Preliminary PCN
AO-PCN-2022-015-N
Introduction of 2nd source for classic InGaAlP chip for PointLED

Customer information package

OS Q CQM AM ITR
15.04.2022

Agenda

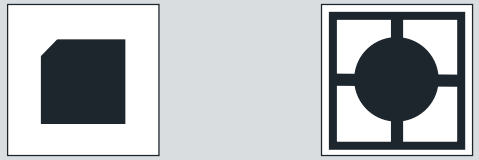
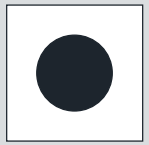
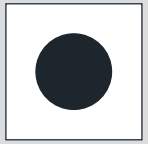
AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Reason for change

Item	Description
1.	Secure continuous supply
2.	Introduction of additional supplier chips
3.	Introduction of additional production location of released plater

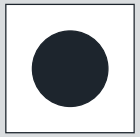
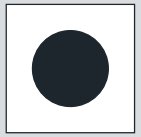
AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Description of change for standard chips

Item	Current status	2nd source chip A	2nd source chip B
Wafer size [mm]	100	100	100
Wafer substrate	GaAs	GaAs	GaAs
Height [µm]	220	180	180
Chip dicing process	Sawing	Sawing	Sawing
Picture (schematic)			
Chip size [µm]	200 x 200	180 x 180	180 x 180
Front metal type	Al	Au	Au
Front metal thickness [µm]	1.50	2.90	2.25
Back metal type	Au	Au	Au
Back metal thickness [µm]	0.25	0.50	0.35
Bond pad size [µm]	100	100	100
Wafer Fab location	Regensburg/Germany	Supplier	Supplier

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Description of change for low current chips

Item	Current status	2nd source chip C	2nd source chip D
Wafer size [mm]	100	100	100
Wafer substrate	GaAs	GaAs	GaAs
Height [µm]	190	180	180
Chip dicing process	Sawing	Sawing	Sawing
Picture (schematic)			
Chip size [µm]	170 x 170	160 x 160	170 x 170
Front metal type	Al	Au	Au
Front metal thickness [µm]	1.5	2.9	2.25
Back metal type	Au	Au	Au
Back metal thickness [µm]	0.25	0.50	0.35
Bond pad size [µm]	100	90	100
Wafer Fab location	Regensburg/Germany	Supplier	Supplier

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Description of change for all devices

Current status	New status
Plater location: Wuxi/China	Plater location: Wuxi & Shanghai/China

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

List of affected products

Standard			
Brand	Device	Chip A	Chip B
PointLED	LO P476	X	X

Low current			
Brand	Device	Chip C	Chip D
PointLED	LS P47K	X	X
	LO P47K		X
	LY P47K	X	X
	LG P47K	X	X

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

PCN Samples (planned availability at Final PCN publication)

Standard	Low current
LO P476	LS P47K
	LO P47K
	LY P47K
	LG P47K

Color code: available on request

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Qualification Plan

Test item	Test condition	Test duration
Wet High Temperature Operating Life WHTOL1	T_A = 85°C; r.H. = 85%; I_F = max. acc. to datasheet; $T_{on/off}$ = 30 min	1000 h
Wet High Temperature Operating Life WHTOL2	T_A = 85°C; r.H. = 85%; I_F = min. acc. to datasheet	1000 h
Powered Temperature Cycle PTC	T_A = -40/+85°C ; I_F = max acc. to derating curve	1000 c
Temperature Cycling TC	T_A = -40/+100°C; 15 min each extrem	1000 c
High Temperature Operating Life HTOL1	T_s = max acc. to datasheet; I_F = corresponding max. acc. to derating curve	1000 h
High Temperature Operating Life HTOL2	I_F = max acc. to datasheet; T_s = corresponding max. acc. to derating curve	1000 h
Pulsed Operating Life PLT	T_A = 25°C; I_F = max acc. to datasheet; t_p = 0,1 ms; D = 3%	1000 h

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Qualification Plan

Test item	Test condition	Test duration
DEW	$T_{A,min}$ = 10°C; $T_{A,max}$ = 80°C; r.H. = 53-100%	10 c
H_2S	T_A = 40°C; r.H. = 90%; 15 ppm H_2S	336 h
Flowing Mixed Gas FMG	T_A = 25°C, r.H. = 75%; Test method 4	500 h
Board Flex BF	2 mm	1 x
Electrostatic Discharge HBM	Human Body Model	2000 V
Electrostatic Discharge CDM	Charged Device Model	750 V

Note:

- Planned devices for qualification tests: LO P476, LG P47K, LO P47K, LS P47K, LY P47K (please refer to next slide)

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Test vehicle overview

Standard			
Brand	Device	Chip A	Chip B
PointLED	LO P476	3 lot	3 lot

Low current			
Brand	Device	Chip C	Chip D
PointLED	LS P47K	1 lot	1 lot
	LO P47K		1 lot
	LY P47K	1 lot	
	LG P47K	1 lot	1 lot

Note:

- Qualification results expected for: 07/2022

AO-PCN-2022-015-N – Preliminary PCN – Introduction of 2nd source for classic InGaAlP chip for PointLED

Time schedule

for publication final PCN:	01.07.2022	

for PCN material (after implementation of change):		
Final qualification report	01.07.2022	
Samples available	01.07.2022	
Intended Start of delivery	01.12.2022 *)	*) or earlier if released by customer and upon mutual agreement

Customer Review Finalization:	01.07.2023 **)	**) Expected final feedback of customer. Released order volume is related to deliveries of material from both previous and additional source(s).

Note:
Pre-PCN material: Products of current status, means before implementation of the changes as described in the PCN.
PCN material: Products with implementation of the changes as described in the PCN.