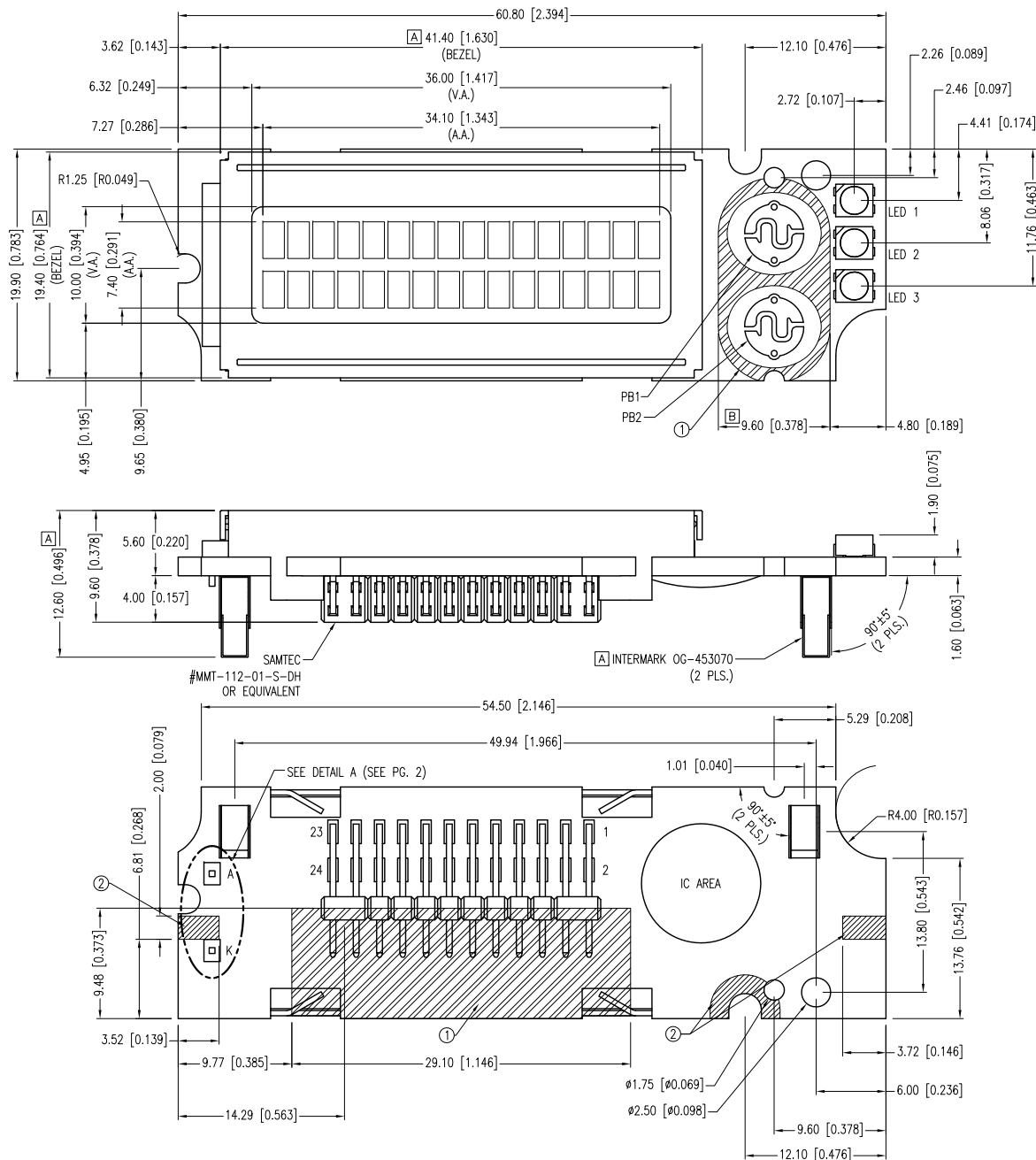
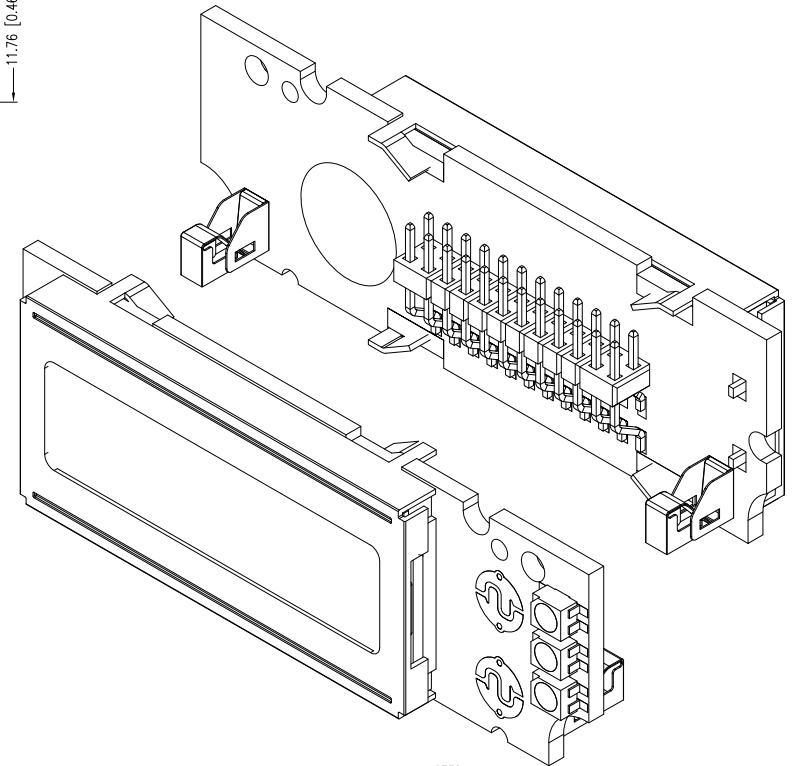




PART NUMBER	LCM-H01602DSF42727	REV.	C
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
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05.05.10	E.C.N. #11637.		B
09.02.12	E.C.N. #11752/10BRDR & REDRAWN.		C



NOTES:

1. HATCHED AREA DENOTES COMPONENT KEEP OUT.
2. HATCHED AREA DENOTES COMPONENT AND TRACE KEEP OUT.

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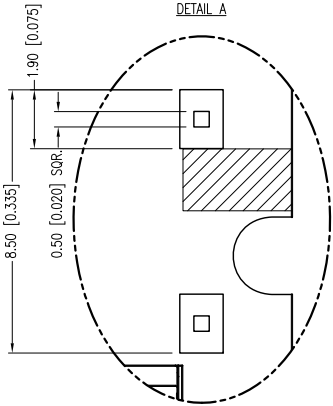
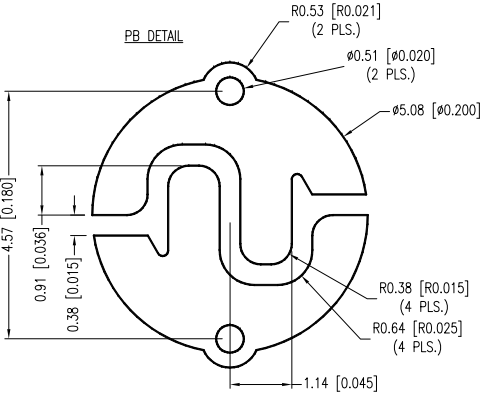
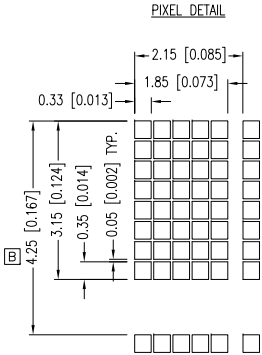
CUSTOM 16 x 2 LCD CHARACTER MODULE, WHITE LED BACKLIGHT, RIGHT ANGLE PIN HEADER, EMI CLIPS.

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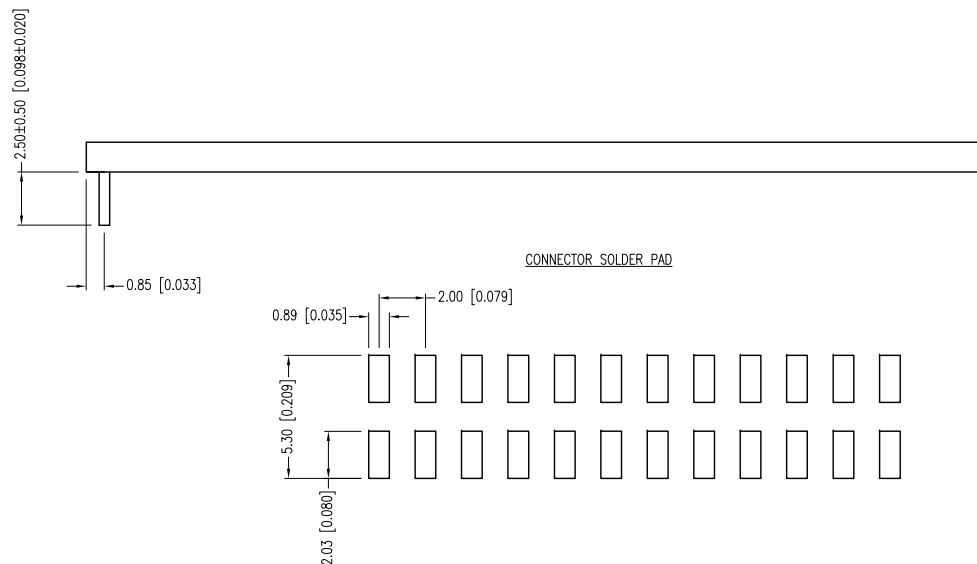
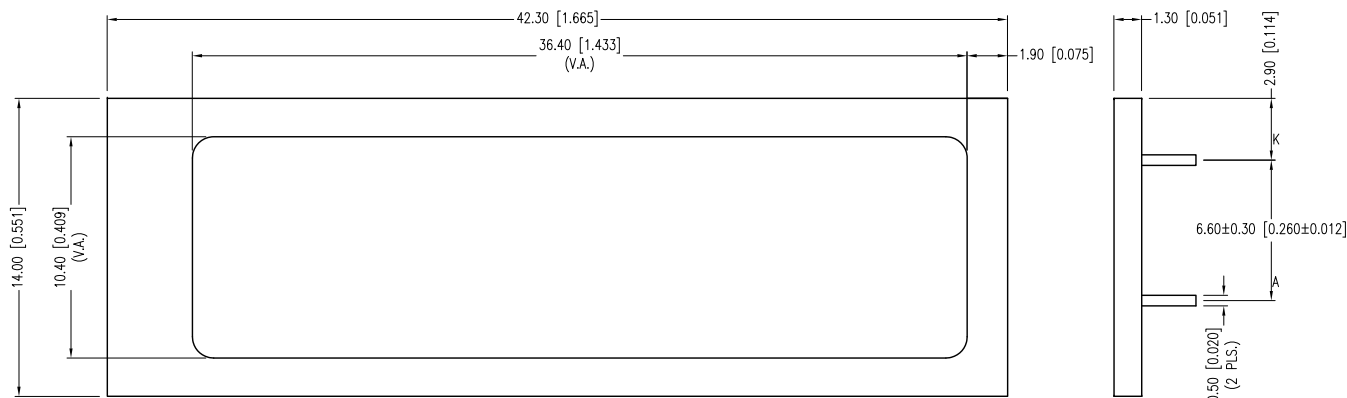
DATE:	09.02.11	DRAWN BY:	AB
PAGE:	1 OF 5	CHKD BY:	JD
SCALE:	NTS	APRVD BY:	SS
UNIT:	mm [INCH]		(P6)

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[C][A] ELECTRO-OPTICAL CHARACTERISTICS T _A =25°C I _f =20mA PER MODULE					
PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH		—		nm	
FORWARD VOLTAGE		3.3	3.6	V _f	
REVERSE VOLTAGE	5.0			V _r	V _r =100mA
AXIAL INTENSITY	400			cd/m ²	I _f =20mA
CHROMATICITY	X 0.28		0.33		
COORDINATES(*2)	Y 0.28		0.33		
EMITTED COLOR:	WHITE				
EPOXY LENS FINISH:	WHITE DIFFUSED				

[C][A] LIMITS OF SAFE OPERATION AT 25°C		
PARAMETER	MAX	UNITS
PEAK FORWARD CURRENT*	100	mA
STEADY CURRENT	25	mA
POWER DISSIPATION	110	mW
DERATE FROM 25°C	-1.2	mW/°C
OPERATING TEMP.	-20 TO +70	°C
STORAGE TEMP.	-30 TO +80	°C
SOLDERING TEMP.	+260	°C
2.0mm FROM BODY		3 SEC. MAX

* t<10uS

NOTES:

- VIEWING ANGLE: 6 O'CLOCK.
- DISPLAY TYPE: FSTN, TRANSFLECTIVE/POSITIVE.
- OPERATING TEMP: -20°C TO 70°C.
- STORAGE TEMP: -30°C TO 80°C.
- UNIFORMITY 70%(MIN); LUMINANCE 400cd/m2(MIN).
- THIS PRODUCT CONFORMS TO ROHS.

BILL OF MATERIALS

- LCD
- DOUBLE SIDED PCB.
- WHITE LED BACKLIGHT.
- INTERMARK OG-453070 (2 PCS.)
- SAMTECH MMT-112-01-S-DH OR EQUIVALENT (1 PCS.)
- LXP-LX2832IGC-TR (3 PCS.)
- SITRONIX ST-7070 OR EQUIVALENT. (1 PCS.)
- CONDUCTIVE NICKEL PLATED BEZEL. (1 PCS.)

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LUMEX Creating LED and LCD Solutions Together™	290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 FAX: +1.847.359.6538 WEB: WWW.LUMEX.COM	CUSTOM 16 x 2 LCD CHARACTER MODULE, WHITE LED BACKLIGHT, RIGHT ANGLE PIN HEADER, EMI CLIPS.	DATE: 09.02.11	DRAWN BY: AB
			PAGE: 3 OF 5	CHKD BY: JD
			SCALE: NTS	APRVD BY: SS
			UNIT: mm [INCH]	Ⓟ

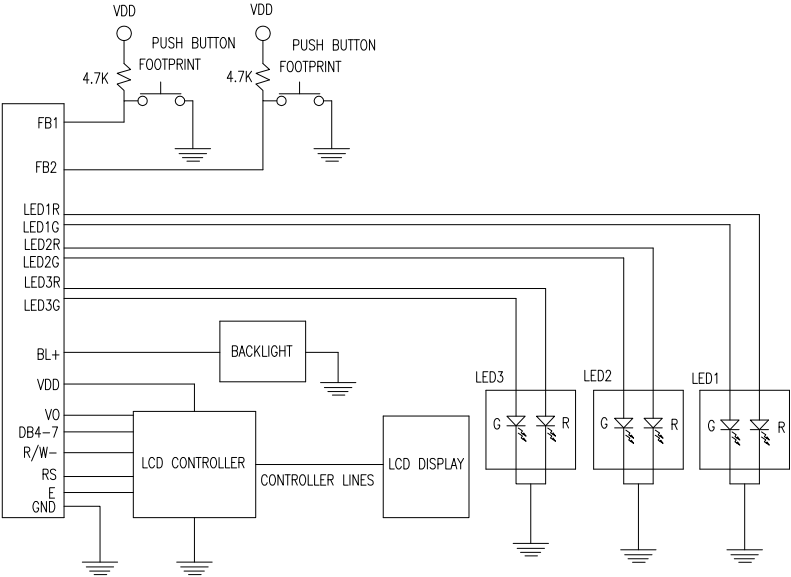
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PIN CONFIG		
PIN	SIGNAL	DESCRIPTION
1	GND	GROUND
2	DB4 (I/O)	LOW ORDER DATA BIT
3	DB5 (I/O)	DATA BIT
4	DB6 (I/O)	DATA BIT
5	DB7 (I/O)	HIGH ORDER DATA BIT, CAN BE USED AS BUSY FLAG
6	RS (I)	REGISTER SELECT INPUT
7	R/W- (I)	READ/WRITE MODE SELECT
8	GND	GROUND
9	E (I)	START ENABLE SIGNAL TO READ OR WRITE THE DATA (STROBE)
10	GND	GROUND
11	Vdd	+5V - POWER TO CONTROLLER AND PULL RESISTORS
12	Vdd	+5V - POWER TO CONTROLLER AND PULL RESISTORS
13	GND	GROUND
14	BL+ (I)	CURRENT SOURCE FOR BACKLIGHT DIODES
15	VO (I)	LCD DRIVE VOLTAGE
16	LED1G (I)	0 TO Vdd. HIGH TURN ON GREEN PORTION OF LED 1 (TOP)
17	LED1R (I)	0 TO Vdd. HIGH TURN ON RED PORTION OF LED 1 (TOP)
18	LED2G (I)	0 TO Vdd. HIGH TURN ON GREEN PORTION OF LED 2 (MIDDLE)
19	LED2R (I)	0 TO Vdd. HIGH TURN ON RED PORTION OF LED 2 (MIDDLE)
20	LED3G (I)	0 TO Vdd. HIGH TURN ON GREEN PORTION OF LED 3 (BOTTOM)
21	LED3R (I)	0 TO Vdd. HIGH TURN ON RED PORTION OF LED 3 (BOTTOM)
22	PB1 (O)	PULLED UP TO Vdd ON MODULE. USE FOOTPRINT TO SHORT (TOP)
23	PB2 (O)	PULLED UP TO Vdd ON MODULE. USE FOOTPRINT TO SHORT (BOTTOM)
24	GND	GROUND

BLOCK DIAGRAM



ELECTRICAL CHARACTERISTICS		16x2, 1/16 DUTY, 1/5 BIAS				
PARAMETER	SYMBOL	STANDARD VALUE			TEST CONDITION	UNIT
		MIN	TYP.	MAX		
OPERATING VOLTAGE	V _{DD}	4.9	5.0	5.1	—	V
LCD DRIVING VOLTAGE	V _{LCD}	—	5.0	—	V _{DD} -V _S	V
*H*LEVEL INPUT VOLTAGE	V _{IHI}	3.0	—	V _{DD}	—	V
*L*LEVEL INPUT VOLTAGE	V _{ILI}	—	—	1.0	—	V
*H*LEVEL OUTPUT VOLTAGE	V _{OHI}	3.9	—	V _{DD}	V _{OH} =-0.1mA	V
*L*LEVEL OUTPUT VOLTAGE	V _{OLI}	—	—	0.4	V _{OL} =-0.1mA	V
DRIVER VOLTAGE DESCENDING (COM)	V _{COMD}	—	—	0.3	I _D =5μA	V
DRIVER VOLTAGE DESCENDING (SEG)	V _{SEGD}	—	—	0.3	I _D =5μA	V
INPUT LEAKAGE CURRENT	I _{IL}	-1	—	1	V _{IN} =0 TO V _{DD}	μA
PULL-UP MOS CURRENT	-I _P	30	75	150	V _{DD} =3V	μA
SUPPLY CURRENT POWER SUPPLY CURRENT	I _{OP}	—	2.4	4	RF OSCILLATION, FROM EXTERNAL CLOCK V _{DD} =3V, F _{OSC} =F _{CP} =540kHz, INCLUDE LCD BIAS CURRENT	mA

ABSOLUTE MAXIMUM

CHARACTERISTIC	SYMBOL	VALUE	UNIT
POWER SUPPLY VOLTAGE	V _{DD}	-0.3~+5.5	V
POWER SUPPLY VOLTAGE	V _I ~V _S	0~V _{DD} +0.3	V
INPUT VOLTAGE	V _I	-0.3~V _{DD} +0.3	V
OPERATING TEMPERATURE	T _{OPR}	-20~+70	°C
STORAGE TEMPERATURE	T _{STG}	-30~+80	°C

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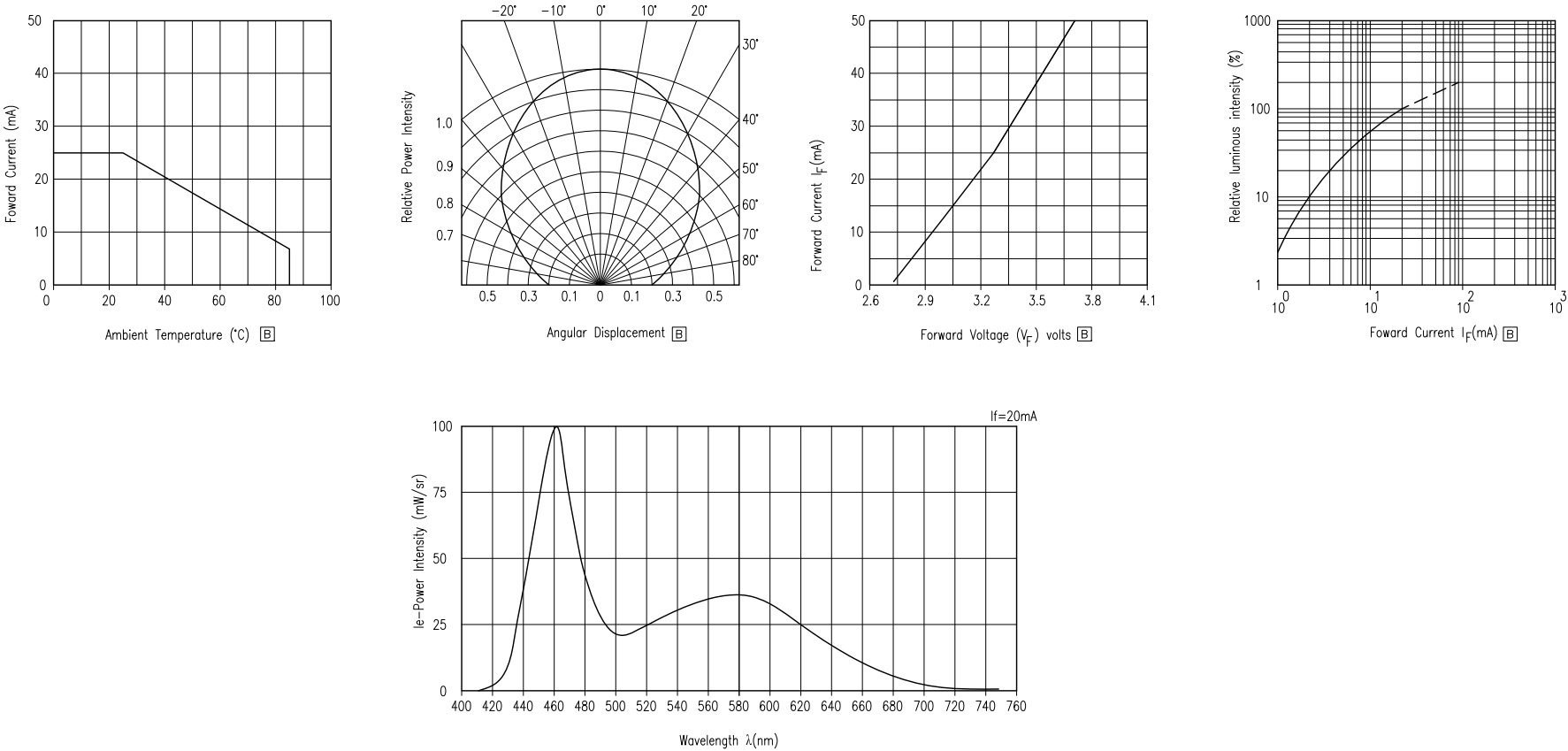
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WHITE LED ELECTRO-OPTICAL CHARACTERISTICS @ Ta=25°C



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