Product Change Notice
○ Products : LM301B (SPMWHD32AMD*******)
CCTs : 27/30/35/40/50/57/6500K
○ Change : Changed Chip version
○ Remark : Change implemented after approval
LED Business
SAMSUNG

1. Overview

■ **Overall performance and reliability** stay the same

		Change (Before vs. After)	Remark
Material	L/F	Same as before	PCT
	Chip	Half dot → Full dot (Electrode shape change)	Same
Electrical Performance		Same as before	-
Mechanical		Same as before	-
Beam angle		Same as before	-
Electrical Characteristics		Current spreading improved	Expand Current Spreading Area Chip IQE (Internal Quantum Efficiency) ↑
Radiating Characteristics		Increasing about 1%	
Image			

2. Dimension

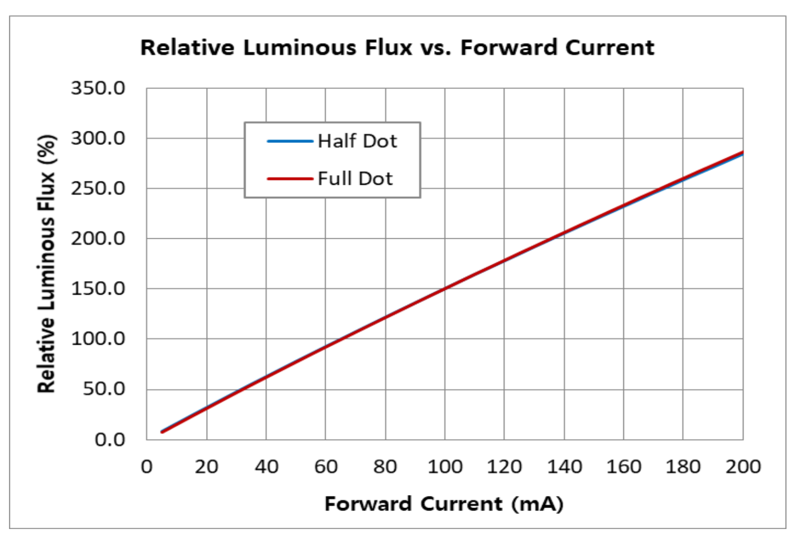
■ No change in PKG Dimension

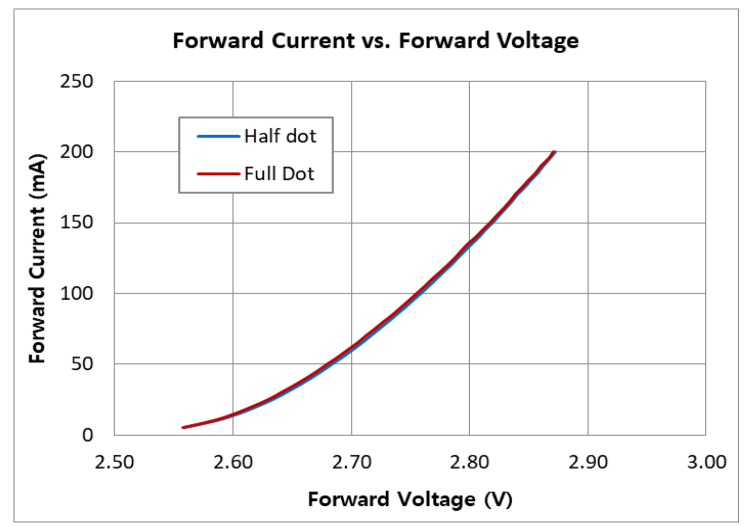
but change the electrode shape of chip to Full dot type from Half dot type

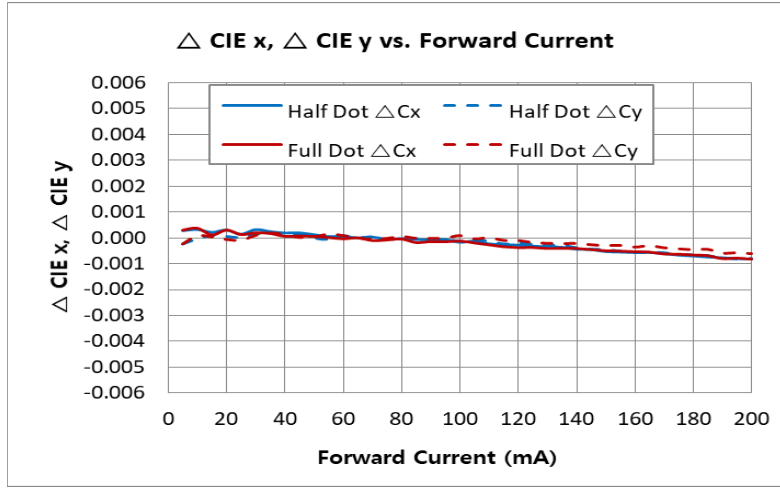
	change	As-is (Half Dot chip electrode)	To-be (Full Dot chip electrode)
PKG Dimension	**No Change**	[Top View] [Side View] [Bottom View]	[Top View] [Side View] [Bottom View]
Chip Visual image	**Change**	< REF >	< Full DOT>
		Current Spreading	Current Spreading

3-1. Sweep Performance

■ No change Characteristics with Current sweep

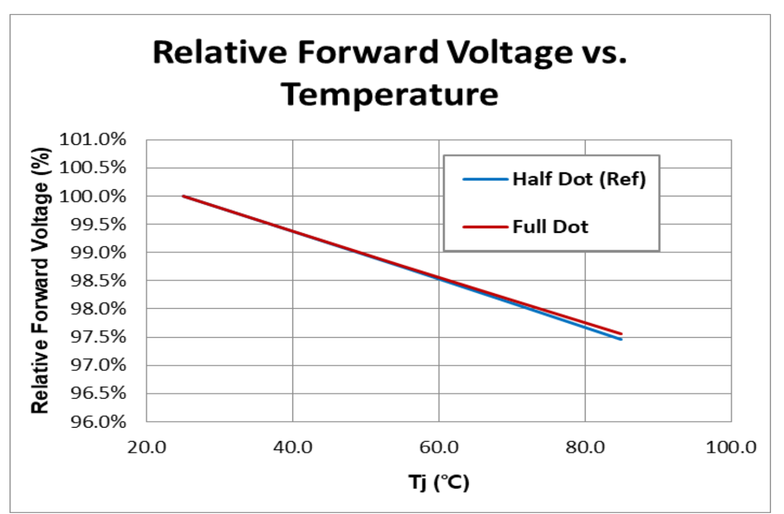


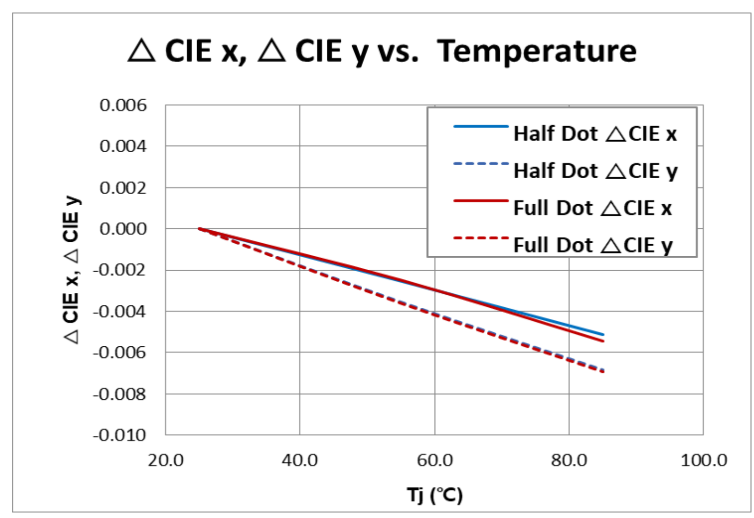


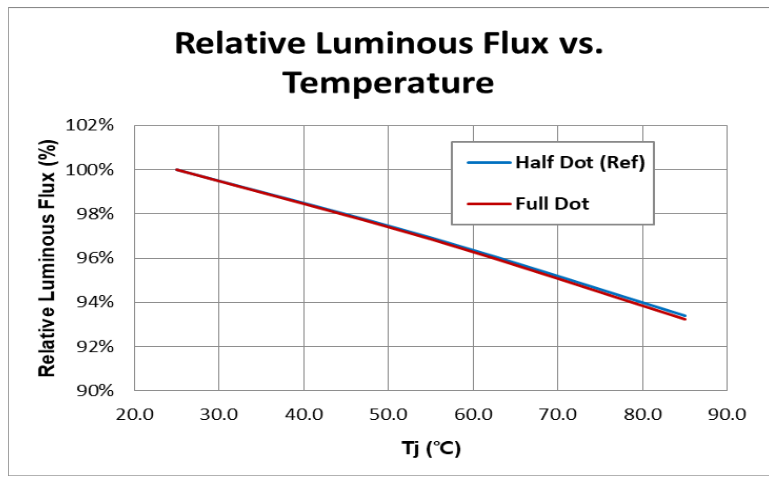


3-2. Temperature Performance

■ No change Characteristics with Temperature

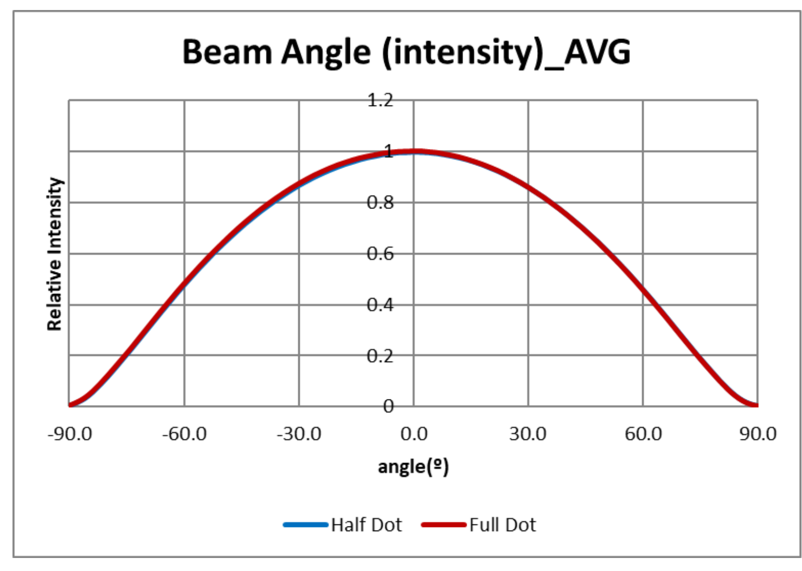


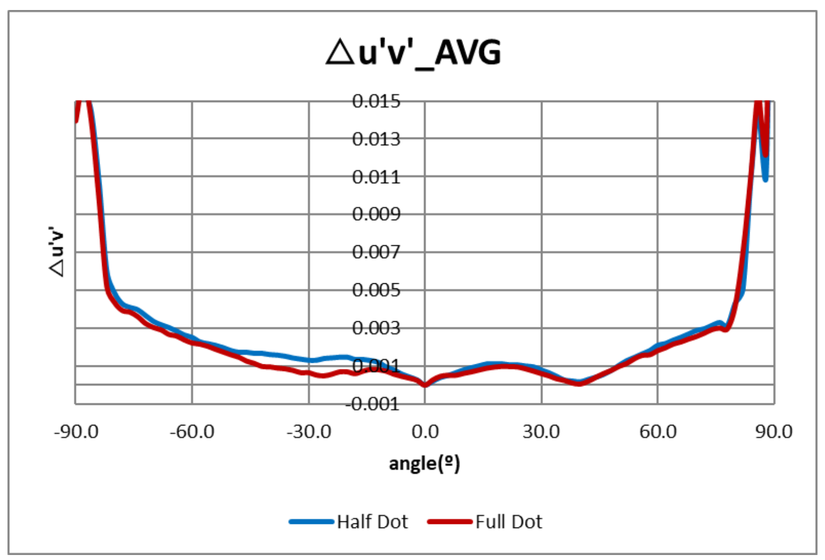




3-3. Optical Performance

■ No change Optical Characteristics





4. Reliability

■ PASS all criteria in the specification

Test Item	Test Condition	Test Hour / Cycle	Sample No.
Room Temperature Life Test	25℃, DC 200 mA	1000 h	22
High Temperature Life Test	85℃, DC 200 mA	1000 h	22
High Temperature Humidity Life Test	85℃, 85 % RH, DC 200 mA	1000 h	22
Low Temperature Life Test	-40℃, DC 200 mA	1000 h	22
Powered Temperature Cycle Test	-40 ℃ ~ 85℃, each 10 min, On/Off 5min , Temp. Change Time 20min, DC 200 mA	100 cycles	22
Thermal Cycle	-45℃ / 15 min ↔ 125℃ / 15 min → Hot plate 180℃	500 cycles	100
High Temperature Storage	120℃	1000 h	11
Low Temperature Storage	-40℃	1000 h	11
ESD (HBM)	R_1: 10 MΩ / R_2: 1.5 kΩ C: 100 Pf / V: ±5 kV	5 times	30
ESD (MM)	R_1: 10 MΩ / R_2: 0 C: 200 pF / V: ±0.5 kV	5 times	30
Vibration Test	20~2000~20 Hz, 200 m/s^2, sweep 4 min X, Y, Z 3 direction, each 1 cycle	4 cycles	11
Mechanical Shock Test	1500 g, 0.5 ms 3 shocks each X-Y-Z axis	5 cycles	11

Thank you

SAMSUNG