

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20140613-S2950  
**Report Reference** S2950-20090102  
**Issue Date** 2014-JUNE-13

**Issued to:** OSRAM OPTO SEMICONDUCTORS GMBH  
LEIBNIZSTRASSE 4  
93055 REGENSBURG GERMANY


**This is to certify that representative samples of** COMPONENT - SMOKE-AUTOMATIC FIRE DETECTORS  
See addendum page

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 268, SMOKE DETECTORS FOR FIRE ALARM SYSTEMS

**Additional Information:** See the UL Online Certifications Directory at [www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Recognized Component Mark should be considered as being covered by UL's Recognition and Follow-Up Service.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC.

Look for the UL Recognized Component Mark on the product.



William R. Carney, Director, North American Certification Programs  
UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20140613-S2950  
**Report Reference** S2950-20090102  
**Issue Date** 2014-JUNE-13

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

850 nm Infrared Emitting Diode for use in photoelectric type smoke detectors enclosed in a plastic package, consisting of SFH 4350 series, SFH 4550 series and SFH 4551 series

940 nm Infrared Emitting Diode for use in photoelectric type smoke detectors enclosed in a plastic package, consisting of SFH 4547 series

The SFH 4350 series includes the following models:

SFH 4350-E9548	SFH 4350-AW E9548	SFH 4350-BW E9548
SFH 4350-AW/BW E9548	SFH 4350-V/AW E9548	SFH 4350-BW/CW E9548

The SFH 4550 series includes the following models:

SFH 4550-E9548	SFH 4550-FW E9548	SFH 4550-EW/FW E9548
SFH 4550-FW/GW E9548		

The SFH 4550 E9558 series includes the following models:

SFH 4550-T2 E9558	SFH 4550-U1 E9558	SFH 4550-U2 E9558
SFH 4550-V1 E9558	SFH 4550-V2 E9558	SFH 4550-Y E9558

The SFH 4551 series includes the following models:

SFH 4551-E9548	SFH 4551-BW E9548	SFH 4551-AW/BW E9548
SFH 4551-BW/CW E9548	SFH 4551-E9558	SFH 4551-R2 E9558
SFH 4551-S1 E9558	SFH 4551-S2 E9558	SFH 4551-T1 E9558
SFH 4551-T2 E9558		

The SFH 4547 E9548 series includes the following models:

SFH 4547-T E9548	SFH 4547-U E9548	SFH 4547-V E9548
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The SFH 4547 E9558 series includes the following models:

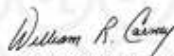
SFH 4547-1 E9558	SFH 4547-2 E9558	SFH 4547-3 E9558
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The E9548 in the type name indicates that this product has a maximum installation temperature of 70°C.

The E9558 in the type name indicates that this product has a maximum installation temperature of 70°C and is test at 20mm distance (near field).

For Type SFH 4550-Y E9558, the "Y" is a special classification / binning for the near field-testing parameter (Radiant intensity).

SFH 4550 E9548



William R. Carney, Director, North American Certification Programs

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# CERTIFICATE OF COMPLIANCE

Certificate Number 20140613-S2950  
Report Reference S2950-20090102  
Issue Date 2014-JUNE-13

SFH 4350
SFH 4550-T2 E9558, SFH 4550-U1 E9558, SFH 4550-U2 E9558
SFH 4551
SFH 4551 E9558
SFH 4547
SFH 4547 E9558

Due to similarities model SFH 4550 is considered as the representative of model SFH 4350, SFH 4551 and SFH 4547.

Models SFH 4350, SFH 4550, SFH 4551 and SFH 4547 have identical:

- A. Operating and Storage Temperature Range
- B. Reverse Voltage
- C. Forward Voltage & Current
- D. Surge Current
- E. Power Dissipation
- F. Active Chip Area

Models SFH 4350, SFH 4550 and SFH 4551 have identical:

- A. Wavelength at Peak Emission
- B. Spectral Bandwidth
- C. Total Radiant Flux

Models SFH 4547 have different:

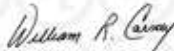
- A. Wavelength at Peak Emission
- B. Spectral Bandwidth
- C. Total Radiant Flux

Models 4350, SFH 4550, SFH 4551 and SFH 4547 have different:

- A. Half angle
- B. Radiant Intensity
- C. Mechanical Dimensions

Model SFH 4551 is similar to SFH 4550 device except that 4551 is a surface mount device.

NOTE: Model numbers ending with Suffixes Y, T, U, V, AW, BW, CW, FW, GW, 1, 2, 3 are intended for different bins with different Radiant Intensity, (See III. 1, 1A, 1B, 1C, 1D, 1E and 1F for details).



William R. Carney, Director, North American Certification Programs  
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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20150316-S2950  
**Report Reference** S2950-20150313  
**Issue Date** 2015-MARCH-16

**Issued to:** OSRAM OPTO SEMICONDUCTORS GMBH  
LEIBNIZSTRASSE 4  
93055 REGENSBURG GERMANY

**This is to certify that  
representative samples of**

COMPONENT - SMOKE-AUTOMATIC FIRE DETECTORS  
850 nm, Infrared Emitting Diode for use in photoelectric  
type smoke detectors enclosed in a plastic package,  
consisting of SFH 4554 series and SFH 4558 series  
940 nm, Infrared Emitting Diode for use in photoelectric  
type smoke detectors enclosed in a plastic package,  
consisting of SFH 4544 series.

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 268 - SMOKE DETECTORS FOR FIRE ALARM  
SYSTEMS

**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's  
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance  
capabilities and are intended for use as components of complete equipment submitted for investigation rather  
than for direct separate installation in the field. The final acceptance of the component is dependent upon its  
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

*B. M. H. H.*

Bruck Mühlenholz, Assistant Chief Engineer, Global Inspection and Field Services  
UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20150105-S2950  
**Report Reference** S2950-20141021  
**Issue Date** 2015-JANUARY-05

**Issued to:** OSRAM OPTO SEMICONDUCTORS GMBH  
LEIBNIZSTRASSE 4  
93055 REGENSBURG GERMANY

**This is to certify that  
representative samples of**

COMPONENT - SMOKE-AUTOMATIC FIRE DETECTORS  
850 nm High Power Infrared Emitting Diode for use in  
photoelectric type smoke detectors enclosed in a plastic  
package:

Model SFH 4059 series includes the following models:  
SFH 4059-Q, SFH 4059-R, SFH 4059-S

Model SFH 4056 series includes the following models:  
SFH4056-N, SFH4056-P, SFH4056-Q

Have been investigated by UL in accordance with the  
Standard(s) indicated on this Certificate.

**Standard(s) for Safety:** UL 268, Smoke Detectors for Fire Alarm Signaling Systems  
**Additional Information:** See the UL Online Certifications Directory at  
[www.ul.com/database](http://www.ul.com/database) for additional information

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installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.

*B. Mahholz*

Bruce Mahholz, Assistant Chief Engineer, Global Inspection and Field Services

UL LLC

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