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## Radiant Flux Improvement VLMU35CB2x-275-120 and VLMU35CT2x-275-120 series

For further information, please contact your regional Vishay office.

### CONTACT INFORMATION

#### Americas

Vishay Intertechnologies, Inc., Business Marketing The Americas - Opto  
2585 Junction Avenue  
-  
San Jose California United States 95134-1923  
Phone: +1-408-567-8358  
Fax: +1-408-240-5687  
-

#### Europe

VISHAY Semiconductor GmbH Business Marketing Europe - Opto  
Theresienstraße 2  
-  
Heilbronn Germany 74072  
Phone: +4971317498645  
Fax: +49-7131-67-3144  
LED@vishay.com

#### Asia

VISHAY Intertechnology Asia Pte. Ltd. Business Marketing Asia/Japan  
25 Tampines Street 92  
Keppel Building # 02-00  
Singapore Singapore 528877  
Phone: +65 6780 7879  
Fax: +65 6780 7897  
-

**Description of Change:** Due to continuous improvement of the EPI material performance the radiant flux of VLMU35CT2\*- and VLMU35CB2\*-series will be increased by 20% to 40%.

**Reason for Change:**

The fast developing UV LED technology requires a high flexibility adjusting specifications to the current improvements.

**Expected Influence on Quality/Reliability/Performance:** Improved performance and reliability.

**Part Numbers/Series/Families Affected:** VLMU35CB20-275-120, VLMU35CB21-275-120, VLMU35CT20-275-120, VLMU35CT21-275-120,

**Vishay Brand(S):** Vishay Semiconductors

**Time Schedule:**

Start Shipment Date: Mon Aug 21, 2023

**Sample Availability:** samples available

**Product Identification:** Datecode, green dot

**Qualification Data:** Available on request

**This PCN is considered approved, without further notification, unless we receive specific customer concerns before Mon Aug 14, 2023 or as specified by contract.**

**Issued By:** Harald Lunt, harald.lunt@vishay.com

Hot-Cold Ratio of $\Phi_e$ ( $T_j$ 20°C to 85°C)	90.5%	77%
Maximum Junction Temperature $T_{j\max}$ (°C)	105	105
Thermal Resistance $R_{thjcs}$ (K/W)	24.4	24.4
Typical Forward Voltage $V_{f\text{ typ}}$ (V)	6.2	6.2
Typical Radiant Flux at $I_{f\max}$ (mW)	16.3	23.5
Maximum Forward Current $I_{f\max}$ (mA)	150	150
Minimum Radiant Flux $\Phi_{e\text{ typ}}$ (mW)	10 <i>for CB20</i>	17 <i>for CB21</i>
Typical Radiant Flux $\Phi_{e\text{ typ}}$ (mW)	13.5	19
Specification Forward Current $I_f$ (mA)	120	120
Peak Wavelength $\lambda_p$ (nm)	270~280	270~280
Package Height (mm)	1.78	1.68

VLMU35CB2\*-275-120



Parameter	CB2* (original spec)	CB2* ( $\Phi_e$ improvement)
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## Changes VLMU35CB2\*-275-120 --- $\Phi_e$ Improvement

# VLMU35CB2\*-275-120, VLMU35CT2\*-275-120

PCN Info --- Improved EPI-Material

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# BIN Classification – VLMU35CB2\*-275-120

OLD

RADIANT POWER CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$\Phi_e$ (mW)		
P1	10	12	-
P2	12	14	x
P3	14	16	x
P4	16	18	x
RADIANT POWER CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$\lambda_p$ (nm)		
W1	270	280	x
RADIANT POWER CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$V_f$ (mV)		
CB20	5.0	5.5	x
CB21	5.5	6.0	x
V0	5.5	6.0	x
V1	6.0	6.5	x
V2	6.5	7.0	x
V3	7.0	7.5	-

NEW

RADIANT POWER CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$\Phi_e$ (mW)		
P3	15	17	-
P4	17	19	x
P5	19	21	x
P6	21	23	x
P7	23	-	x
RADIANT POWER CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$V_f$ (mV)		
CB20	5.0	5.5	x
CB21	5.5	6.0	x
V0	5.5	6.0	x
V1	6.0	6.5	x
V2	6.5	7.0	x
FORWARD VOLTAGE CLASSIFICATION (IF=120mA)			
GROUP	MIN.		MAX.
	$\lambda_p$ (nm)		
W1	270	280	x

# Changes VLMU35CT2\*-275-120 --- $\Phi_e$ Improvement

Parameter	CB2* (original spec)	CT2* ( $\Phi_e$ improvement)
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VLMU35CT2\*-275-120

Parameter	CB2* (original spec)	CT2* ( $\Phi_e$ improvement)
Package Height (mm)	1.78	1.68
Peak Wavelength $\lambda_p$ (nm)	270~280	270~280
Specification Forward Current $I_f$ (mA)	180	180
Typical Radiant Flux $\Phi_{e\ typ}$ (mW)	21.5	26
Minimum Radiant Flux $\Phi_{e\ typ}$ (mW)	16.5 for CT20 18.5 for CT21	20.5 for CT20 22.5 for CT21
Maximum Forward Current $I_{f\ max}$ (mA)	200	200
Typical Radiant Flux at $I_{f\ max}$ (mW)	23.5	28.5
Typical Forward Voltage $V_{f\ typ}$ (V)	6.3	6.3
Thermal Resistance $R_{thjs}$ (K/W)	17	17
Maximum Junction Temperature $T_{j\ max}$ (°C)	105	105
Hot-Cold Ratio of $\Phi_e$ ( $T_j$ 20°C to 85°C)	90.5%	77%



# BIN Classification – VLMU35CT2\*-275-120

OLD

RADIANT POWER CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$\Phi_e$ (mW)		
P1	16.5	18.5	-
P2	18.5	20.5	X
P3	20.5	22.5	X
P4	22.5	24.5	X
PEAK WAVELENGTH CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$\lambda_p$ (nm)		
W1	270	280	X
FORWARD VOLTAGE CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$V_f$ (mV)		
VZ	5.0	5.5	X
V0	5.5	6.0	X
V1	6.0	6.5	X

NEW

RADIANT POWER CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$\Phi_e$ (mW)		
P3	20.5	22.5	-
P4	22.5	24.5	X
P5	24.5	26.5	X
P6	26.5	28.5	X
P7	28.5	-	X
PEAK WAVELENGTH CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$\Phi_e$ (mW)		
W1	270	280	X
FORWARD VOLTAGE CLASSIFICATION (IF=180mA)			
GROUP	MIN.		MAX.
	$V_f$ (mV)		
VZ	5.0	5.5	X
V0	5.5	6.0	X
V1	6.0	6.5	X