



# Smoke Detector

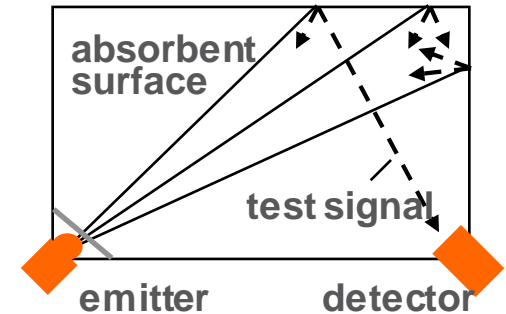
OS IR MK2 | April 2016  
Light is **OSRAM**

**OSRAM**  
Opto Semiconductors

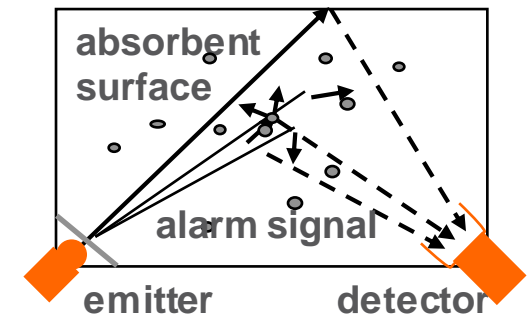
# Optical Solutions for Smoke detectors



## No Smoke



## Smoke



# Recommended products – IRED & PIN Photo Diode

## Emitter



### Product:

**IRED** in T1 (3 mm), T1 ¾ (5 mm),  
Surface Mount Radial (SMR) and  
CHIPLED

Half angle options from  $\pm 3$  to  $\pm 30^\circ$   
UL recognition available on request

## PIN Photo Diode

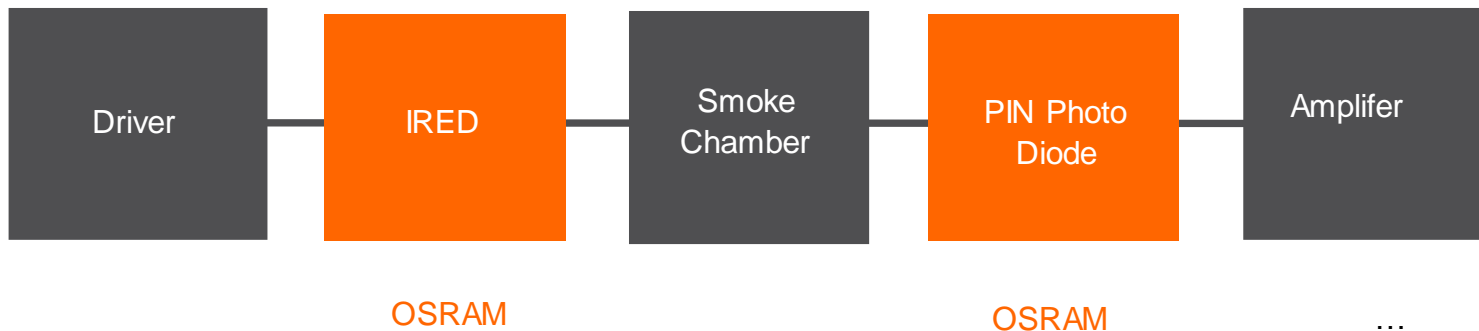


### Product:

T1 ¾ (5 mm), Surface Mount Radial  
(SMR) Sidelooker

Half angle options from  $\pm 10$  to  $\pm 65^\circ$

## Building Blocks



# Recommended products – Benefits and more

## Customer Benefit

- High quality products with long product life cycles

### IRED

- Half angle options from  $\pm 3$  to  $\pm 30^\circ$
- Radial, SMR and CHIPLED
- UL recognition available on request needed for North American smoke detector market

### Photo Diode

- Half angle options from  $\pm 10$  to  $\pm 65^\circ$
- Radial, SMR, Side Looker
- IR Filters to suppress visible light



IRED



Photo Diode

## Decision criteria










- Highly efficient IR Thinfilm emitters
- Mounting options: Trough hole or SMT
- Flexibility to optimize performance
- UL recognition

## Tools

Application note: Under preparation

# Optical Solutions for Smoke Detectors






## Products at a glance (Emitter)

Device	Part number	Centroid wavelength (nm)	Radiant Intensity (mW/sr)	Half angle (°)	UL recognized (=E9548)	Dimensions (mm <sup>3</sup> )	
CHIPLED	<a href="#"><u>SFH 4059</u></a>	860	15 (≥ 6.3)	±10	Yes	1.9 x 3.5 x 0.875	
3mm Radial	<a href="#"><u>SFH 4350</u></a>	860	90 (≥ 40)	±13	Yes	4.7 x 2.5 x 0.9	
3mm Radial	<a href="#"><u>SFH 4356</u></a>	860	90 (≥ 40)	±20	no plan	4.7 x 2.5 x 0.9	
5mm Radial	<a href="#"><u>SFH 4544</u></a>	950	550 (≥ 250)	±10	Yes	7.2 x 2.5 x 0.9	
5mm Radial	<a href="#"><u>SFH 4547</u></a>	950	50 (≥ 25)	±30	Yes	6.5 x 3.9 x 1.15	
5mm Radial	<a href="#"><u>SFH 4550</u></a>	860	1100 (≥ 630)	±3	Yes	6.5 x 3.9 x 1,15	
5mm Radial	<a href="#"><u>SFH 4554</u></a>	860	550 (≥ 250)	±10	Yes	0.4 x 0.6 x 0.4	
SMR	<a href="#"><u>SFH 4551</u></a>	860	270 (≥ 100)	±10	Yes	6.5 x 3.9 x 1,15	
SMR	<a href="#"><u>SFH 4558</u></a>	860	350 (≥ 160)	±10	Yes	0.8 x 1.6 x 0.4	

Recommended products, for further options please check [web site](#)

# Optical Solutions for Smoke Detectors

## Products at a glance (Detectors)

Device	Part number	Spectral Range (nm)	Photo current ( $\mu\text{A}$ @870nm, $1\text{mW}/\text{cm}^2$ )	Sensitive Area ( $\text{mm}^2$ )	Half Angle ( $^\circ$ )	Dimensions ( $\text{mm}^3$ )	
5mm Radial	<a href="#"><u>SFH 203 FA</u></a>	400 – 1100	80	1	$\pm 20$	4.7 x 2.5 x 0.9	
5mm Radial	<a href="#"><u>SFH 213 FA</u></a>	400 – 1100	135	1	$\pm 10$	7.2 x 2.5 x 0.9	
Sidelooker	<a href="#"><u>SFH 205 FA</u></a>	400 – 1100	60	7	$\pm 60$	6.5 x 3.9 x 1.15	
Sidelooker	<a href="#"><u>SFH 235 FA</u></a>	400 – 1100	50	7	$\pm 65$	6.5 x 3.9 x 1,15	
Sidelooker	<a href="#"><u>SFH 206 K</u></a>	400 – 690	80 nA/lx	7	$\pm 60$	6.5 x 3.9 x 1,15	

Recommended products, for further options please check [web site](#).