



Opto Plus LED Corp.
0.39" Case Mold Type LED Display
OPD-T3910W3 | OPD-T3911W3

● **EDIT HISTORY**

Version A : Nov. 04, 2020

Preliminary Spec.



Opto Plus LED Corp.

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OPD-T3910W3 | OPD-T3911W3

● FEATURES

- 0.39 inch (10.0 mm) Digit Height.
- Low current operation.
- Case mold type.
- RoHS compliant, Pb Free.

● DESCRIPTION

The device are 0.39 inch (10.0 mm) height triple digit 7-segment displays.

The device is Opto Plus LED Corp standard LED Display.

This device utilizes Super Bright White SMD type LED chip which are made from InGaN on a transparent GaN substrate.

The device has face and segment option, please refer to **PRODUCT APPEARANCE**.

● DEVICE

PART NO.		DESCRIPTION
	OPD-T3910W3-GW	Common Anode Gray face White segment
	OPD-T3911W3-GW	Common Cathode Gray face White segment
	OPD-T3910W3-BW	Common Anode Black face White segment
	OPD-T3911W3-BW	Common Cathode Black face White segment

RoHS Compliance



Pb Free.

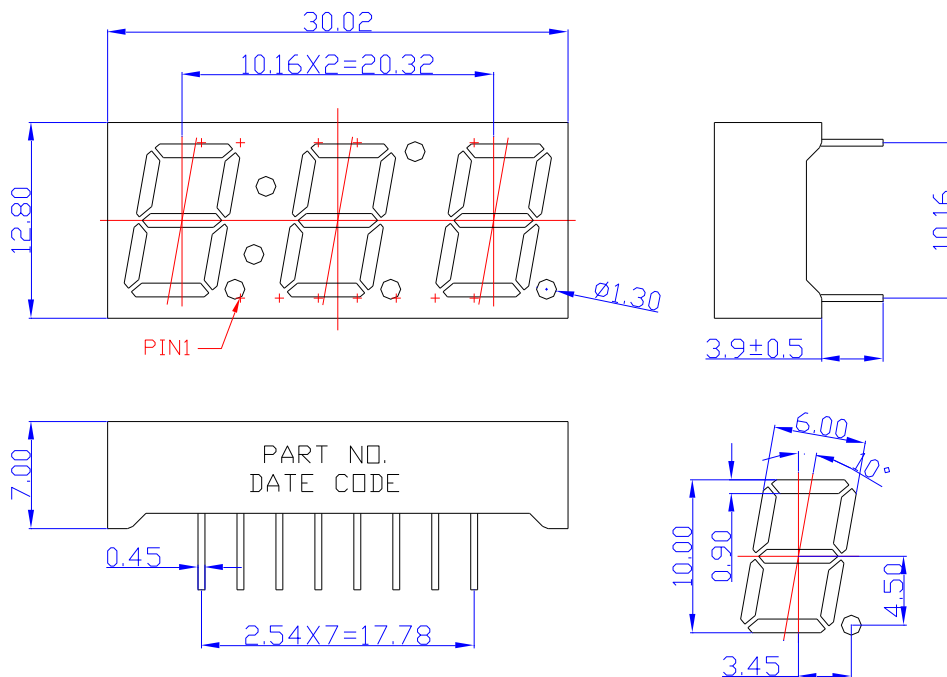


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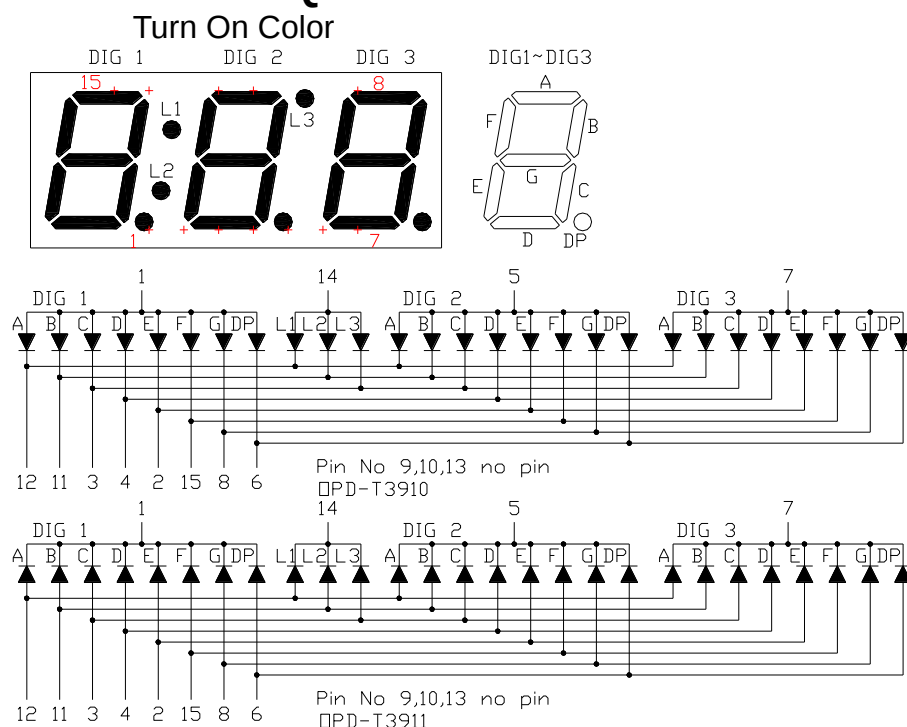
OPD-T3910W3 | OPD-T3911W3

MECHANICAL DIMENSIONS



NOTES: Dimension is in millimeters. Tolerance is ± 0.25 mm unless otherwise noted.

TYPICAL INTERNAL EQUIVALENT CIRCUIT



※EMITTED COLOR : SUPER BRIGHT WHITE



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● W3: SUPER BRIGHT WHITE (InGaN/GaN)

ABSOLUTE MAXIMUM RATING AT Ta=25°C

Parameter	Symbol	Maximum Rating	Unit
Power dissipation per SMD	P _D	16	mW
Forward current per SMD	I _F	5	mA
Pulse forward current per SMD	I _{FP}	15	mA
Reverse voltage per SMD	V _R	5	V
Operating temperature	T _{OP}	-40 to + 85	°C
Storage temperature	T _{ST}	-40 to + 100	°C

ELECTRICAL - OPTICAL CHARACTERISTICS AT Ta=25°C (Per SMD Chip)

Characteristic	Symbol	Condition	Min.	Type	Max.	Unit
Forward Voltage per SMD	V _F	I _F =5mA	-	2.8	3.2	V
Reverse Current per SMD	I _R	V _R =5V	-	-	10	μA
Chromaticity Coordinate per SMD		X	-	0.3000	-	nm
		Y	-	0.2963	-	
Luminous Intensity per SMD	I _V	I _F =5mA	71.5	150	226	mcd



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● WHITE: IV BIN (Unit : mcd) 5mA

Super Bright White	1	2	3
	71.5 – 112.5	112.5 – 180.0	180.0 – 226.0
SMD BIN	Q	R	S1

Note: It maintains a tolerance of $\pm 10\%$ on Luminous Intensity

● WHITE: COLOR BIN

CIE	X	Y	X	Y	X	Y
	0.2700	0.2325	0.2900	0.2600	0.3100	0.2875
	0.2700	0.2775	0.2900	0.3050	0.3100	0.3325
	0.2900	0.3050	0.3100	0.3325	0.3300	0.3600
	0.2900	0.2600	0.3100	0.2875	0.3300	0.3150
SMD BIN	C2		D1		D2	

Note: It maintains a tolerance of ± 0.007 x,y

● FORWARD VOLTAGE (VF) BIN:

BIN CODE	G1	G2	G3	G4
SPEC. RANGE	2.4-2.5	2.5-2.6	2.6-2.7	2.7-2.8

BIN CODE	H1	H2	H3	H4
SPEC. RANGE	2.8-2.9	2.9-3.0	3.0-3.1	3.1-3.2

Note: It maintains a tolerance of $\pm 0.05V$ on forward voltage measurements



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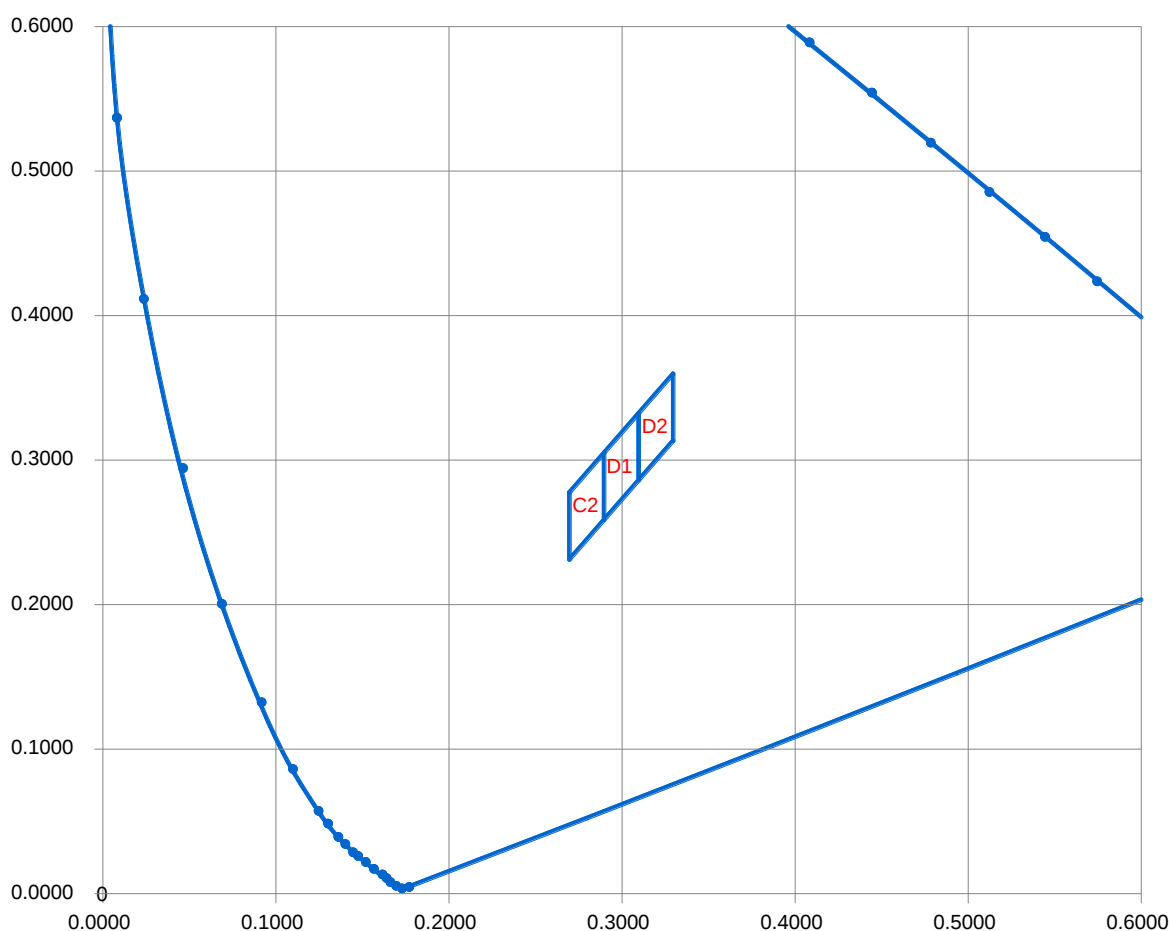
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OPD-T3910W3 | OPD-T3911W3

● AVAILABLE BIN / HUE TABLE

1C2	2C2	3C2
1D1	2D1	3D1
1D2	2D2	3D2

● CHROMATICITY COORDINATE:





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● PRODUCT APPEARANCE

The most common reflector color and segment color are show in below diagram.

-GW	-BW
※ REFLECTOR COLOR: Gray ※ SEGMENT COLOR: White	※ REFLECTOR COLOR: Black ※ SEGMENT COLOR: White

Opto Plus can customize reflector and segment colors by customer's request. If you have these request please visit www.opledtw.com or contact sales@opledtw.com for more **Standard Product Customization** information.

Part NO. related to reflector and segment colors show as table below.

PART NO.	DESCRIPTION
OPD-T3910W3-GW	Common Anode Gray face White segment
OPD-T3911W3-GW	Common Cathode Gray face White segment
OPD-T3910W3-BW	Common Anode Black face White segment
OPD-T3911W3-BW	Common Cathode Black face White segment

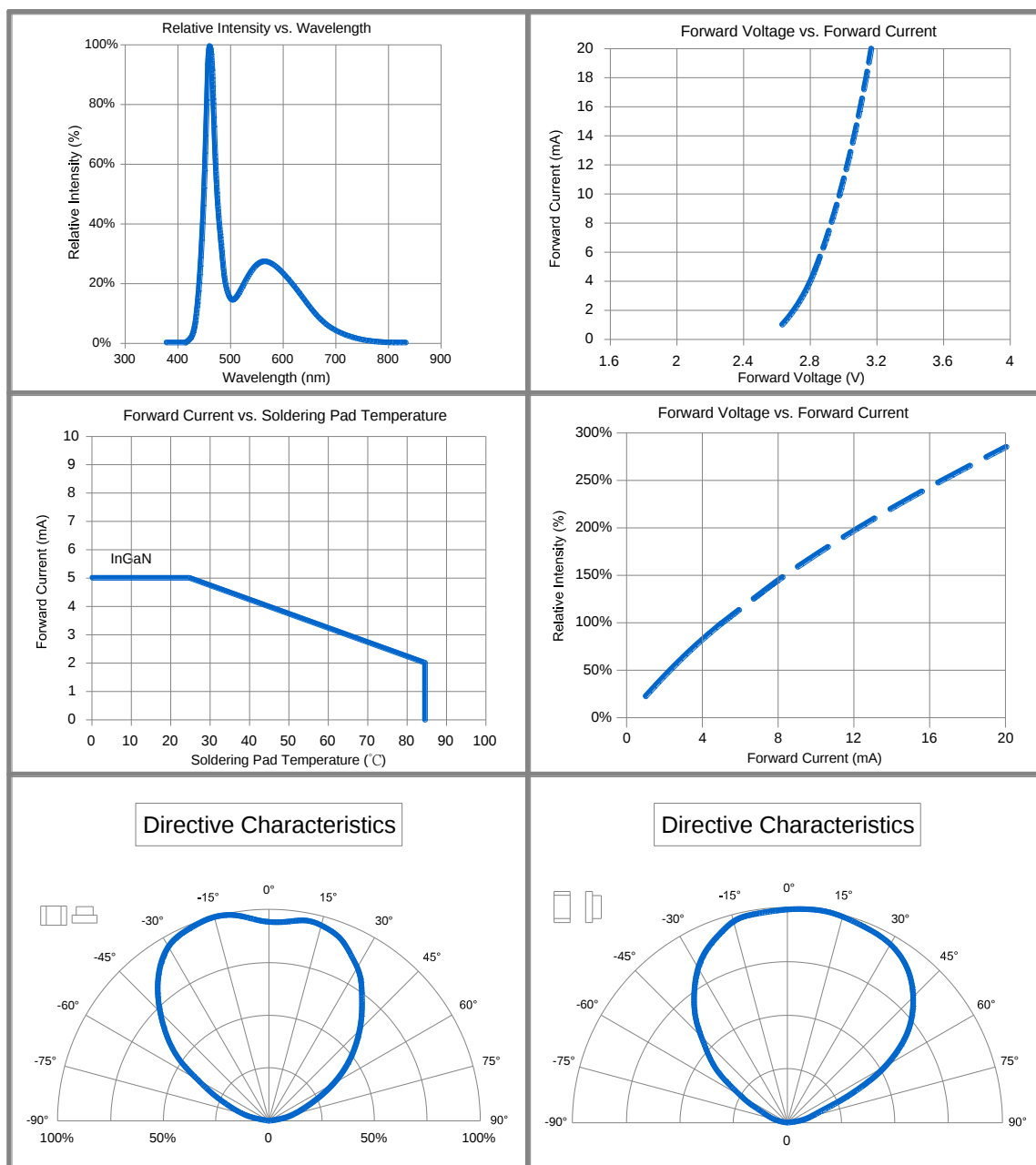
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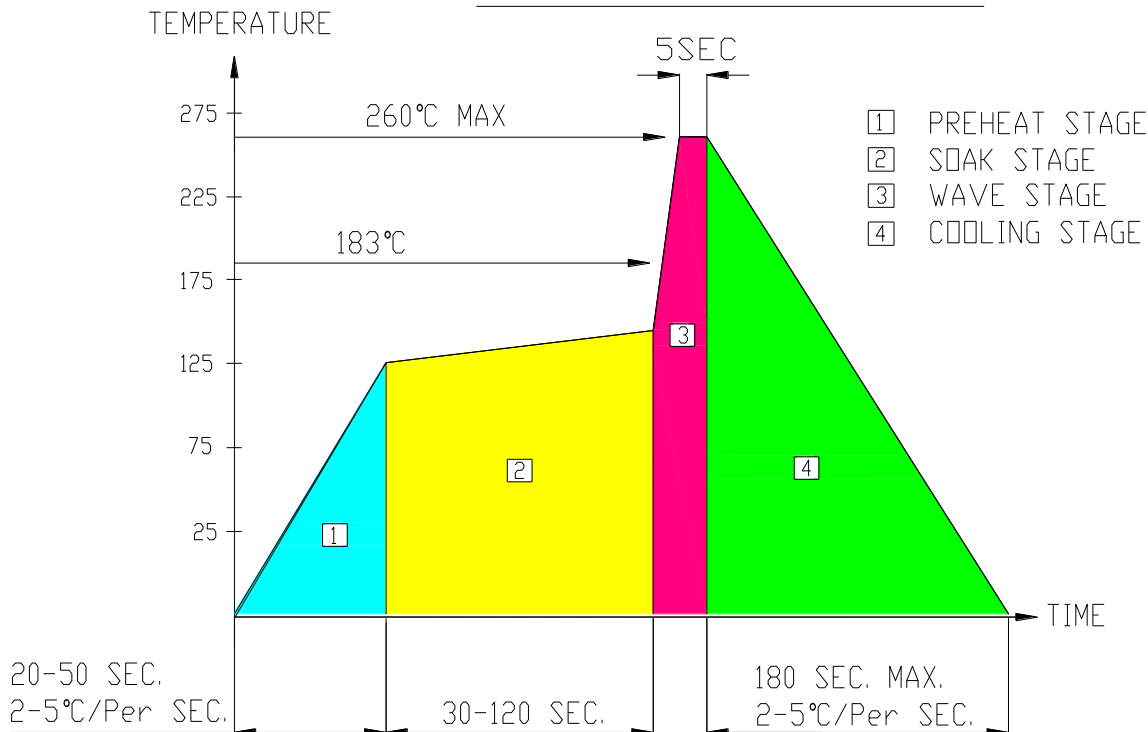
● W3: SUPER BRIGHT WHITE (InGaN/GaN) CURVE

Typical Electro-optical Characteristic Curves
(25 °C Free Air Temperature Unless Otherwise Specified)



● RECOMMEND SOLDERING PROFILE

WAVE SOLDER PROFILE



● Note:

- Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
- Peak wave soldering temperature between 245°C ~ 225°C for 3 sec (5 sec max)
- No more than one wave soldering pass

● SOLDERING IRON

Basic spec is ≤ 4 sec when 260°C. If temperature is higher, time should be shorter (+10°C→1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

● REWORK

Customer must finish rework within ≤ 3 sec under 350°C.
 The head of soldering iron cannot touch copper foil.

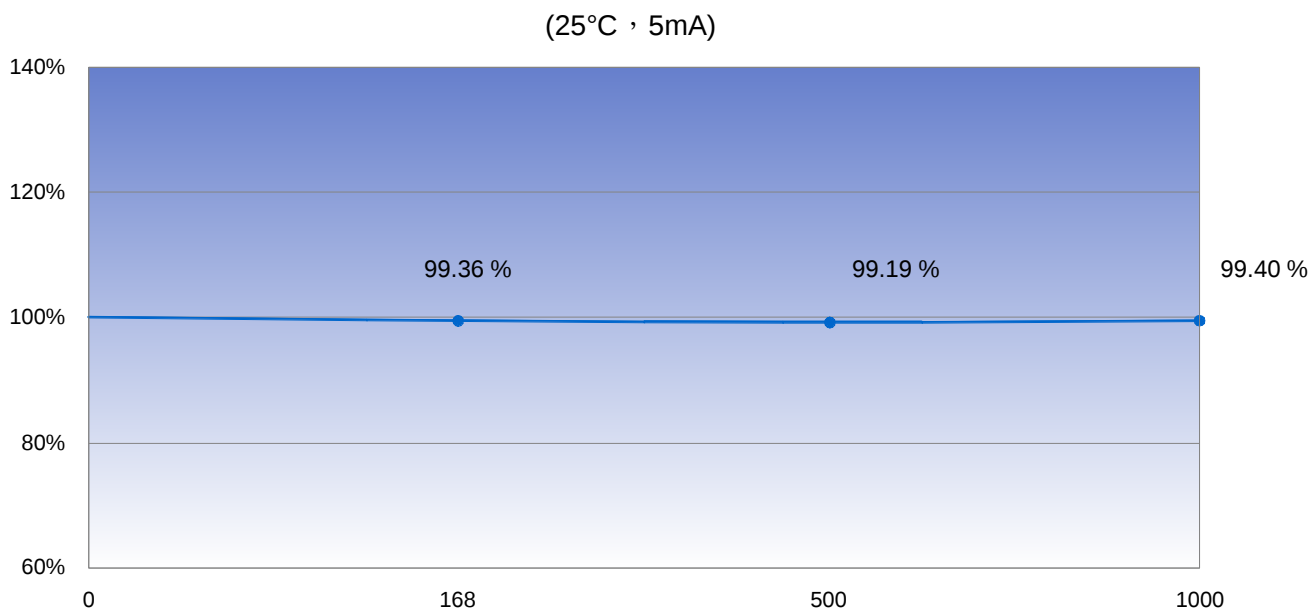


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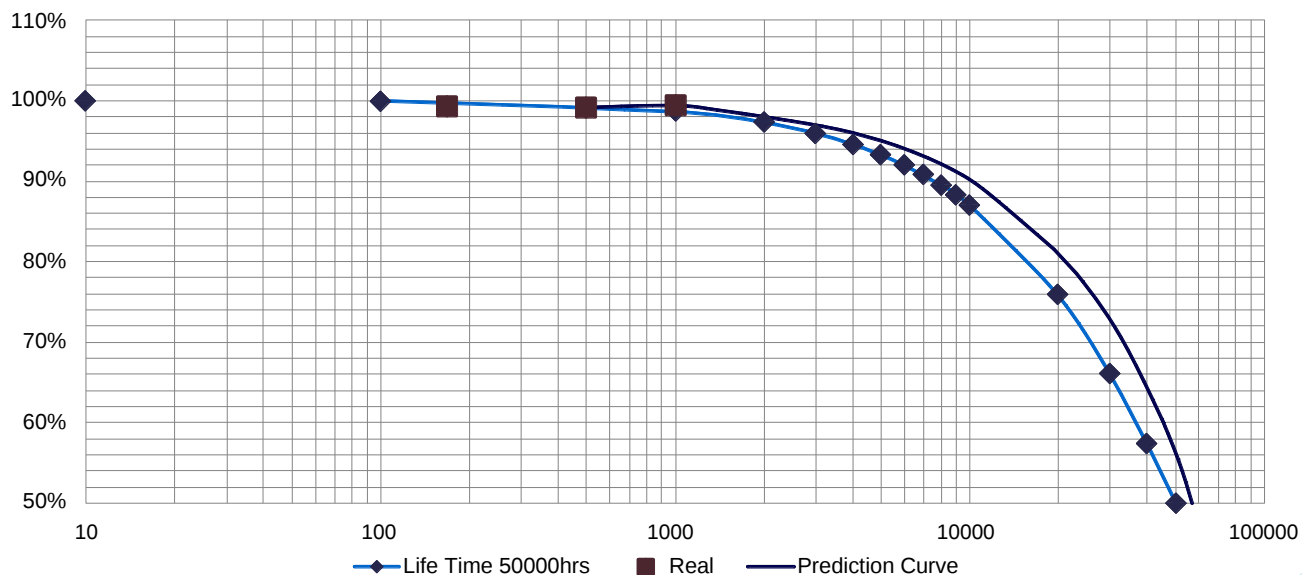
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● LIFE TIME



LIFE Estimate



10