

# Infonote

## AO-IN-2022-017-I

### Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

09.03.2023

Dear Customer,

please take note of this **Infonote**.

This customer notification is for information only and does not require customer approval.

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**Objective:** Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

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**Affected products:** Radial SFH 313FA and SFH 314FA

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**Reason for change:** Datasheet review and adjustment of typically values to reflect production characteristics independent from chip in use.

Current supplier discontinued production; therefore a new chip will be introduced into Radial SFH 313FA and SFH 314FA.

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Current status

New status

Datasheet Version 1.4

Datasheet Version 1.5

**Description of change:** Supplier A / Austria

Supplier A / Austria  
Supplier B / Taiwan

Please refer to customer information package for more details.

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**Time schedule:** Updated datasheets are available

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**Assessment:** No changes in fit, form, function and reliability.

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**Documentation:** Customer information package OS-PCN-2022-017-I

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# Infonote

AO-IN-2022-017-I

Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

Customer information package

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2023-03-09

# Agenda

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# AO-IN-2022-017-I

## Update of Datasheet and Introduction of new Chip Supplier

### Reason for change

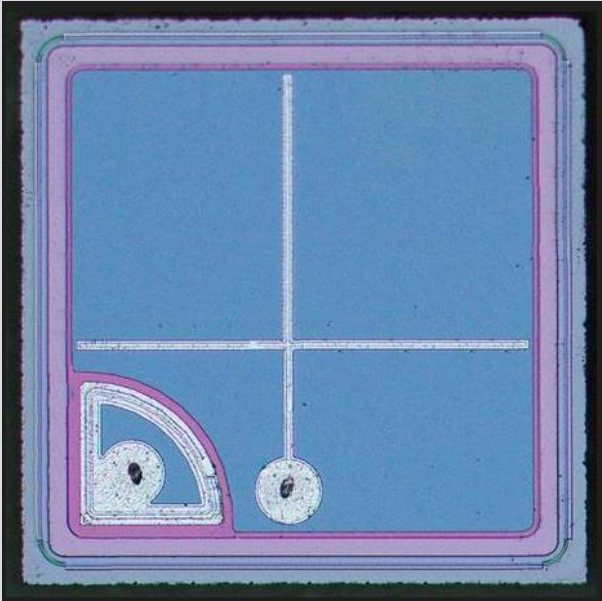
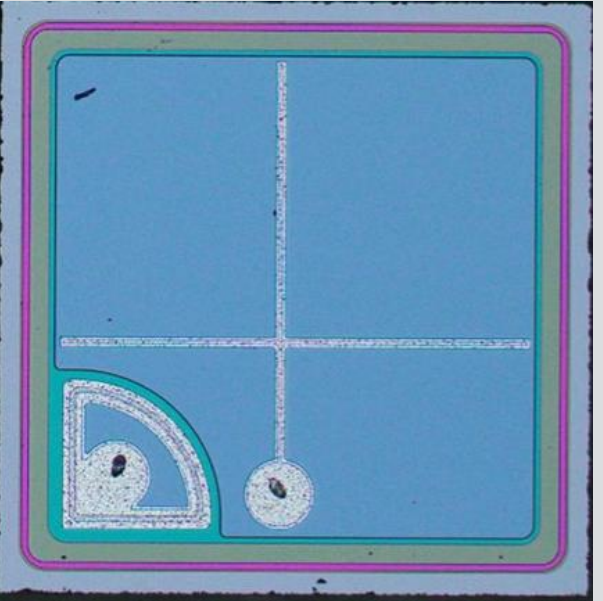
Item	Description
Datasheet	Datasheet review and adjustment of typical values to reflect production characteristics (independent from chip in use).
Chip	New chip will be introduced. Current chip supplier discontinued production.

Note: From the middle of Mar. 2023 both chip types can be inside the LEDs.

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Description of change

Item	Current status	New status
Datasheet	Status 1.4	Status 1.5
Chip	Supplier A / Austria 	Supplier A / Austria , Supplier B / Taiwan 

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Corrections in the datasheet of SFH 313 FA

Item	Current status	New status
Ordering Information, Photocurrent $I_{PCE}$	typ. 11 mA	typ. 9 mA
Characteristics, Wavelength of max sensitivity $\lambda_{S \max}$	typ. 870 nm	typ. 850 nm
Characteristics, Spectral range of sensitivity $\lambda_{10\%}$	typ. 740 ... 1080 nm	typ. 740 ... 1060 nm
Characteristics, Rise time	typ. 13 $\mu$ s	typ. 18 $\mu$ s
Characteristics, Fall time	typ. 13 $\mu$ s	typ. 20 $\mu$ s
Characteristics, Thermal resistance junction ambient real	max. 380 K/ W	removed

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Corrections in the datasheet of SFH 314 FA

Item	Current status	New status
Ordering Information, Photocurrent $I_{PCE}$	typ. 2100 $\mu$ A	typ. 1900 $\mu$ A
Characteristics, Wavelength of max sensitivity $\lambda_{S \max}$	typ. 870 nm	typ. 850 nm
Characteristics, Spectral range of sensitivity $\lambda_{10\%}$	typ. 740 ... 1080 nm	typ. 740 ... 1060 nm
Characteristics, Rise time	typ. 13 $\mu$ s	typ. 18 $\mu$ s
Characteristics, Fall time	typ. 13 $\mu$ s	typ. 20 $\mu$ s



# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

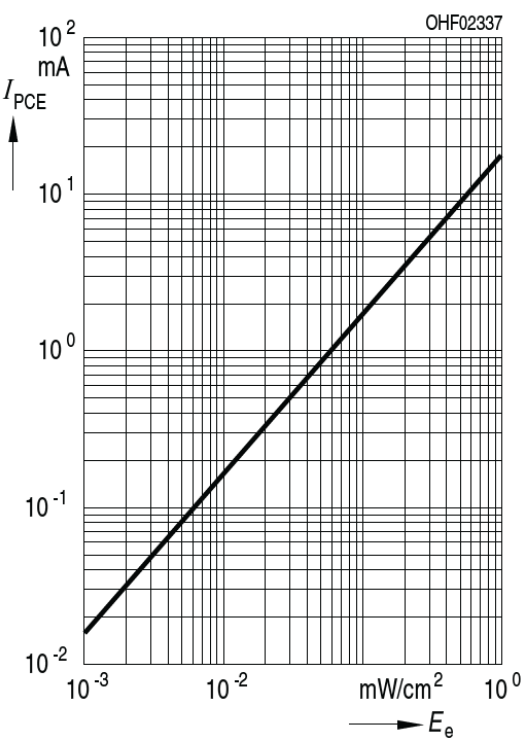
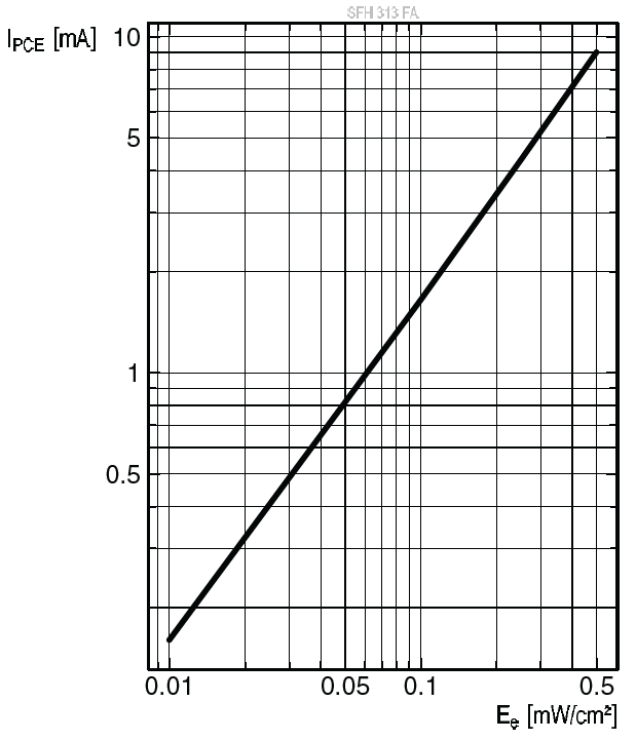
### Corrections in the datasheets of SFH 313 FA and SFH 314 FA

Item	Current status	New status
<p>Relative Spectral Sensitivity <math>S_{rel} = f(\lambda)</math></p> <p>Changes in typ. maximum and the layout</p>	<p>The graph shows the relative spectral sensitivity <math>S_{rel}</math> in percent on the y-axis (0 to 100) versus wavelength <math>\lambda</math> in nanometers on the x-axis (400 to 1200). The curve peaks at approximately 85 nm with a sensitivity of 100%. The label 'OHF02331' is in the top right corner.</p>	<p>The graph shows the relative spectral sensitivity <math>S_{rel}</math> in percent on the y-axis (0 to 100) versus wavelength <math>\lambda</math> in nanometers on the x-axis (400 to 1000). The curve peaks at approximately 85 nm with a sensitivity of 100%. The label 'SFH 313 FA' is in the top right corner.</p>

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

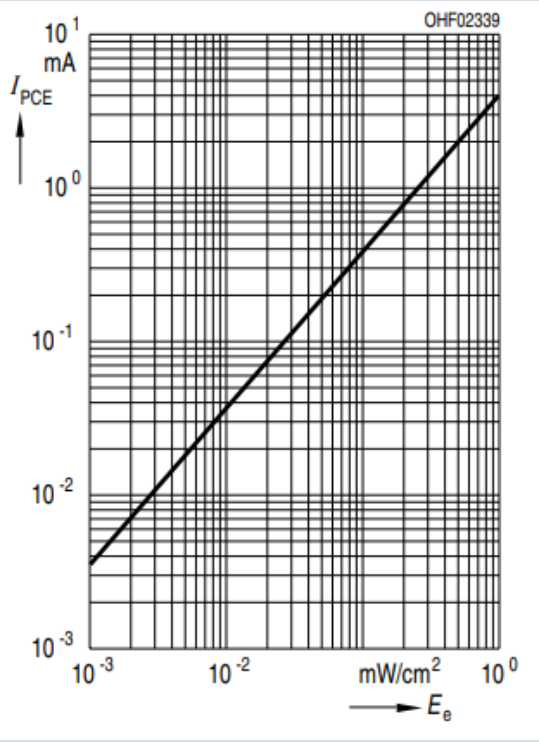
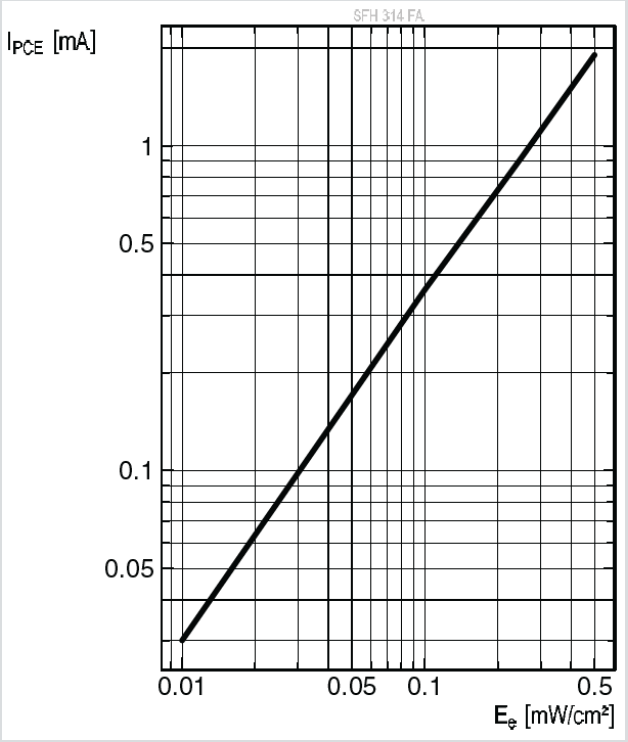
### Corrections in the datasheet of SFH 313 FA

Item	Current status	New status
<p>Photocurrent <math>I_{PCE} = f(E_e) ; V_{CE} = 5 V</math></p> <p>Changes in typ. <math>I_{PCE}</math> and the layout</p>	 <p>OHF02337</p>	 <p>SFH 313 FA</p>

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Corrections in the datasheet of SFH 314 FA.

Item	Current status	New status
<p>Photocurrent <math>I_{PCE} = f(E_e) ; V_{CE} = 5 V</math></p> <p>Changes in typ. <math>I_{PCE}</math> and the layout</p>		

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

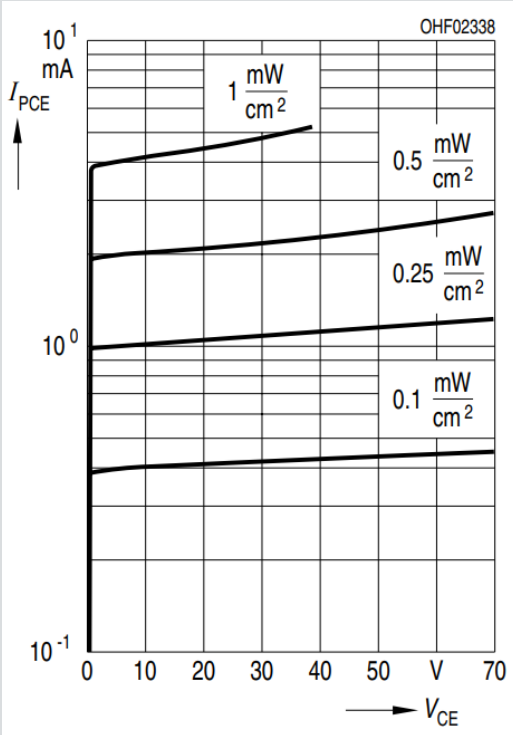
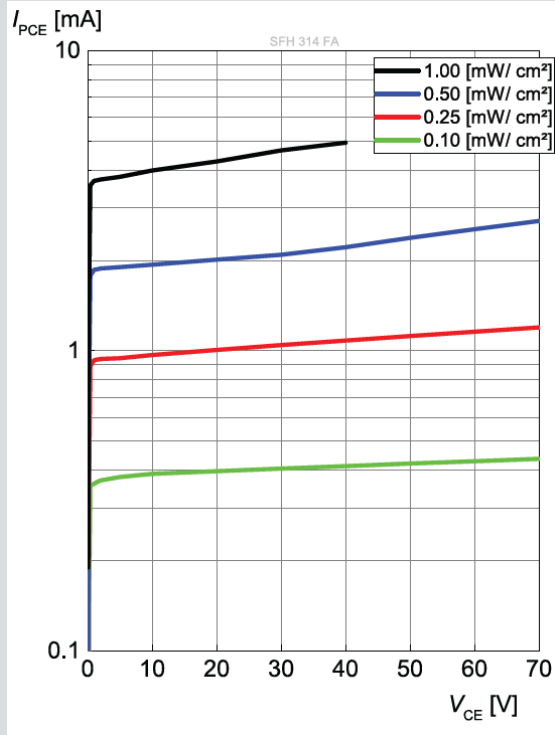
### Corrections in the datasheet of SFH 313 FA.

Item	Current status	New status
<p>Photocurrent  <math>I_{PCE} = f(V_{CE}); E_e = \text{Parameter}</math></p> <p>Changes in typ. <math>I_{PCE}</math> and the layout</p>		

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

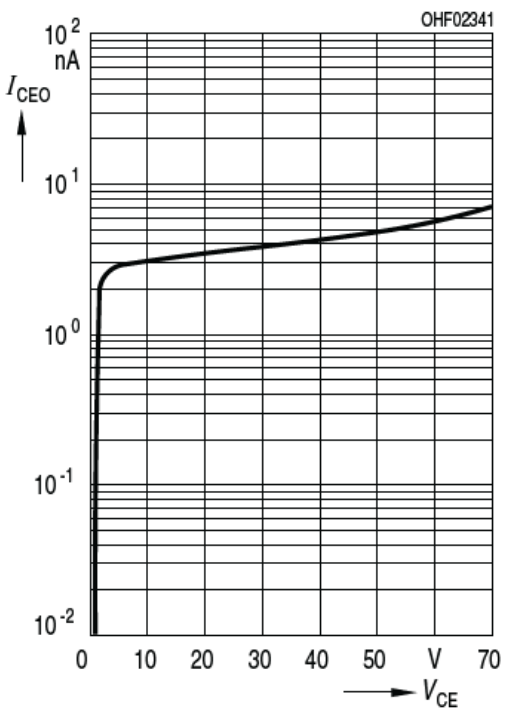
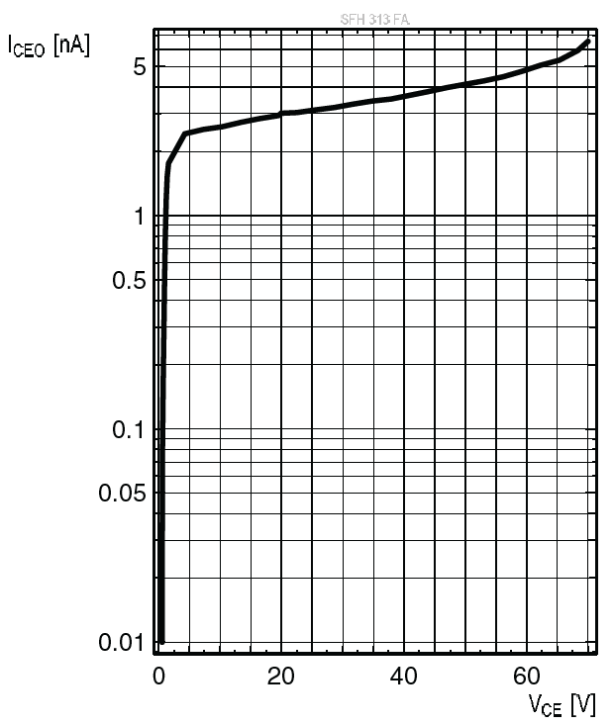
### Corrections in the datasheet of SFH 314 FA.

Item	Current status	New status
<p>Photocurrent <math>I_{PCE} = f(V_{CE}); E_e = \text{Parameter}</math></p> <p>Changes in typ. <math>I_{PCE}</math> and the layout</p>	 <p>OHF02338</p>	 <p>SFH 314 FA</p>

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

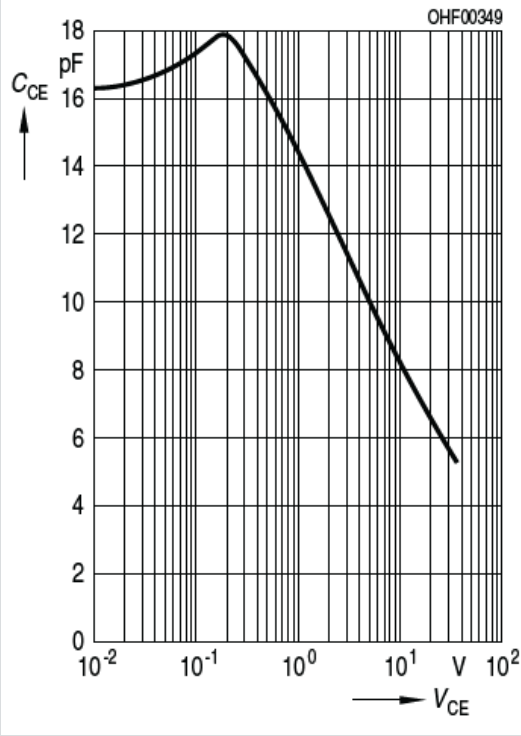
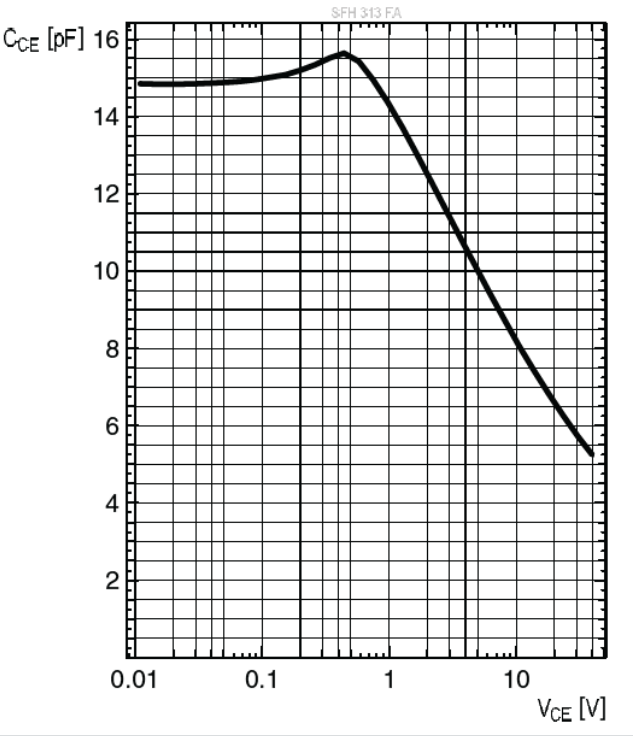
Corrections in the datasheets of SFH 313 FA and SFH 314 FA.

Item	Current status	New status
<p>Dark Current <math>I_{CE0} = f(V_{CE}) ; E = 0</math></p> <p>Change of the layout</p>		

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

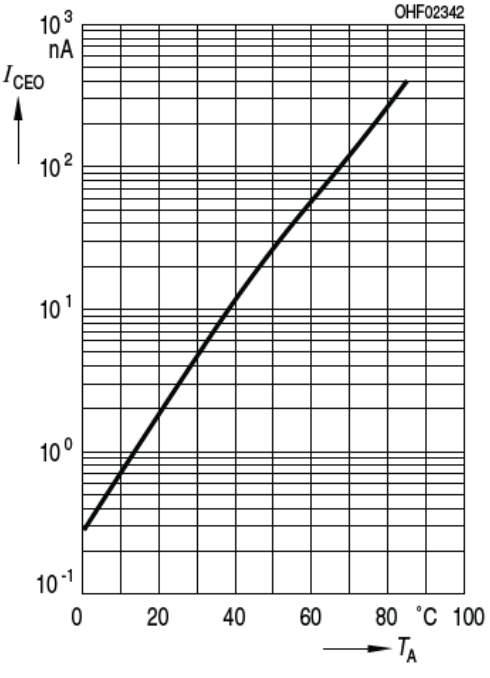
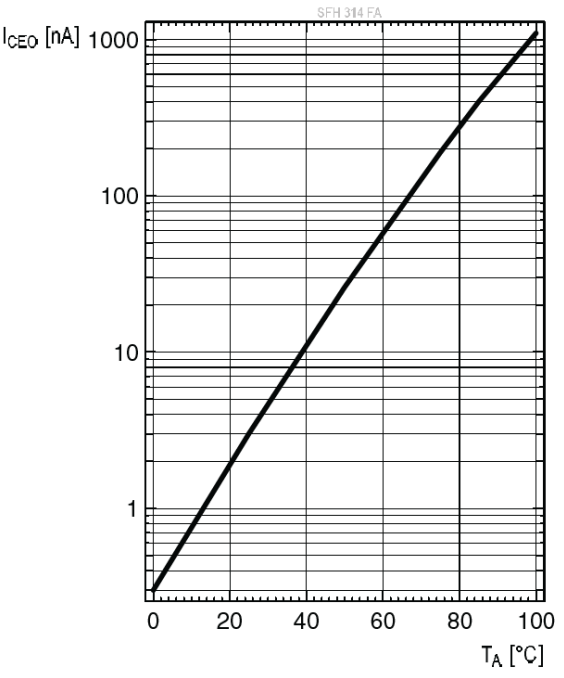
### Corrections in the datasheets SFH 313 FA and SFH 314 FA

Item	Current status	New status
<p>Collector-Emitter Capacitance <math>C_{CE} = f(V_{CE}); f = 1 \text{ MHz}; E = 0</math></p> <p>Changes in layout, no change in typ. <math>C_{CE}</math> value at <math>V_{CE} = 5V</math></p>	 <p>OHF00349</p>	 <p>SFH 313 FA</p>

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Corrections in the datasheets SFH 313 FA and SFH 314 FA

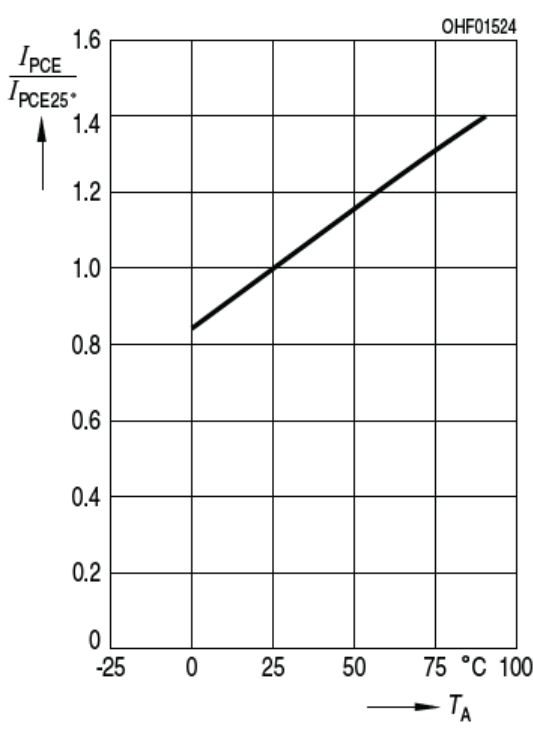
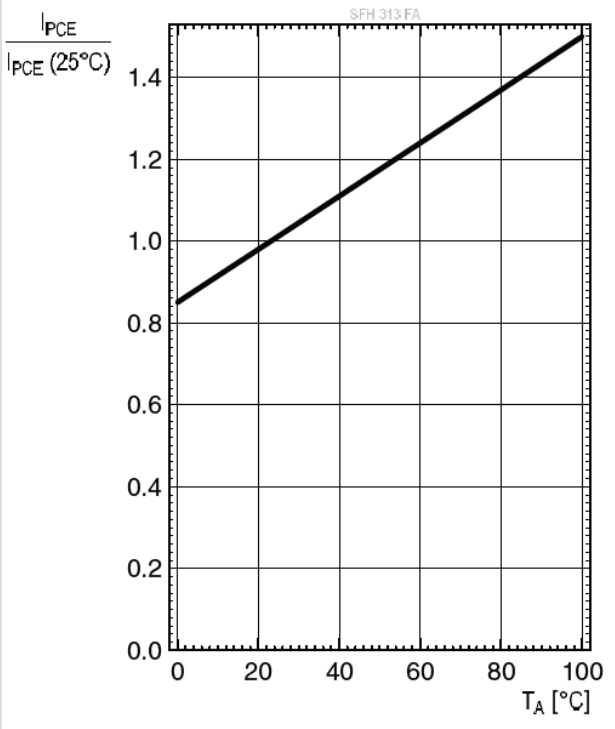
Item	Current status	New status
<p>Dark Current <math>I_{CE0} = f(T_A); V_{CE} = 5 \text{ V}; E_e = 0 \text{ mW/cm}^2</math></p> <p>Change of the layout</p>	 <p>The graph shows the dark current <math>I_{CE0}</math> in nA on a logarithmic y-axis (from <math>10^{-1}</math> to <math>10^3</math>) versus temperature <math>T_A</math> in °C on a linear x-axis (from 0 to 100). The curve shows an exponential increase. The graph is labeled 'OHF02342'.</p> <p><math>I_{CE0} = f(T_A); V_{CE} = 5 \text{ V}; E_e = 0 \text{ mW/cm}^2</math></p>	 <p>The graph shows the dark current <math>I_{CE0}</math> in nA on a logarithmic y-axis (from 1 to 1000) versus temperature <math>T_A</math> in °C on a linear x-axis (from 0 to 100). The curve shows an exponential increase. The graph is labeled 'SFH 314 FA'.</p> <p><math>I_{CE0} = f(T_A); V_{CE} = 20 \text{ V}; E_e = 0 \text{ mW/cm}^2</math></p>



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## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

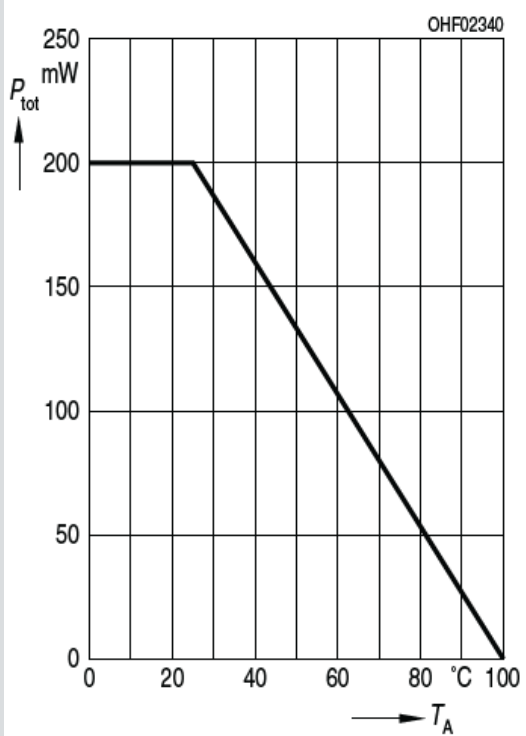
### Corrections in the datasheets SFH 313 FA and SFH 314 FA

Item	Current status	New status
<p>Photocurrent <math>I_{PCE,rel} = f(T_A); V_{CE} = 5\text{ V}</math></p> <p>Change of the layout</p>	 <p>OHF01524</p>	 <p>SFH 313 FA</p>

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Corrections in the datasheet of SFH 313 FA

Item	Current status	New status								
Power Consumption $P_{\text{tot}} = f(T_A)$	 <p>The graph shows the relationship between total power consumption (<math>P_{\text{tot}}</math>) in mW and ambient temperature (<math>T_A</math>) in °C. The y-axis ranges from 0 to 250 mW, and the x-axis ranges from 0 to 100 °C. The power is constant at 200 mW for temperatures up to 25°C, then decreases linearly to 0 mW at 100°C. The graph is labeled OHF02340.</p> <table border="1"><caption>Data points from the graph</caption><thead><tr><th><math>T_A</math> (°C)</th><th><math>P_{\text{tot}}</math> (mW)</th></tr></thead><tbody><tr><td>0</td><td>200</td></tr><tr><td>25</td><td>200</td></tr><tr><td>100</td><td>0</td></tr></tbody></table>	$T_A$ (°C)	$P_{\text{tot}}$ (mW)	0	200	25	200	100	0	removed
$T_A$ (°C)	$P_{\text{tot}}$ (mW)									
0	200									
25	200									
100	0									

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

**Corrections in the datasheets:** Updated Datasheet Version

Product type	Data sheet version <u>before IN</u>	Data sheet version <u>after IN</u>
SFH 313 FA	1.4	1.5
SFH 314 FA	1.4	1.5

Note: Latest version of data sheet will be accessible on the ams OSRAM homepage.

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### List of affected products

Brand
SFH 313 FA
SFH 314 FA

# AO-IN-2022-017-I

## Introduction of new chip and update of datasheet for Radial SFH 313 FA and SFH 314 FA

### Time schedule

Time schedule	
Intended Start of Introduction	15.03.2023

Sensing is life

am  OSRAM

Material (Q-no.)	Q Description	Device Family	Brand
Q62702P1674	SFH 313FA	SFH 313 FA	Radial
Q62702P3597	SFH 313 FA-2/3	SFH 313 FA	Radial
Q65111A0353	SFH 313 FA-2/3 RN18A	SFH 313 FA	Radial
Q62702P1754	SFH 313 FA-3	SFH 313 FA	Radial
Q62702P5196	SFH 313 FA-3/4	SFH 313 FA	Radial
Q62702P1675	SFH 314 FA	SFH 314 FA	Radial
Q62702P3599	SFH 314 FA-2/3	SFH 314 FA	Radial