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Mrs. Grace Kao

8 September 2010

**Intertek S Mark Certificate with No. 1021379**

We are pleased to enclose the Intertek S Mark Certificate you have applied for.

**Thank You for S Marking your Products!**

You have taken the first step to S Mark, but have you taken the next step by letting your customers know about your investment? When you use the S Mark in your marketing you are making clear that your company is truly committed to quality and safety. Positioning and differentiate yourself as a company which is dedicated to safety enables you to increase your sales – because in Europe safety sells.

The S Mark is highly recognized among retailers and authorities since 1926.

The S Mark also strengthens your brand by signaling that safety is important to your company and that you care about the safety of your clients. Since we value you as a customer we want to make sure you are getting the best value out of the S Mark. Many of our customers are already using the S Mark in their marketing. Popular media to use the mark is in campaigns, on packaging and in product catalogues. To find out more and to download tools, please visit [www.sweden.intertek-etlsemko.com/smark](http://www.sweden.intertek-etlsemko.com/smark).



If you have any questions don't hesitate to contact us at [info-sweden@intertek.com](mailto:info-sweden@intertek.com)

**Additional part of the certification**

In addition to your product certification, we are conducting inspections at your manufacturing site/s. The inspections are carried out by our inspectors or subcontractors. For details of the technical requirements for these inspections, please contact [inspection.etlsemko@intertek.com](mailto:inspection.etlsemko@intertek.com).

Your success is important to us!

Best Regards,

Göran Lilja  
Executive Vice President  
Intertek Semko AB

Pär Zetterberg  
Executive Vice President  
Intertek Semko AB

# Certificate



for European Product Safety

Reference No. 1021379

## Optocoupler

Type designation LTV816, LTV817, LTV826, LTV827, LTV846, LTV847

Certificate holder **Lite-on Technology Corporation**  
**No. 90, Chien I Road, Chung Ho City**  
**Taipei Hsien 23585**  
**TAIWAN**

The product complies with the standard(s) EN 60065:2002, A1 and A11  
IEC 60065:2001 (Ed 7) + A1:2005  
EN 60950-1:2006 and A11+A1  
IEC 60950-1:2005 (Ed 2) + A1:2009

Date of expiry 7 September 2015

Additional information in Appendix.

Certification Body Intertek Semko AB, Product Certification

Place Kista - Stockholm

Signed

  
Bo Berglöf

Date 7 September 2010  
Page 1 of 3

This certificate is issued in accordance with the terms and conditions set out in the Appendix.



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**Appendix**

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*Technical data*

Type designation	LTV816, LTV817, LTV826, LTV827, LTV846, LTV847
Brand name:	L
Product information	Operating temperature max. 115°C, (125°C thermal cycling). OVC II: max. 300Vrms, reinforced insulation, or OVC III: max. 300Vrms, basic/supplementary insulation. All optocouplers are available in dual-in-line, wide lead spacing and surface mounting package.

The product has been tested according to applicable parts of the following standards:  
EN 60950-1:2006 + A11:2009 + A1:2010 / IEC 60950-1:2005 (Ed 2) + A1:2009:

The optocouplers have been evaluated to be connected between primary circuit connected to the a.c. supply mains and secondary circuit connected to SELV as indicated in technical information.

On manufacturer's request, thermal cycling test has been carried out ten times at -55°C / 25°C / 125°C / 25°C. One optocoupler is subjected to the dielectric strength test at the voltage 4800V / 1 minute between input and output without the humidity treatment. For two optocouplers the test was followed by a humidity treatment for 48h at (29 ± 2)°C, (93 ± 2) %Rh. After the above mentioned treatment all optocouplers have been subjected to an electric strength test of 4800 V a.c. for 1 min. No breakdown of insulation was observed.

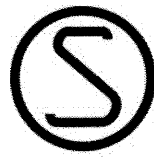
External clearance:	7,8mm
External creepage distance	7,8mm
Internal clearance/creepage distance	5,2mm
Distance through insulation	0,6mm
Fulfills resistance of fire tests of Annex A.2.	

EN 60065:2002 +A1:2006 +A11:2008 / IEC 60065:2001 (7<sup>TH</sup> Edition) + A1:2005:

The optocouplers have been evaluated to be connected between primary circuit connected to the a.c. supply mains and secondary circuit. The optocouplers have been evaluated for working voltage max. 300 V rms/420 V peak, OVC II, external PD2, internal PD1, material group III b, max. 2000 m altitude.

After judgement from case to case, the optocouplers can bridge basic, supplementary, double or reinforced insulation, provided that the ratings in data sheet are not exceeded in normal operation or under fault condition in the appliance.

*This Certificate is for the exclusive use of Intertek's Client and is provided pursuant to the Certification agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this certificate. Only the Client is authorized to permit copying or distribution of this certificate and then only in its entirety. Use of Intertek's Certification mark is restricted to the conditions laid out in the agreement. Any further use of the Intertek name for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. Initial Factory Assessments and Follow up Services are for the purpose of assuring appropriate usage of the Certification mark in accordance with the agreement, they are not for the purposes of production quality control and do not relieve the Client of their obligations in this respect.*

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Appendix**

Reference No. 1021379

*Manufacturing site(s)* Lite-On Electronics (Thailand) Co., Ltd.  
38/4 Moo 1, Rangsit-Ongkarak Road  
Bungyeetoh, Thanyaburi  
Pathumthani 12130  
THAILAND

Lite-On Electronics, Inc. (TianJin)  
No. 11 Fu-Yuan Road  
Wuqing Development Area  
TianJin City 301700  
CHINA

Lite-On Technology (Changzhou) Co., Ltd.  
No. 88, Yanghu Road  
Wujin Hi-Tech Industrial Development Zone  
Jiangsu Province  
CHINA

This certificate is based on a certificate with ref. No. NCS/FI 24426 A2 dated 23 August 2010, issued by SGS FIMKO LTD according to the Nordic Certification Service Agreement.

This certificate replaces previously issued ref. No. 811160 dated 6 August 2008.  
A new certificate has been issued due to new manufacturing site has been added.

*Certification Body* Intertek Semko AB, Product Certification *Place* Kista - Stockholm

*Signed*  
Bo Berglöf*Date* 7 September 2010

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