Product Change Notification

Product Group: OPT/Wed Aug 9, 2023/PCN-OPT-1294-2023-REV-0

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

For further information, please contact your regional Vishay office.

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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

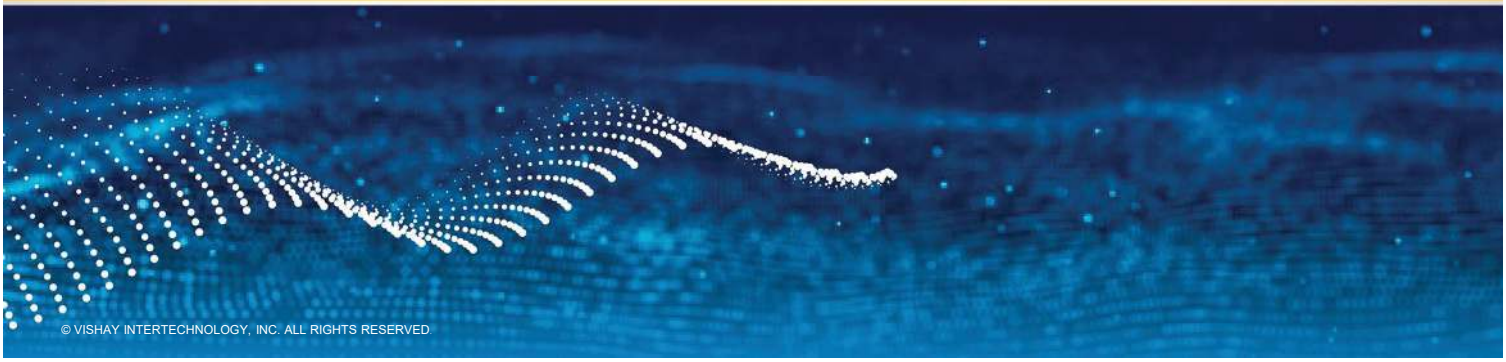
Qualification Data: Available on request

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

VLMU35CB2*-275-120, VLMU35CT2*-275-120

PCN Info --- Improved EPI-Material



Changes VLMU35CB2*-275-120 --- Φ_e Improvement

Parameter	CB2* (original spec)	CB2* (Φ_e improvement)
VLMU35CB2*-275-120		
Package Height (mm)	1.78	1.68
Peak Wavelength λ_p (nm)	270~280	270~280
Specification Forward Current I_F (mA)	120	120
Typical Radiant Flux $\Phi_{e\ typ}$ (mW)	13.5	**19**
Minimum Radiant Flux $\Phi_{e\ typ}$ (mW)	10 *for CB20* 12 *for CB21*	**15** *for CB20* **17** *for CB21*
Maximum Forward Current $I_{F\ max}$ (mA)	150	150
Typical Radiant Flux at $I_{F\ max}$ (mW)	16.3	**23.5**
Typical Forward Voltage $V_{F\ typ}$ (V)	6.2	6.2
Thermal Resistance R_{thJS} (K/W)	24.4	24.4
Maximum Junction Temperature $T_{j\ max}$ (°C)	105	105
Hot-Cold Ratio of Φ_e (T_j 20°C to 85°C)	90.5%	77%

BIN Classification – VLMU35**CB2***-275-120

OLD

RADIANT POWER CLASSIFICATION (IF=120mA)				
GROUP	Φ_e (mW)		CB20	CB21
	MIN.	MAX.		
P1	10	12	x	-
P2	12	14	x	x
P3	14	16	x	x
P4	16	18	x	x

PEAK WAVELENGTH CLASSIFICATION (IF=120mA)				
GROUP	λ_p (mW)		CB20	CB21
	MIN.	MAX.		
W1	270	280	x	x

FORWARD VOLTAGE CLASSIFICATION (IF=120mA)				
GROUP	V_F (mW)		CB20	CB21
	MIN.	MAX.		
VZ	5.0	5.5	x	x
V0	5.5	6.0	x	x
V1	6.0	6.5	x	x
V2	6.5	7.0	x	x
V3	7.0	7.5	x	-

NEW

RADIANT POWER CLASSIFICATION (IF=120mA)				
GROUP	Φ_e (mW)		CB20	CB21
	MIN.	MAX.		
P3	15	17	x	-
P4	17	19	x	x
P5	19	21	x	x
P6	21	23	x	x
P7	23	-	x	x

PEAK WAVELENGTH CLASSIFICATION (IF=120mA)				
GROUP	Φ_e (mW)		CB20	CB21
	MIN.	MAX.		
W1	270	280	x	x

FORWARD VOLTAGE CLASSIFICATION (IF=120mA)				
GROUP	V_F (mW)		CB20	CB21
	MIN.	MAX.		
VZ	5.0	5.5	x	x
V0	5.5	6.0	x	x
V1	6.0	6.5	x	x
V2	6.5	7.0	x	x

Changes VLMU35CT2*-275-120 --- Φ_e Improvement

Parameter	CB2* (original spec)	CT2* (Φ_e improvement)
VLMU35CT2*-275-120		
Package Height (mm)	1.78	1.68
Peak Wavelength λ_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 Φ_e (T_j 20°C to 85°C)	90.5%	77%

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BIN Classification – VLMU35**CT2***-275-120

OLD

RADIANT POWER CLASSIFICATION (IF=180mA)				
GROUP	Φ_e (mW)		CT20	CT21
	MIN.	MAX.		
P1	16.5	18.5	x	-
P2	18.5	20.5	x	x
P3	20.5	22.5	x	x
P4	22.5	24.5	x	x

PEAK WAVELENGTH CLASSIFICATION (IF=180mA)				
GROUP	λ_p (mW)		CT20	CT21
	MIN.	MAX.		
W1	270	280	x	x

FORWARD VOLTAGE CLASSIFICATION (IF=180mA)				
GROUP	V_F (mW)		CT20	CT21
	MIN.	MAX.		
VZ	5.0	5.5	x	x
V0	5.5	6.0	x	x
V1	6.0	6.5	x	x

NEW

RADIANT POWER CLASSIFICATION (IF=180mA)				
GROUP	Φ_e (mW)		CT20	CT21
	MIN.	MAX.		
P3	20.5	22.5	x	-
P4	22.5	24.5	x	x
P5	24.5	26.5	x	x
P6	26.5	28.5	x	x
P7	28.5	-	x	x

PEAK WAVELENGTH CLASSIFICATION (IF=180mA)				
GROUP	Φ_e (mW)		CT20	CT21
	MIN.	MAX.		
W1	270	280	x	x

FORWARD VOLTAGE CLASSIFICATION (IF=180mA)				
GROUP	V_F (mW)		CT20	CT21
	MIN.	MAX.		
VZ	5.0	5.5	x	x
V0	5.5	6.0	x	x
V1	6.0	6.5	x	x