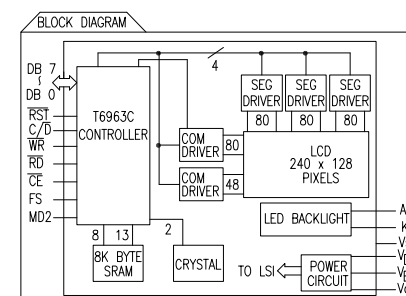
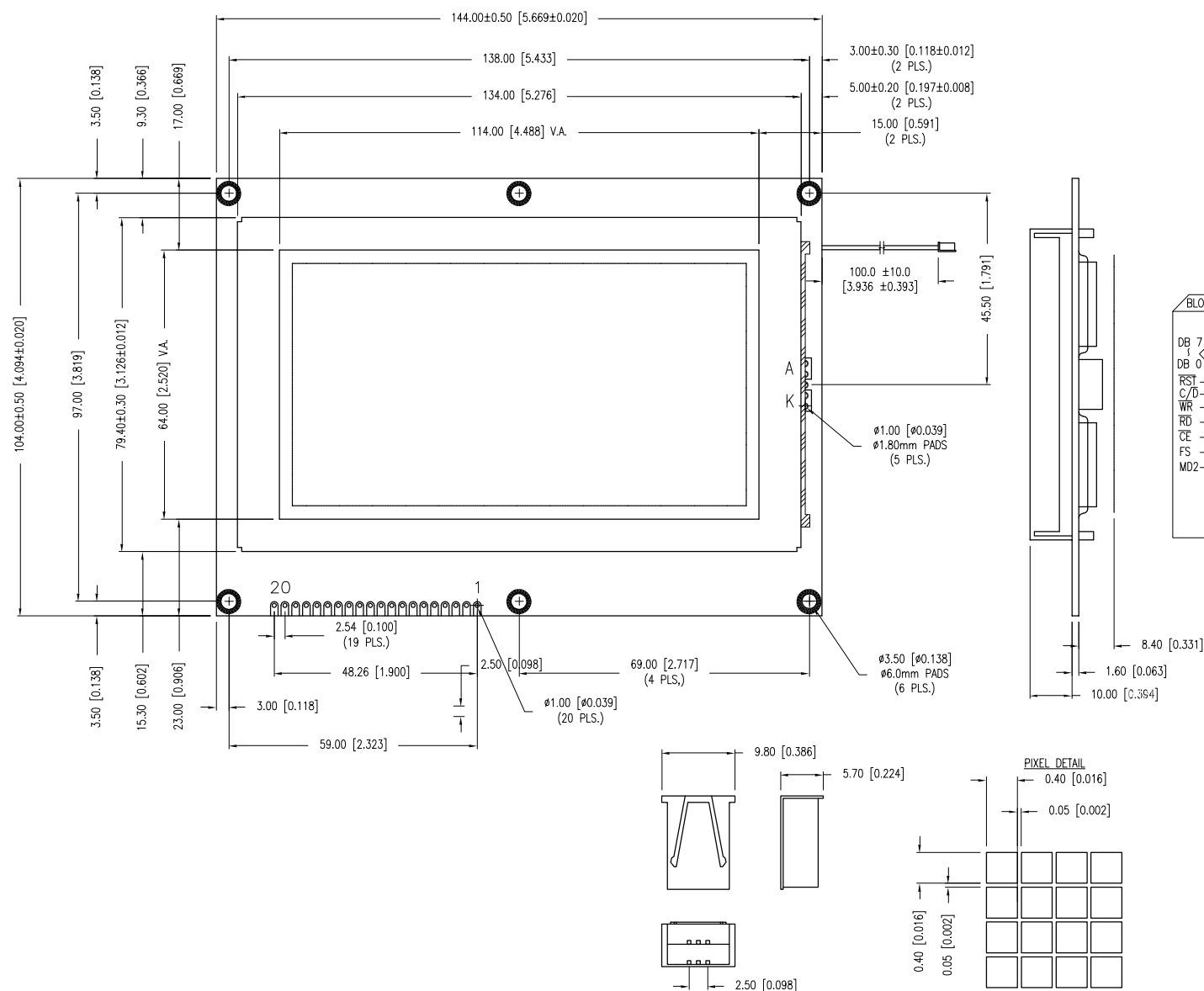


PRELIMINARY IN P/N DIR



*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= +DECIMAL PRECISION MAX= +0.00 -DECIMAL PRECISION



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240x128 DOT MATRIX GRAPHIC MODULE, STN BLUE, WHITE LED BACKLIGHT, STANDARD TEMP, TRANSLFLECTIVE 6:00 VIEW

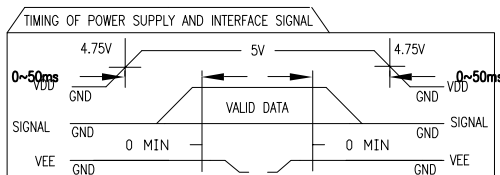
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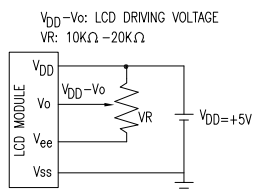
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SCALE: N/A	APRVD BY: KF
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PRELIMINARY IN P/N DIR

ABSOLUTE MAXIMUM RATINGS				
ITEM	SYMBOL	MIN.	MAX.	UNIT
POWER SUPPLY FOR LOGIC	$V_{DD}-V_{SS}$	0	5.5	V
POWER SUPPLY FOR LCD DRIVING	$V_{DD}-V_{EE}$	0	24.0	V
INPUT VOLTAGE	V_I	V_{SS}	V_{DD}	V
STATIC ELECTRICITY			100	V



PIN CONFIGURATION			
PIN #	SYMBOL	LEVEL	FUNCTION
1	V_{SS}	—	GROUND (0V)
2	V_{DD}	—	POWER SUPPLY FOR LOGIC CIRCUIT
3	V_o	—	OPERATING VOLTAGE FOR LCD DRIVING
4	$C/\bar{D}$	H/L	$WR=L$, $C/\bar{D}=H$: COMMAND WRITE, L : DATA WRITE $R\bar{D}=L$, $C/\bar{D}=H$: STATUS READ, L : DATA READ
5	$R\bar{D}$	L	DATA READ
6	WR	L	DATA WRITE
7~14	$DB0\sim DB7$	H/L	DATA BUS LINE
15	$\bar{CE}$	L	CHIP ENABLE
16	RST	L	RESET
17	V_{ee}	—	POWER SUPPLY FOR LCD DRIVING
18	$MD2$	H/L	COLUMNS SELECT: H : 32 COLUMNS, L : 40 COLUMNS
19	FS	H/L	FONT SELECT: H : 6*8 PIXEL/FONT, L : 8*8 PIXEL/FONT
20	N.C.	—	
	A	—	POWER SUPPLY FOR LED BACKLIGHT (ANODE)
	K	—	POWER SUPPLY FOR LED BACKLIGHT (CATHODE)



OPTO-ELECTRICAL CHARACTERISTICS							
ITEM		SYMBOL	STANDARD VALUE			UNIT	
POWER SUPPLY VOLTAGE FOR LOGIC		$V_{DD}-V_{SS}$	+4.5	+5.0	+5.5	V	
POWER SUPPLY VOLTAGE FOR LCD DRIVE		$V_{EE}-V_{SS}$	-14.2	-15.0	-15.9	V	
INPUT VOLTAGE: NOTE (1)	H LEVEL	V_{IH}	2.2	—	—	V	
	L LEVEL	V_{IL}	0	—	0.6	V	
	H LEVEL	V_{OH}	2.4	—	V_{DD}	V	
OUTPUT VOLTAGE: NOTE (2)	L LEVEL	V_{OL}	0	—	0.4	V	
	POWER SUPPLY CURRENT FOR LOGIC: NOTE (4)		I_{DD}	—	12.0	—	mA
POWER SUPPLY CURRENT FOR LCD DRIVE: NOTE (4)		I_{EE}	—	5.0	—	mA	
RECOMMENDED LCD DRIVING VOLTAGE: (NOTE 3)	$T_a=0^{\circ}C$	$V_{DD}-V_o$	—	+19.4	—	V	
	$T_a=25^{\circ}C$	$\phi=10^{\circ}C$	—	+18.5	—	V	
	$T_a=50^{\circ}C$	$\phi=0^{\circ}C$	—	+16.2	—	V	
CLOCK OSCILLATION FREQUENCY			f_{osc}	—	5	—	MHZ
*LED BACKLIGHT	VOLTAGE	$I_f=160mA$	V_f	—	3.4	3.6	V
	CURRENT	—	I_f	—	160	—	mA
	POWER CONSUMPTION	—	P_D	—	720	—	mW
	BACKLIGHT SURFACE	$I_f=160mA$	L	160	200	—	cd/m ²
	COLOR (X=0.31,Y=0.32)	—	—	—	550	—	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

NOTE (1): APPLIED TO TERMINALS: FS , CE , WR , $R\bar{D}$, $C/\bar{D}$, $DB0\sim DB7$, RES , $MD2$.NOTE (2): APPLIED TO TERMINALS: $DB0\sim DB7$.

NOTE (3): RECOMMENDED LCD DRIVING VOLTAGE MAY FLUCTUATE

ABOUT $\pm 1.0V$ BY EACH MODULE.NOTE (4): $V_{DD}-V_{SS}=5.0V$, $V_{DD}-V_o=20.6V$.*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: $X=\pm 1$ (± 0.039), $X.X=\pm 0.5$ (± 0.020), $X.XX=\pm 0.25$ (± 0.010), $X.XXX=\pm 0.127$ (± 0.005). LEAD SIZE= ± 0.05 (± 0.002), LEAD LENGTH= ± 0.75 (± 0.030). MIN.=^{+DECIMAL PRECISION}_{-0.00}MAX.=^{+0.00}_{-DECIMAL PRECISION} UNCONTROLLED DOCUMENT

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