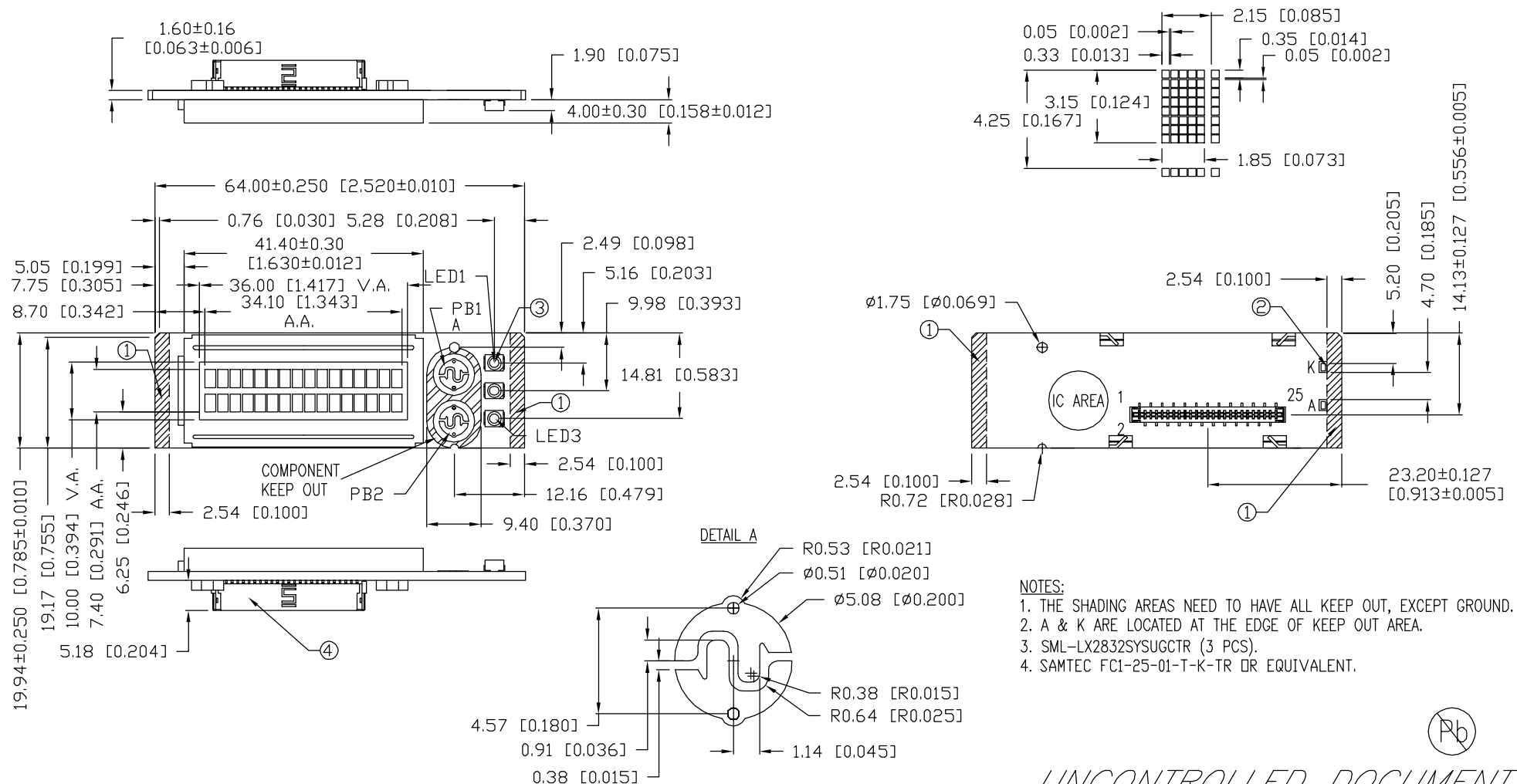




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REV.

P7

PART NUMBER

LCM-H01602DSF43524

CUSTOM 16 X 2 LCD CHARACTER MODULE,
GREEN LED BACKLIGHT, FLEX CABLE CONNECTOR.

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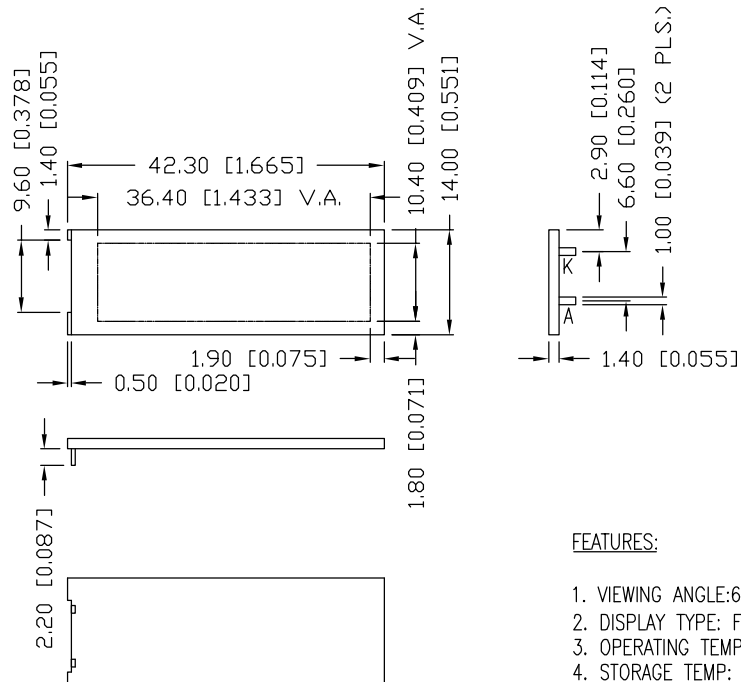
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DATE: 06.05.09

PAGE: 1 OF 4

SCALE: N/A



FEATURES:

1. VIEWING ANGLE: 6 O'CLOCK.
2. DISPLAY TYPE: FSTN, TRANSMISSIVE/POSITIVE.
3. OPERATING TEMP: -20°C TO 70°C.
4. STORAGE TEMP: -30°C TO 80°C.
5. UNIFORMITY 70%(MIN); LUMINANCE 15cd/m2(MIN).
6. THIS PRODUCT CONFORMS TO ROHS. 6/6.

BACKLIGHT SPECIFICATION $T_A = 25^\circ\text{C}$

PARAMETER	MIN	TYP	MAX	UNITS	TEST COND
PEAK WAVELENGTH		565		nm	
FORWARD VOLTAGE		2.2	2.6	V _f	
REVERSE VOLTAGE	3			V _r	V _r = 100μA
LUMINOUS INTENSITY	TBD	TBD		cd/m ²	I _f = 20 mA
EMITTED COLOR:	GREEN				
REFLECTOR FINISH:	CLEAR WHITE				

LIMITS OF SAFE OPERATION AT 25°C

PARAMETER	SYMBOL	MAX	UNITS
PULSE FORWARD CURRENT	I _p	30	mA
STEADY CURRENT	I _F	20	mA
POWER DISSIPATION	P _D	66	mW
OPERATING TEMP.	T _{OPR}	-20 TO +70	°C
STORAGE TEMP.	T _{STG}	-30 TO +80	°C
SOLDERING TEMP.		+260	°C
2.0mm FROM BODY			3 SEC. MAX

*DUTY 1/10 PULSE WIDTH 10ms

BILL OF MATERIALS

1. LCD
2. DOUBLE SIDED PCB.
3. GREEN LED BACKLIGHT.
4. SAMTEC FC1-25-01-T-K-TR OR EQUIVALENT (1 PCS.)
5. SML-LX2832SYSUGCTR. (3 PCS.)
6. SITRONIX ST-7070 OR EQUIVALENT. (1 PCS.)
7. CONDUCTIVE NICKEL PLATED BEZEL (SILVER). (1 PCS.)

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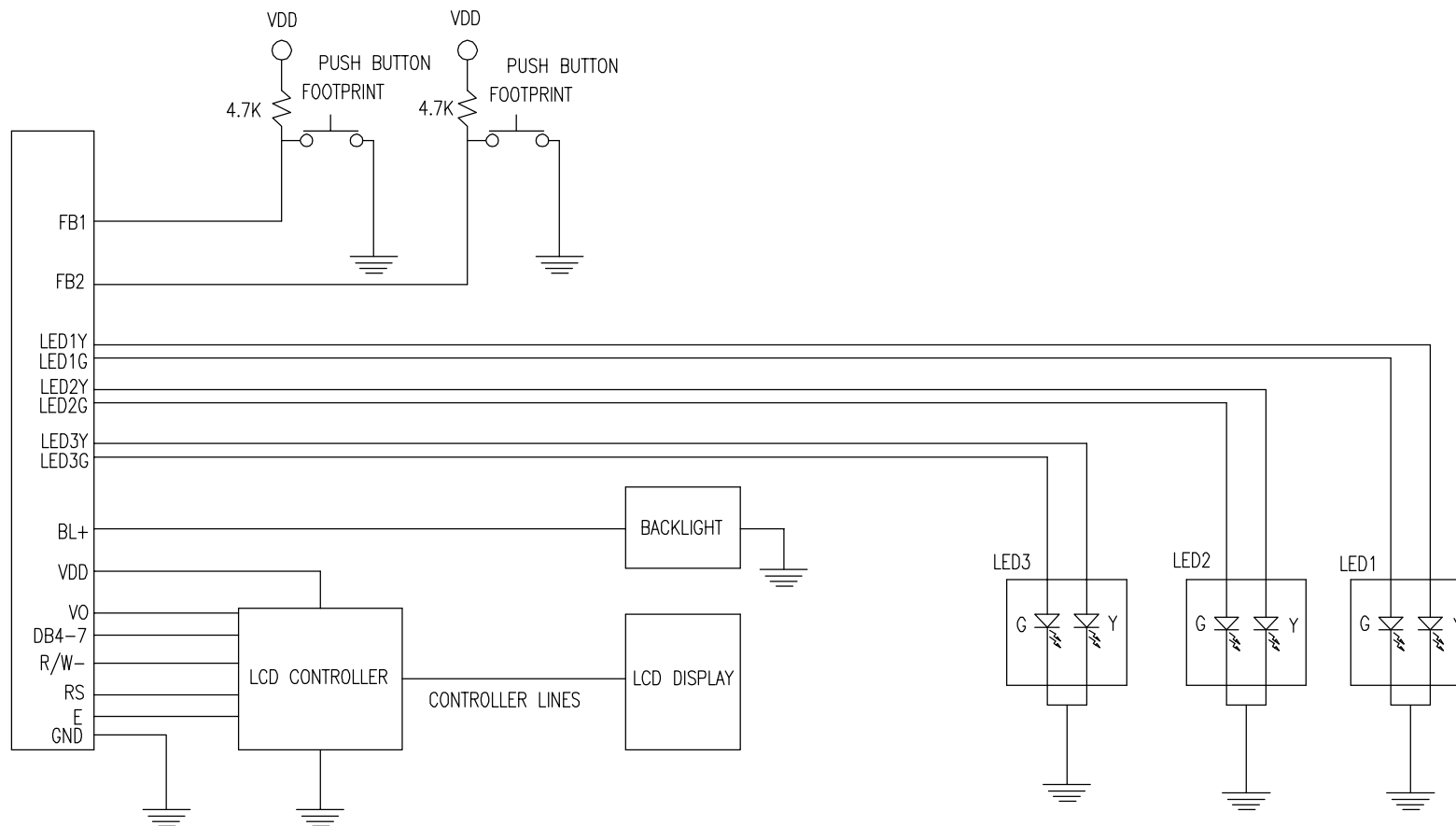
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PAGE: 2 OF 4

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BLOCK DIAGRAM



UNCONTROLLED DOCUMENT

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PIN CONFIGURATION

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	LED1Y (I)	0 TO VDD. HIGH TURN ON YELLOW PORTION OF LED 1 (TOP)
18	LED2G (I)	0 TO VDD. HIGH TURN ON GREEN PORTION OF LED 2 (MIDDLE)
19	LED2Y (I)	0 TO VDD. HIGH TURN ON YELLOW PORTION OF LED 2 (MIDDLE)
20	LED3G (I)	0 TO VDD. HIGH TURN ON GREEN PORTION OF LED 3 (BOTTOM)
21	LED3Y (I)	0 TO VDD. HIGH TURN ON YELLOW PORTION OF LED 3 (BOTTOM)
22	PB1 (O)	PULLED UPTO VDD ON MODULE. USE FOOTPRINT TO SHORT (TOP)
23	PB2 (O)	PULLED UPTO VDD ON MODULE. USE FOOTPRINT TO SHORT (BOTTOM)
24	GND	GROUND
25	NC	NO CONNECTION

ELECTRICAL CHARACTERISTICS

16 x 2, 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	-	$V_{DD} - V_5$	V
"H"LEVEL INPUT VOLTAGE	V_{IH1}	3.0	-	V_{DD}	-	V
"L"LEVEL INPUT VOLTAGE	V_{IL1}	-	-	1.0	-	V
"H"LEVEL OUTPUT VOLTAGE	V_{OH1}	3.9	-	V_{DD}	$I_{OH} = -0.1 \text{ mA}$	V
"L"LEVEL OUTPUT VOLTAGE	V_{OL1}	-	-	0.4	$I_{OL} = 0.1 \text{ mA}$	V
DRIVER VOLTAGE DESCENDING (COM)	V_{COMD}	-	-	0.3	$I_D = 5 \mu\text{A}$	V
DRIVER VOLTAGE DESCENDING (SEG)	V_{SEGD}	-	-	0.3	$I_D = 5 \mu\text{A}$	V
INPUT LEAKAGE CURRENT	I_{IL}	-1	-	1	$V_{IN} = 0 \text{ TO } V_{DD}$	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 $V_{DD} = 3V$, $F_{OSC} = F_{CP} = 540\text{KHZ}$, INCLUDE LCD BIAS CURRENT.	mA

ABSOLUTE MAXIMUM

CHARACTERISTIC	SYMBOL	VALUE	UNIT
POWER SUPPLY VOLTAGE	V_{DD}	-0.3 TO +5.5	V
POWER SUPPLY VOLTAGE	$V_1 \text{ TO } V_5$	0 TO $V_{DD} + 0.3$	V
INPUT VOLTAGE	V_I	-0.3 TO $V_{DD} + 0.3$	V
OPERATING TEMPERATURE	TOPR	-20 TO +70	°C
STORAGE TEMPERATURE	TSTG	-30 TO +80	°C

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