTELFUSE INC.  
800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Page: 3 of 4  


Note : (1) mg/kg = ppm, 0.1% = 1000 ppm(mg/kg), 0.0005% = 5 ppm(mg/kg)  
(2) n.d. = N.D. = ND = Not Detected  
(3) MDL = Method Detection Limit  
(4) Sample was totally digested for Pb, Cd, Hg  
(5) Sum of Mono to NonaBDE & according to 2005/717/EC DecaBDE is exempt.  
(6) "-" = Not Regulated


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**Annex 10: Analysis Result of Carrier Tape (Page 4 of 4)**

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**Test Report**

Report No : CE/2006/91633    Date : 2006/09/13    Page: 4 of 4  
LITTELFUSE INC.      
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Annex 11: Analysis Result of Cover Tape (Page 1 of 4)



## Test Report

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24384  
Date : 2007/03/01  
Page : 1 of 4  

The following sample(s) was/were submitted and identified by/on behalf of the client as :

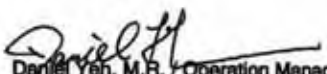
Sample Description	:	COVER TAPE
Style/Item No.	:	110207802
Facility	:	TECCOR
Sample Receiving Date	:	2007/02/16
Testing Period	:	2007/02/16 TO 2007/03/01

=====

**Test Result(s)** : Please refer to next page(s).




**Daniel Yeh, M.R.** / Operation Manager  
Signed for and on behalf of  
**SGS TAIWAN LTD.**

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## Annex 11: Analysis Result of Cover Tape (Page 2 of 4)



**Test Report**

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24384  
Date : 2007/03/01  
Page : 2 of 4



**Test Result(s)**

PART NAME NO.1 : TRANSPARENT PLASTIC COVER TAPE

PASS

Test Item (s):	Unit	Method	MDL	Result	Spec.
				No.1	
<b>94/62/EC (Heavy metal content)</b>	---	---	---	---	---
Cadmium (Cd)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.	-
Lead (Pb)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.	-
Mercury (Hg)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.	-
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium by UVMs Spectrometry.	2	n.d.	-
Total Lead+Cadmium+Mercury+Hexavalent Chromium Cr(VI)	mg/kg	Total Lead+Cadmium+Mercury+Hexavalent Chromium Cr(VI) (94/62/EC)	-	n.d.	100

Test Item (s):	Unit	Method	MDL	Result	Spec.
				No.1	
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.	-
Monobromobiphenyl			5	n.d.	-
Dibromobiphenyl			5	n.d.	-
Tribromobiphenyl			5	n.d.	-
Tetrabromobiphenyl			5	n.d.	-
Pentabromobiphenyl			5	n.d.	-
Hexabromobiphenyl			5	n.d.	-
Heptabromobiphenyl			5	n.d.	-
Octabromobiphenyl			5	n.d.	-
Nonabromobiphenyl			5	n.d.	-
Decabromobiphenyl			5	n.d.	-

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## Annex 11: Analysis Result of Cover Tape (Page 3 of 4)

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### Test Report

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24384  
Date : 2007/03/01  
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Test Item (s):	Unit	Method	MDL	Result No.1	Spec.
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV, Determination of PBB and PBDE by GC/MS.	-	n.d.	-
Monobromobiphenyl ether			5	n.d.	-
Dibromobiphenyl ether			5	n.d.	-
Tribromobiphenyl ether			5	n.d.	-
Tetrabromobiphenyl ether			5	n.d.	-
Pentabromobiphenyl ether			5	n.d.	-
Hexabromobiphenyl ether			5	n.d.	-
Heptabromobiphenyl ether			5	n.d.	-
Octabromobiphenyl ether			5	n.d.	-
Nonabromobiphenyl ether			5	n.d.	-
Decabromobiphenyl ether			5	n.d.	-
<b>Sum of PBDEs (Mono to Deca)</b>			-	n.d.	-

Note : 1. mg/kg = ppm  
 2. n.d. = Not Detected  
 3. MDL = Method Detection Limit  
 4. According to 2005/717/EC DecaBDE is exempt.  
 5. \*—\* = Not Conducted  
 6. \*- \* = Not Regulated

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**Annex 11: Analysis Result of Cover Tape (Page 4 of 4)**

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**Test Report**

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24384  
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**CE/2007/24384**

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Annex 12: Analysis Result of Packing Tube (page 1 of 4)



### Test Report

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24382  
Date : 2007/03/01  
Page : 1 of 4



The following sample(s) was/were submitted and identified by/on behalf of the client as :

Sample Description : LOADING TUBE  
Style/Item No. : 110148600  
Facility : TECCOR  
Sample Receiving Date : 2007/02/16  
Testing Period : 2007/02/16 TO 2007/03/01

Test Result(s) : Please refer to next page(s).

  
Daniel Yen, M.P., Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.

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## Annex 12: Analysis Result of Packing Tube (page 2 of 4)

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**Test Report**

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24382  
Date : 2007/03/01  
Page : 2 of 4



**Test Result(s)**

PART NAME NO.1 : TRANSPARENT PLASTIC TUBE

PASS

Test Item (s):	Unit	Method	MDL	Result	Spec.
				No.1	
<b>94/62/EC (Heavy metal content)</b>	---	---	---	---	---
Cadmium (Cd)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.	-
Lead (Pb)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.	-
Mercury (Hg)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.	-
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium by UV/Vis Spectrometry.	2	n.d.	-
Total Lead+Cadmium+Mercury+Hexavalent Chromium Cr(VI)	mg/kg	Total Lead+Cadmium+Mercury+Hexavalent Chromium Cr(VI) (94/62/EC)	-	n.d.	100


  

Test Item (s):	Unit	Method	MDL	Result	Spec.
				No.1	
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.	-
Monobromobiphenyl			5	n.d.	-
Dibromobiphenyl			5	n.d.	-
Tribromobiphenyl			5	n.d.	-
Tetrabromobiphenyl			5	n.d.	-
Pentabromobiphenyl			5	n.d.	-
Hexabromobiphenyl			5	n.d.	-
Heptabromobiphenyl			5	n.d.	-
Octabromobiphenyl			5	n.d.	-
Nonabromobiphenyl			5	n.d.	-
Decabromobiphenyl			5	n.d.	-

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## Annex 12: Analysis Result of Packing Tube (page 3 of 4)



### Test Report

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24382  
Date : 2007/03/01  
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Test Item (s):	Unit	Method	MDL	Result	Spec.
				No.1	
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	n.d.	-
Monobromobiphenyl ether			5	n.d.	-
Dibromobiphenyl ether			5	n.d.	-
Tribromobiphenyl ether			5	n.d.	-
Tetrabromobiphenyl ether			5	n.d.	-
Pentabromobiphenyl ether			5	n.d.	-
Hexabromobiphenyl ether			5	n.d.	-
Heptabromobiphenyl ether			5	n.d.	-
Octabromobiphenyl ether			5	n.d.	-
Nonabromobiphenyl ether			5	n.d.	-
Decabromobiphenyl ether			5	n.d.	-
<b>Sum of PBDEs (Mono to Deca)</b>			-	n.d.	-

Note : 1. mg/kg = ppm  
2. n.d. = Not Detected  
3. MDL = Method Detection Limit  
4. According to 2005/717/EC DecaBDE is exempt.  
5. "---" = Not Conducted  
6. " - " = Not Regulated

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**Annex 12: Analysis Result of Packing Tube (page 4 of 4)**

**SGS**

**Test Report**

LITTELFUSE, INC.  
800 E NORTHWEST HIGHWAY DES PLAINES, IL 60016

No. : CE/2007/24382  
Date : 2007/03/01  
Page : 4 of 4




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**Annex 13: Analysis Result of End Plug (Page 1 of 3)**


	
<b>Test Report</b>	No. : CE/2007/24377    Date : 2007/03/01    Page : 1 of 3
LITTELFUSE INC. 800 E. NORTHWEST HWY. DES PLAINES, IL 60016	
<b>The following sample(s) was/were submitted and identified by/on behalf of the client as :</b>	
Sample Description	: END PLUG
Style/Item No.	: 410287500
Facility	: TECCOR
Sample Receiving Date	: 2007/02/16
Testing Period	: 2007/02/16 TO 2007/03/01
=====	
<b>Test Requested</b>	: In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
<b>Test Method</b>	: With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products. <ul style="list-style-type: none"><li>(1) Determination of Cadmium by ICP-AES.</li><li>(2) Determination of Lead by ICP-AES.</li><li>(3) Determination of Mercury by ICP-AES.</li><li>(4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.</li><li>(5) Determination of PBB and PBDE by GC/MS.</li></ul>
<b>Test Result(s)</b>	: Please refer to next page(s).
  <b>Daniel Yeh, M.R.</b> / Operation Manager Signed for and on behalf of <b>SGS TAIWAN LTD.</b>	
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## Annex 13: Analysis Result of End Plug (Page 2 of 3)



**Test Report**      No. : CE/2007/24377      Date : 2007/03/01      Page : 2 of 3

LITTELFUSE INC.      

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
<b>Sum of PBBs</b>		n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
<b>Sum of PBDEs (Mono to Nona) (Note 4)</b>	(5)	n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
<b>Sum of PBDEs (Mono to Deca)</b>		n.d.	-

**TEST PART DESCRIPTION:**  
 NO.1 : GRAY RUBBER END PLUG

Note : 1. mg/kg = ppm  
 2. n.d. = Not Detected  
 3. MDL = Method Detection Limit  
 4. According to 2005/717/EC DecaBDE is exempt.  
 5. "-" = Not Regulated

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**Annex 13: Analysis Result of End Plug (Page 3 of 3)**

**SGS**

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LITTELFUSE INC.  
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**\*\* End of Report \*\***

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## Annex 14: Applicable RoHS exemptions

