

Infonote

AO-IN-2023-003-I

Update of Datasheet for
OSCONIQ[®] S 5050 Horti White

15.02.2023

Dear Customer,

please take note of this **Infonote**.

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

Objective: Update of Datasheet for OSCONIQ® S 5050 Horti White

Affected products: GW Q9LR32.HW

Reason for change: Performance upgrade and characterization update.

Description of change: For details refer to document 2_cip_AO-IN-2023-003-I

Time schedule: Start of change : 15.02.2023

Assessment: The updated product datasheet will be available on ams OS homepage.
No change in fit, form, function, and reliability of the device.

Infonote
AO-IN-2023-003-I
Update of Datasheet for OSCONIQ® S 5050 Horti White
Customer information package

OS IL GROW
2023-02-15

Agenda

	Page
1. Reason for change & Description of change	3
2. Changes in the datasheets	4
3. List of affected products	18
4. Time schedule	19

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Reason for change and Description of change

- Performance upgrade and characterization update.

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets - Applications

Current status	New status
<p data-bbox="206 619 443 658">Applications</p> <ul data-bbox="206 682 535 715" style="list-style-type: none"><li data-bbox="206 682 535 715">— Horticulture Lighting	<p data-bbox="1378 634 1625 672">Applications</p> <ul data-bbox="1378 696 1778 729" style="list-style-type: none"><li data-bbox="1378 696 1778 729">- Agriculture & Horticulture

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ[®] S 5050 Horti White

Changes in the datasheets - Features

Current status	New status
<p>Features:</p> <ul style="list-style-type: none">— Package: white SMT package, colored diffused silicone resin— Typ. Radiation: 120° (Lambertian emitter)— ESD: 8 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B)— Radiant Flux: <u>typ. 630 mW @ M2 bin</u>— Photon Flux Efficacy: <u>typ. 2.86 μmol/J @ M2 bin</u>	<p>Features</p> <ul style="list-style-type: none">- Package: white SMT package, colored diffused silicone resin- Typ. Radiation: 120° (Lambertian emitter)- ESD: 8 kV acc. to ANSI/ESDA/JEDEC JS-001 (HBM, Class 3B)- Radiant Flux: <u>typ. 661 mW @ M3 bin</u>- Photon Flux Efficacy: <u>typ. 2.94 μmol/J @ M3 bin</u>

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets - Ordering Information

Current status			New status		
Ordering Information			Ordering Information		
Type	Total radiant flux ¹⁾ $I_F = 180 \text{ mA}$ Φ_E	Ordering Code	Type	Total radiant flux ¹⁾ $I_F = 180 \text{ mA}$ Φ_E	Ordering Code
GW Q9LR32.HW-AEAF-M1-1	609 ... 672 mW	Q65113A2695	GW Q9LR32.HW-AEAF-M1-1	609 ... 672 mW	Q65113A2695
GW Q9LR32.HW-AEAF-M2-1	609 ... 672 mW	Q65113A2694	GW Q9LR32.HW-AFAG-M2-1	640 ... 706 mW	Q65113A5890
GW Q9LR32.HW-AEAF-M3-1	609 ... 672 mW	Q65113A2693	GW Q9LR32.HW-AFAG-M3-1	640 ... 706 mW	Q65113A5889

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets - Characteristics

Current status				New status			
Electrical thermal resistance junction/solderpoint with efficiency $\eta_e = 62\%$				Electrical thermal resistance junction/solderpoint with efficiency $\eta_e = 66\%$			
$R_{thJS\ elec.}$	typ.	2.1 K / W		$R_{thJS\ elec.}$	typ.	1.0 K / W	

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets – Brightness Groups

Current status								New status							
PF, PF/W and luminous flux calculated based on M2 color bin								PF, PF/W and luminous flux calculated based on M3 color bin							
Brightness Groups								Brightness Groups							
Group	Total radiant flux ¹⁾	Total radiant flux ¹⁾	PF	PF	PF/W	Luminous flux	Luminous flux	Group	Total radiant flux ¹⁾	Total radiant flux ¹⁾	PF	PF	PF/W	Luminous flux	Luminous flux
	min.	max.	min.	max.	typ.	min.	max.		min. $I_F = 180 \text{ mA}$	max. $I_F = 180 \text{ mA}$	min.	max.	typ.	min.	max.
	Φ_E	Φ_E	Φ_p	Φ_p		Φ_V	Φ_V		Φ_E	Φ_E	Φ_p	Φ_p		Φ_V	Φ_V
AE	609 mW	640 mW	2.73 $\mu\text{mol/s}$	2.87 $\mu\text{mol/s}$	2.82 $\mu\text{mol/J}$	229 lm	241 lm	AE	609 mW	640 mW	2.69 $\mu\text{mol/s}$	2.83 $\mu\text{mol/s}$	2.78 $\mu\text{mol/J}$	212 lm	223 lm
AF	640 mW	672 mW	2.87 $\mu\text{mol/s}$	3.01 $\mu\text{mol/s}$	2.96 $\mu\text{mol/J}$	241 lm	253 lm	AF	640 mW	672 mW	2.83 $\mu\text{mol/s}$	2.97 $\mu\text{mol/s}$	2.92 $\mu\text{mol/J}$	223 lm	234 lm
								AG	672 mW	706 mW	2.97 $\mu\text{mol/s}$	3.12 $\mu\text{mol/s}$	3.06 $\mu\text{mol/J}$	234 lm	246 lm

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

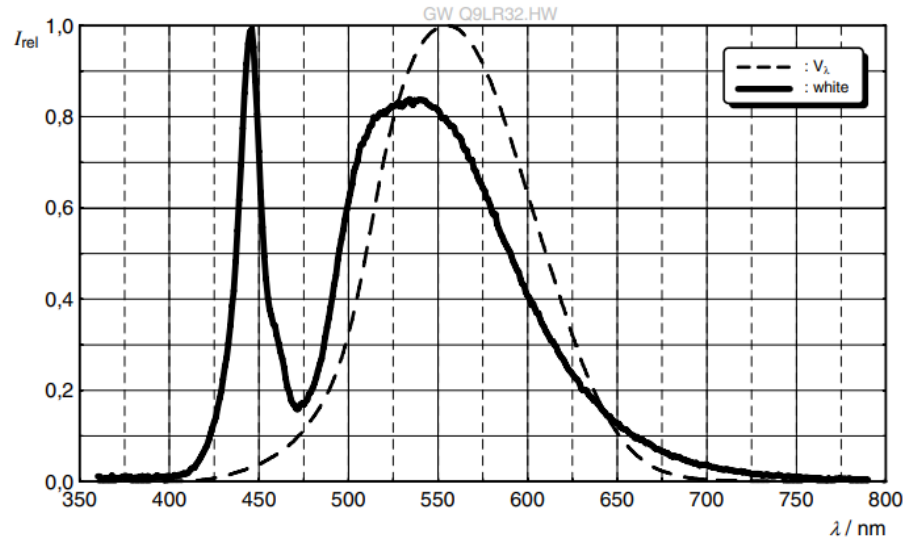
Changes in the datasheets – Relative Spectral Emission

Current status

Characteristics based on M2 color bin

Relative Spectral Emission ⁵⁾

$$I_{rel} = f(\lambda); I_F = 180 \text{ mA}; T_J = 25 \text{ °C}$$

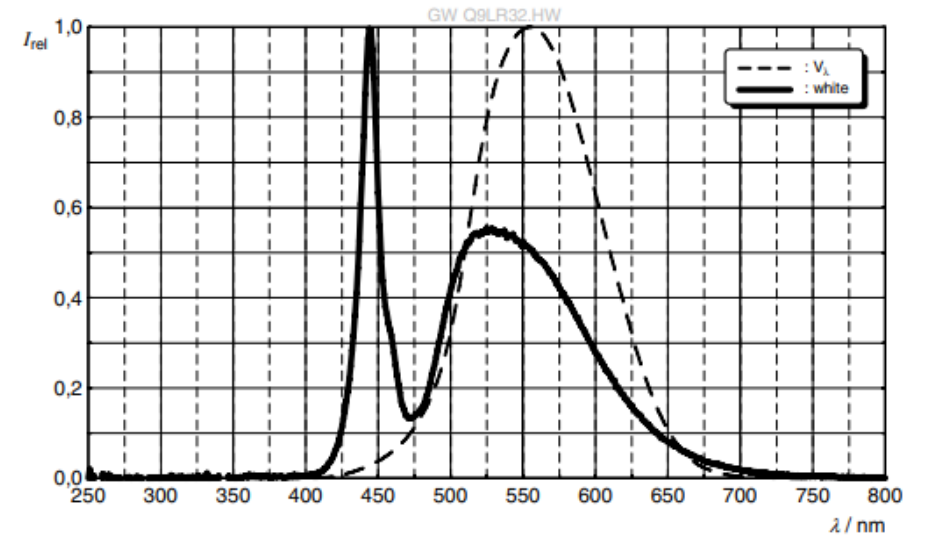


New status

Characteristics based on M3 color bin

Relative Spectral Emission ⁵⁾

$$I_{rel} = f(\lambda); I_F = 180 \text{ mA}; T_J = 25 \text{ °C}$$



AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

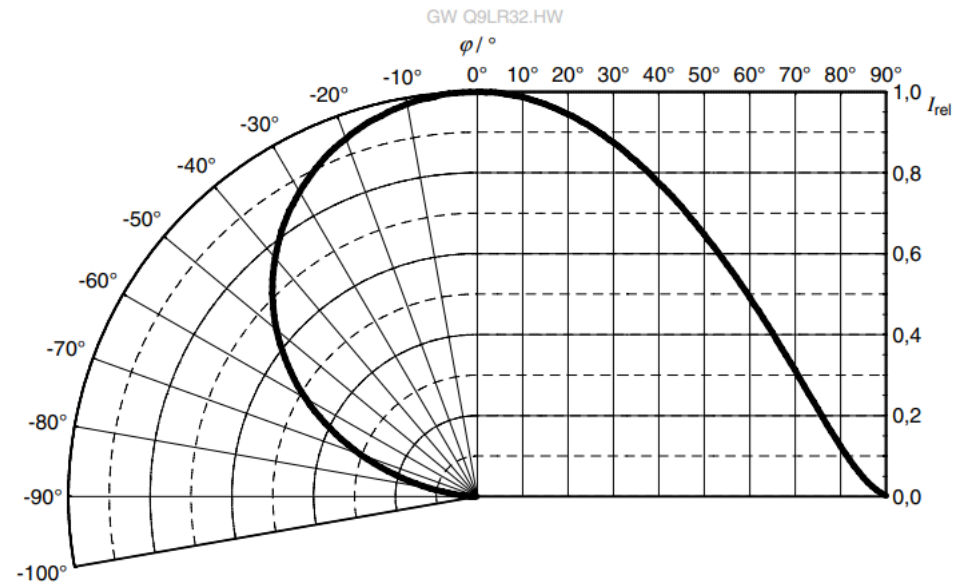
Changes in the datasheets – Radiation Characteristics

Current status

Characteristics based on M2 color bin

Radiation Characteristics ⁵⁾

$$I_{rel} = f(\phi); T_j = 25\text{ °C}$$

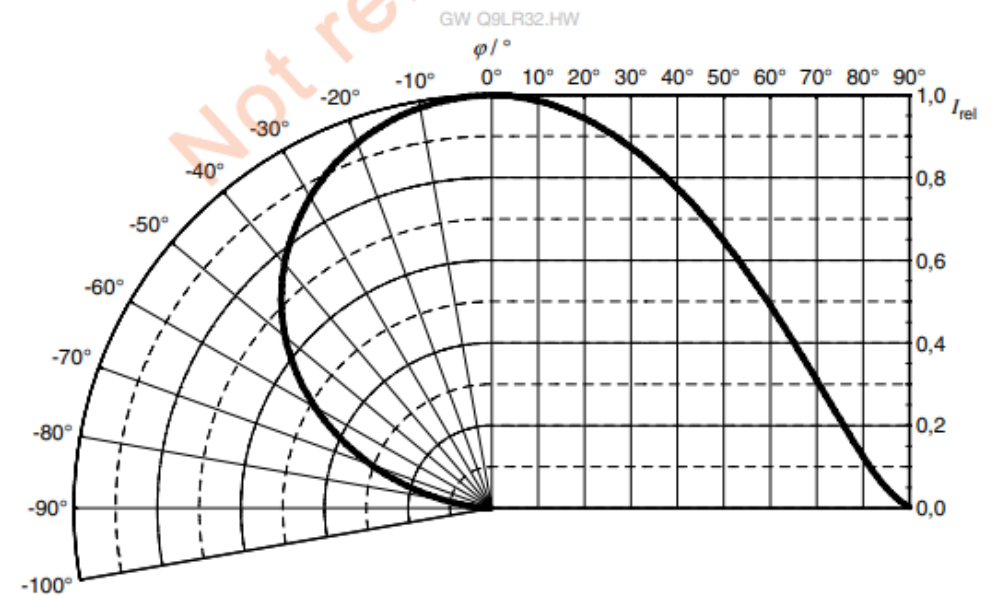


New status

Characteristics based on M3 color bin

Radiation Characteristics ⁵⁾

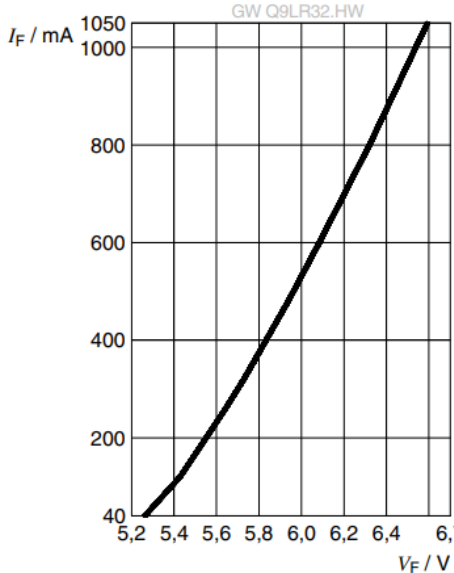
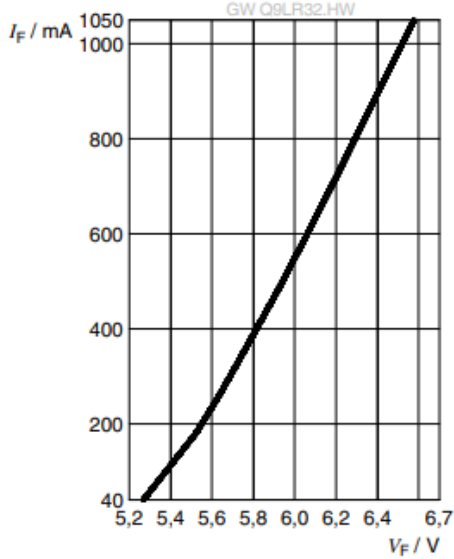
$$I_{rel} = f(\phi); T_j = 25\text{ °C}$$



AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

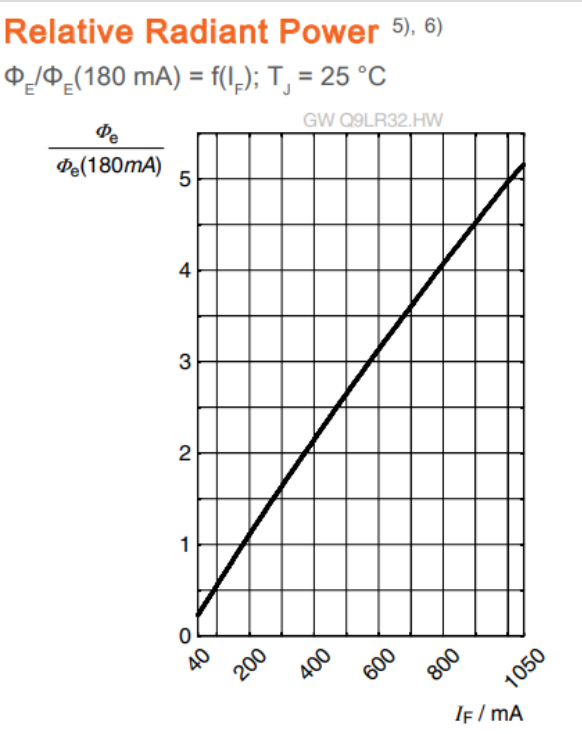
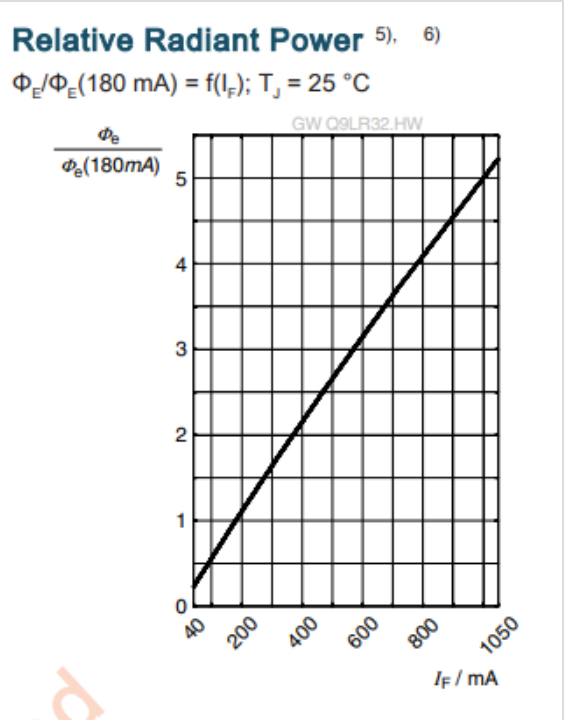
Changes in the datasheets – Forward current

Current status	New status																																				
<p data-bbox="129 515 754 551">Characteristics based on M2 color bin</p> <div data-bbox="417 582 980 1282"><p data-bbox="425 594 698 625">Forward current ⁵⁾</p><p data-bbox="425 639 647 668">$I_F = f(V_F); T_J = 25\text{ °C}$</p><p data-bbox="708 696 843 714">GW Q9LR32.HW</p><table border="1"><caption>Approximate data points for M2 color bin</caption><thead><tr><th>V_F / V</th><th>I_F / mA</th></tr></thead><tbody><tr><td>5,2</td><td>40</td></tr><tr><td>5,4</td><td>100</td></tr><tr><td>5,6</td><td>200</td></tr><tr><td>5,8</td><td>350</td></tr><tr><td>6,0</td><td>500</td></tr><tr><td>6,2</td><td>700</td></tr><tr><td>6,4</td><td>900</td></tr><tr><td>6,7</td><td>1050</td></tr></tbody></table></div>	V _F / V	I _F / mA	5,2	40	5,4	100	5,6	200	5,8	350	6,0	500	6,2	700	6,4	900	6,7	1050	<p data-bbox="1304 515 1928 551">Characteristics based on M3 color bin</p> <div data-bbox="1444 582 1984 1282"><p data-bbox="1452 605 1724 636">Forward current ⁵⁾</p><p data-bbox="1452 651 1674 679">$I_F = f(V_F); T_J = 25\text{ °C}$</p><p data-bbox="1727 708 1862 725">GW Q9LR32.HW</p><table border="1"><caption>Approximate data points for M3 color bin</caption><thead><tr><th>V_F / V</th><th>I_F / mA</th></tr></thead><tbody><tr><td>5,2</td><td>40</td></tr><tr><td>5,4</td><td>100</td></tr><tr><td>5,6</td><td>200</td></tr><tr><td>5,8</td><td>350</td></tr><tr><td>6,0</td><td>500</td></tr><tr><td>6,2</td><td>700</td></tr><tr><td>6,4</td><td>900</td></tr><tr><td>6,7</td><td>1050</td></tr></tbody></table></div>	V _F / V	I _F / mA	5,2	40	5,4	100	5,6	200	5,8	350	6,0	500	6,2	700	6,4	900	6,7	1050
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AO-IN-2023-003-I

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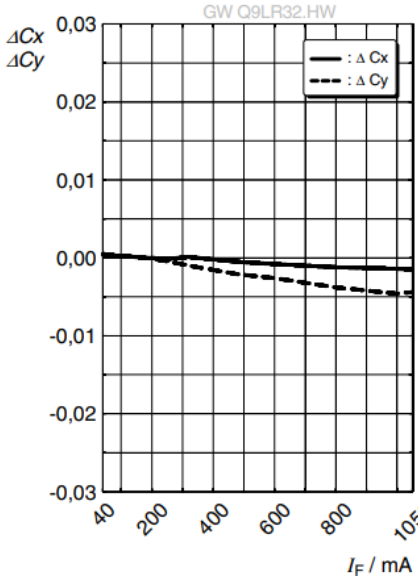
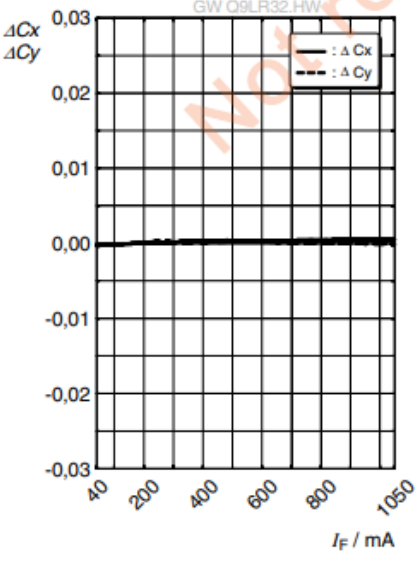
Changes in the datasheets – Relative Radiant Power

Current status	New status
<p>Characteristics based on M2 color bin</p> <p>Relative Radiant Power ^{5), 6)}</p> <p>$\Phi_E/\Phi_E(180\text{ mA}) = f(I_F); T_J = 25\text{ °C}$</p>  <p>GW Q9LR32.HW</p>	<p>Characteristics based on M3 color bin</p> <p>Relative Radiant Power ^{5), 6)}</p> <p>$\Phi_E/\Phi_E(180\text{ mA}) = f(I_F); T_J = 25\text{ °C}$</p>  <p>GW Q9LR32.HW</p>

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets – Chromaticity Coordinate Shift

Current status	New status																																										
<p data-bbox="129 515 754 551">Characteristics based on M2 color bin</p> <div data-bbox="445 575 988 1279"><p data-bbox="453 582 932 615">Chromaticity Coordinate Shift ⁵⁾</p><p data-bbox="453 625 723 658">$C_x, C_y = f(I_F); T_j = 25\text{ °C}$</p><table border="1"><caption>Approximate data for M2 Chromaticity Coordinate Shift</caption><thead><tr><th>I_F / mA</th><th>ΔC_x</th><th>ΔC_y</th></tr></thead><tbody><tr><td>40</td><td>0.000</td><td>0.000</td></tr><tr><td>200</td><td>-0.001</td><td>-0.002</td></tr><tr><td>400</td><td>-0.002</td><td>-0.004</td></tr><tr><td>600</td><td>-0.003</td><td>-0.006</td></tr><tr><td>800</td><td>-0.004</td><td>-0.008</td></tr><tr><td>1050</td><td>-0.005</td><td>-0.010</td></tr></tbody></table></div>	I_F / mA	ΔC_x	ΔC_y	40	0.000	0.000	200	-0.001	-0.002	400	-0.002	-0.004	600	-0.003	-0.006	800	-0.004	-0.008	1050	-0.005	-0.010	<p data-bbox="1302 515 1926 551">Characteristics based on M3 color bin</p> <div data-bbox="1531 561 2074 1279"><p data-bbox="1538 582 2018 615">Chromaticity Coordinate Shift ⁵⁾</p><p data-bbox="1538 625 1809 658">$C_x, C_y = f(I_F); T_j = 25\text{ °C}$</p><table border="1"><caption>Approximate data for M3 Chromaticity Coordinate Shift</caption><thead><tr><th>I_F / mA</th><th>ΔC_x</th><th>ΔC_y</th></tr></thead><tbody><tr><td>40</td><td>0.000</td><td>0.000</td></tr><tr><td>200</td><td>0.000</td><td>0.000</td></tr><tr><td>400</td><td>0.000</td><td>0.000</td></tr><tr><td>600</td><td>0.000</td><td>0.000</td></tr><tr><td>800</td><td>0.000</td><td>0.000</td></tr><tr><td>1050</td><td>0.000</td><td>0.000</td></tr></tbody></table></div>	I_F / mA	ΔC_x	ΔC_y	40	0.000	0.000	200	0.000	0.000	400	0.000	0.000	600	0.000	0.000	800	0.000	0.000	1050	0.000	0.000
I_F / mA	ΔC_x	ΔC_y																																									
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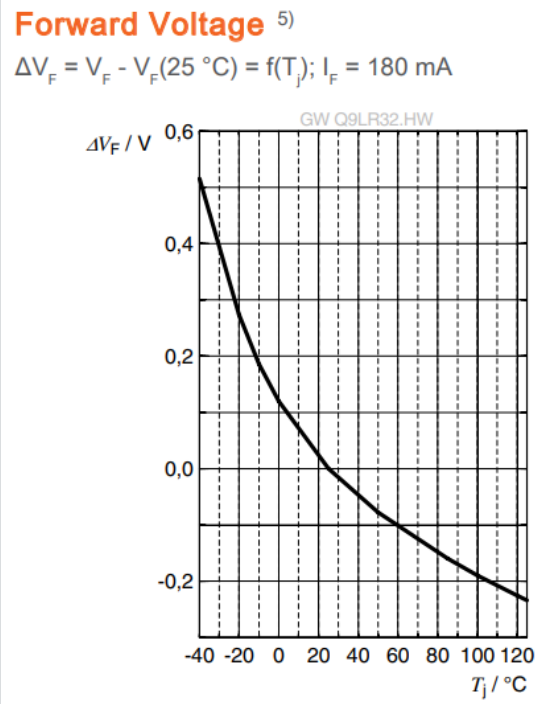
AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets – Forward Voltage

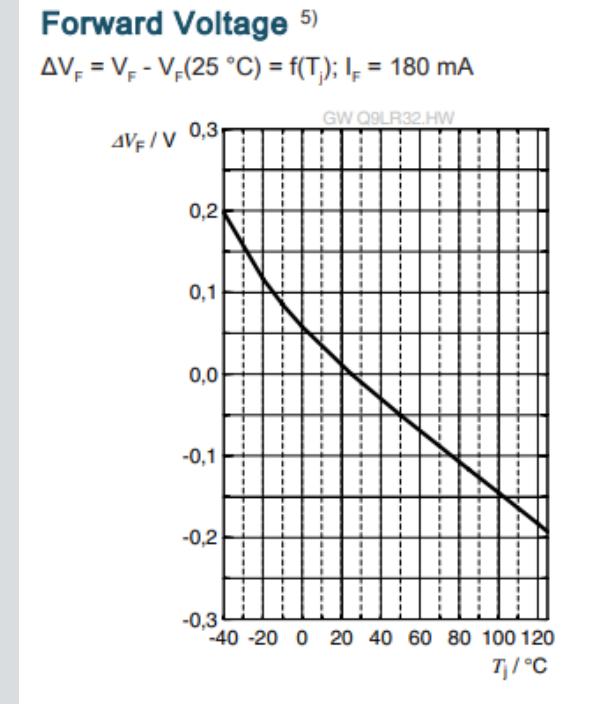
Current status

Characteristics based on M2 color bin



New status

Characteristics based on M3 color bin



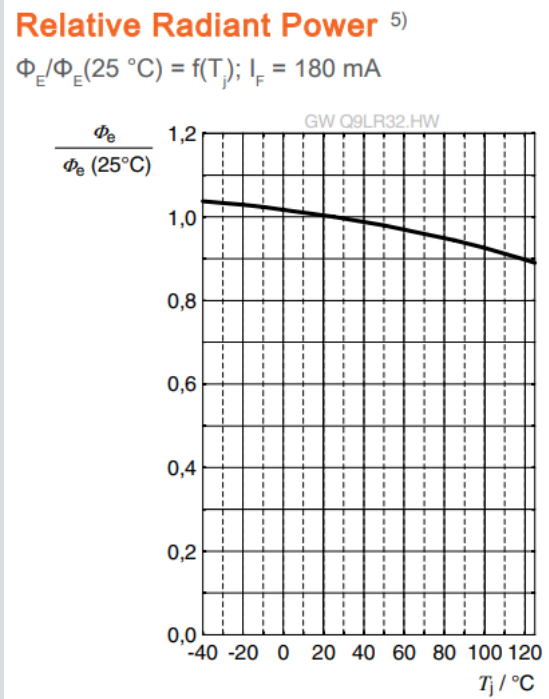
AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets – Relative Radiant Power

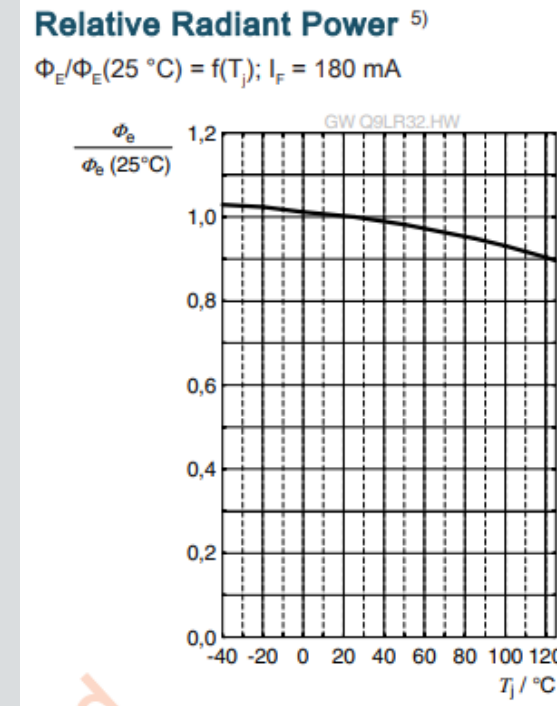
Current status

Characteristics based on M2 color bin



New status

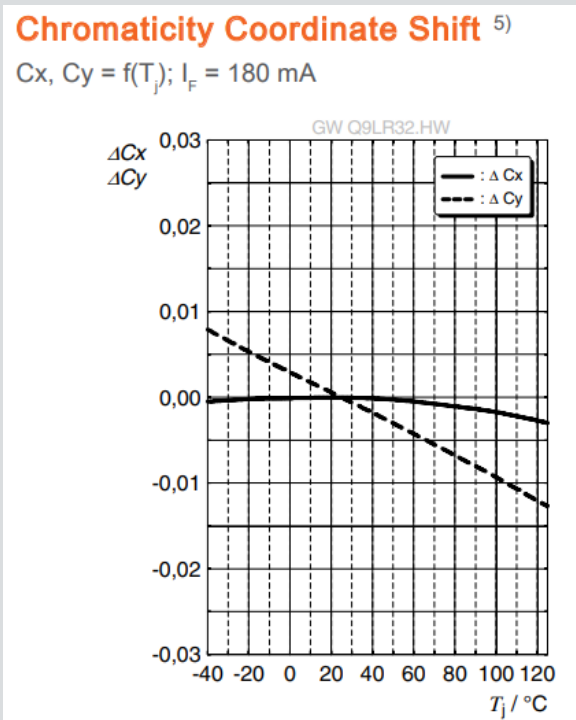
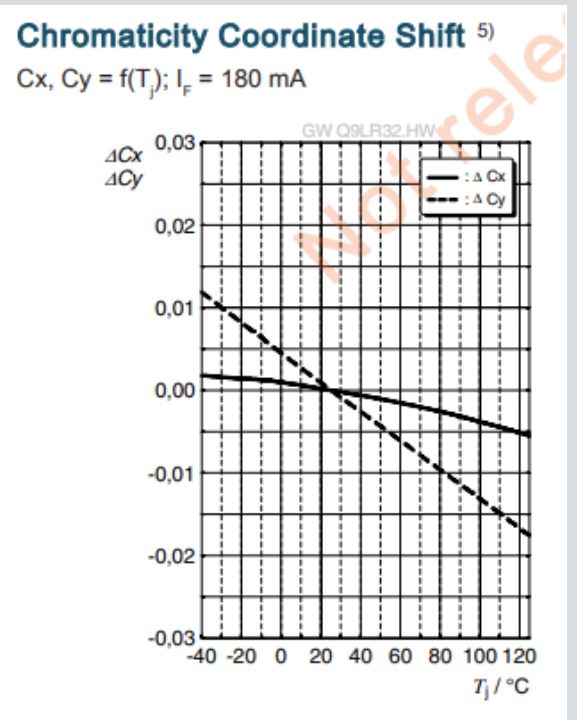
Characteristics based on M3 color bin



AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets – Chromaticity Coordinate Shift

Current status	New status
<p>Characteristics based on M2 color bin</p> 	<p>Characteristics based on M3 color bin</p> 

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Changes in the datasheets: Updated Datasheet Version

Product type	Data sheet version <u>before IN</u>	Data sheet version <u>after IN</u>
GW Q9LR32.HW	1.0	>= 1.1

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

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

List of affected products

OSCONIQ® S 5050

GW Q9LR32.HW

AO-IN-2023-003-I

Update of Datasheet for OSCONIQ® S 5050 Horti White

Time schedule

Time schedule	
Intended Start of Introduction	15.02.2023

Sensing is life

am  OSRAM

Material (Q-no.) Q Description

Q65113A2695 GW Q9LR32.HW-AEAF-M1-1-180-R18

Q65113A2694 GW Q9LR32.HW-AEAF-M2-1-180-R18

Q65113A2693 GW Q9LR32.HW-AEAF-M3-1-180-R18