

UNCONTROLLED DOCUMENT

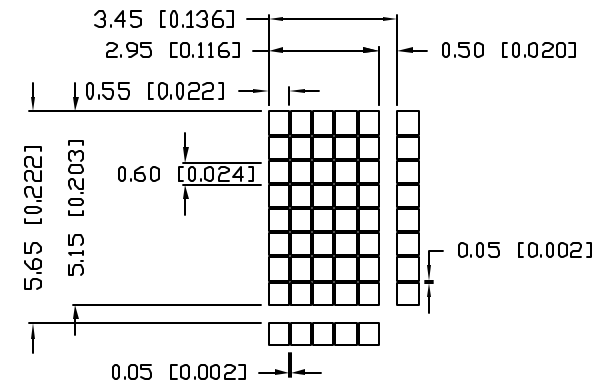
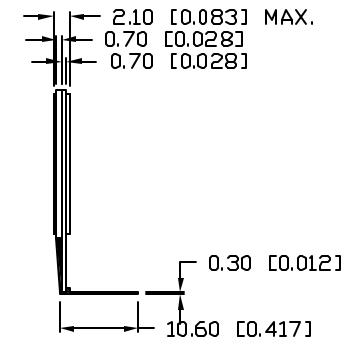
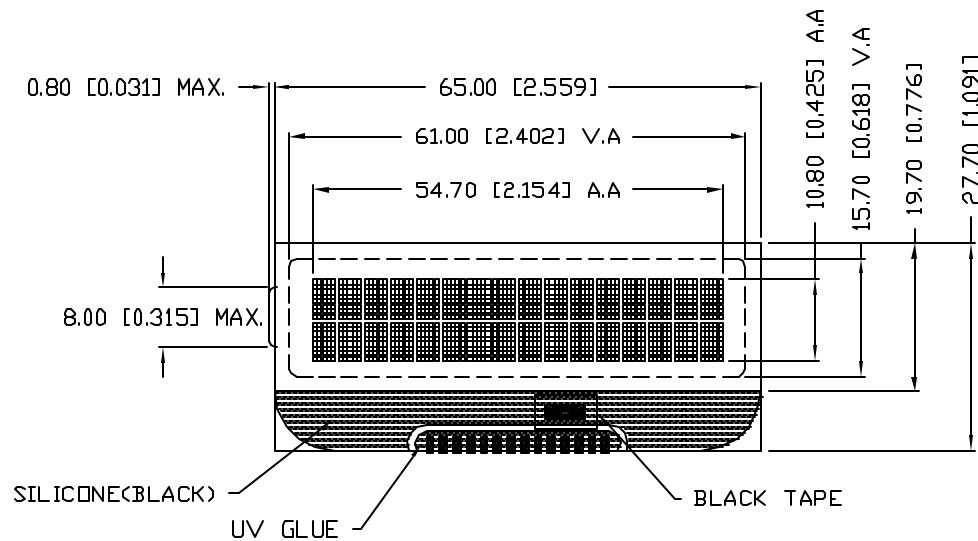
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PART NUMBER

REV.

LCM-H1602CGSR38678

PRELIMINARY IN P/N DIR



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REV.

PART NUMBER

LCM-H1602CGSR38678

16 x 2 CHARACTER LCD MODULE, C.O.G
STN GRAY, REFLECTIVE, 6:00 VIEW,
W/PINS, IC: NT7605, 240 CGROM, VLCD=5.0V

CONFIDENTIAL INFORMATION

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RELIABILITY NOTE

OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS.



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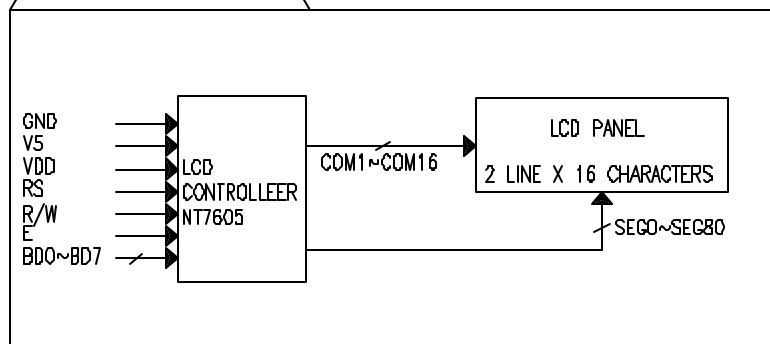
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BLOCK DIAGRAM



PIN DESCRIPTION

PIN NO.	SYMBOL	I/O	FUNCTION
1	Vss	P	GND: 0V
2	V5	P	LCD DRIVER SUPPLY VOLTAGE
3	VDD	P	VDD: +3V
4	RS	I	REGISTER SELECT SIGNAL 0: INSTRUCTION REGISTER (WRITE), BUSY FLAG, ADDRESS COUNTER (READ) 1: DATA REGISTER (WRITE, READ)
5	R/W	I	READ/WRITE CONTROL SIGNAL 0:WRITE 1:READ
6	E	I	READ/WRITE: START SIGNAL (SCHMITT TRIGGER INPUT)
7~14	DB0~DB7	I/O	8 TRI-STATE BI-DIRECTIONAL DATA BUS FOR TRANSMITTING DATA BETWEEN MPU AND NT7605. DB7 IS ALSO USED AS BUSY FLAG.

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}	2.8	3.0	4.5	-	V
LCD DRIVING VOLTAGE	V _{LCD}	-	5.0	-	V _{DD} -V ₅	V
"H" LEVEL INPUT VOLTAGE	V _{IH1}	0.8V _{DD}	-	V _{DD}	-	V
"L" LEVEL INPUT VOLTAGE	V _{IL1}	-0.3	-	0.2V _{DD}	-	V
"H" LEVEL OUTPUT VOLTAGE	V _{OH1}	V _{DD} 0.4	-	-	I _{OH} = -0.8 mA	V
"L" LEVEL OUTPUT VOLTAGE	V _{OL1}	-	-	0.4	I _{OL} = 0.8 mA	V
DRIVER VOLTAGE DESCENDING (COM)	V _{COMD}	-	-	0.3	I _D = 5 μA	V
DRIVER VOLTAGE DESCENDING (SEG)	V _{SEGD}	-	-	0.3	I _D = 5 μA	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	I _{OP}	-	1	1.5	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 TO +7.0	V
POWER SUPPLY VOLTAGE	V _I TO V ₅	0 TO V _{DD} +0.3	V
INPUT VOLTAGE	V _I	-0.3 TO V _{DD} +0.3	V
OPERATING TEMPERATURE	T _{OPR}	0 TO +50	°C
STORAGE TEMPERATURE	T _{STG}	-20 TO +70	°C

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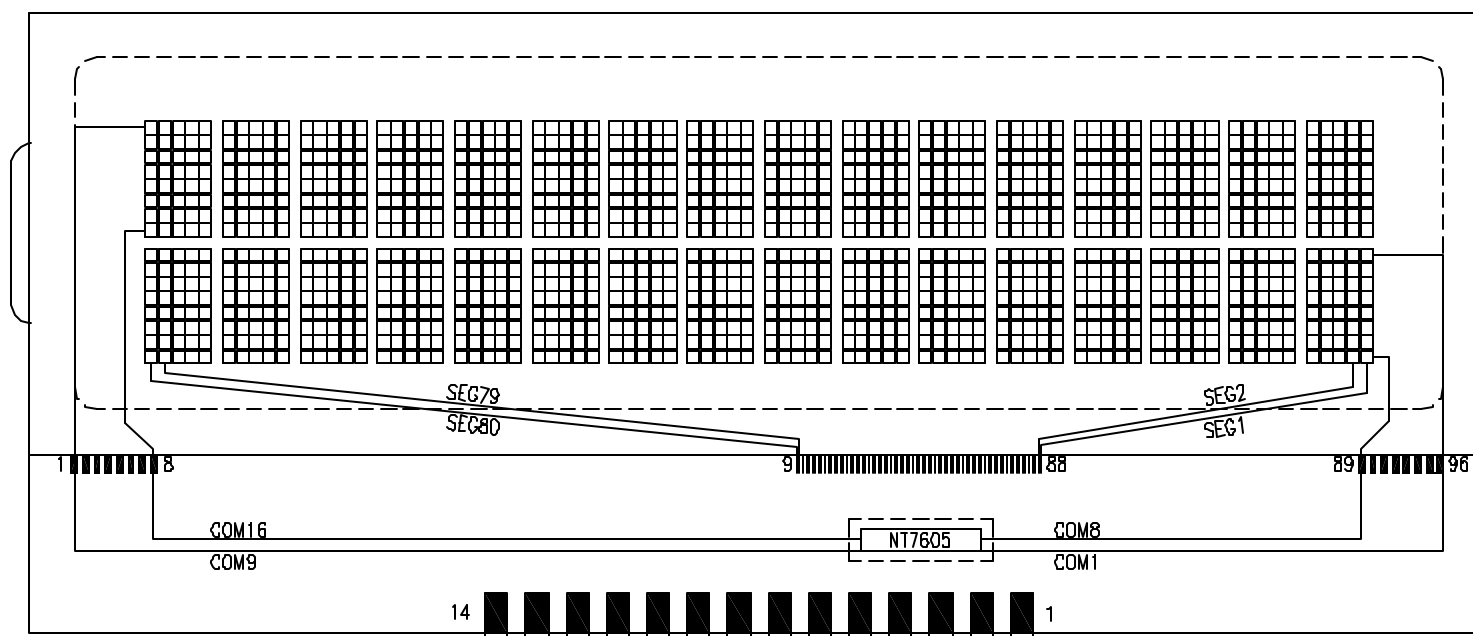
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LCD LABELLING:



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