



# Certificate

## Product Safety

- with the right to S marking

Reference No / Referensnr. 202172

## Optoinsulator for bridging of reinforced insulation

Type designation /  
Typbeteckning

HMA121#, HMA124#, HMA181#, HMA2701#, HMAA2705#, HMHAA280#,  
HMHA2801#, HMHA281#

Manufacturer /  
Certifikatsinnehavare

**FAIRCHILD SEMICONDUCTOR**  
3001 Orchard Parkway  
San Jose, CA 95134  
USA

The product complies with  
the standard(s) /  
Produkt uppfyller standard

EN 60950:2000  
IEC 60950:1999  
IEC 60065:1998  
EN 60065:1998 Group/National differences for CENELEC

Date of expiry /  
Giltigt längst t o m

1 July 2006

Terms in SEMKO's Agreement on certification. Additional information in Appendix.

Certification Body /  
Certifieringsorgan

SEMKO AB, Product Certification

Place / Ort  
Kista - Stockholm

Signed /  
Underskrift

  
Fredrik Wennersten

Date / Datum  
2 October 2002



**SEMKO**

**ITS** Intertek Testing Services  
ETL SEMKO



# Appendix

Reference No / Referensnr. 202172

*Technical data / Tekniska data*

*Type designation / Typbeteckning* HMA121#, HMA124#, HMA181#, HMA2701#, HMAA2705#, HMHAA280#, HMHA2801#, HMHA281#

Alternative designation:

HM.....#: The suffix # May be nothing or any letter representing CTR (Current Transfer Ratio)

*Manufacturing site(s) / Tillverkningsställe(n)* LITE-ON ELECTRONICS (THAILAND) CO., LTD.  
38/4 Moo 1, Ransit-Ongkarak Road  
Bungyeetoh, Tanyaburi  
Pathumthani 12130  
THAILAND

The following tests have been performed with positive result:

General

- Creepage distance between input and output : >5 mm
- Distance through insulation : ≥0.5mm
- Humidity test: 48h. in 93% relative humidity. Electric strength test 3000 V/1 min.
- Internal creepage distance not measured, tests according to EN 60950 2.9.6 have been performed with positive result.

Special tests according to EN 60950

- Thermal cycling test. 10 cycles. Each cycle : 68 h in 100°C, 1 h in 25°C, 2 h in 0°C and 1 h in 25°C. After the cycling test a humidity test for 48 h in 93% relative humidity.  
Electric strength test between input and output 4800 V/1 minute.

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

This certificate replaces previously issued ref. No. 0225009/01-08 dated 18 July 2002 for HMA121, HMA124, HMA181, HMA2701, HMAA2705, HMHAA280, HMHA2801, HMHA281. A new certificate has been issued on account of changed type designation (suffix # added).

Replaces previously issued Appendix dated 2 October 2002.

A new Appendix has been issued on account of changed manufacturing site.

Kista/Stockholm  
15 January 2004

Fredrik Wennersten