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MC22405C6WK-SPTLY	2 x 24	5mm Character Height	LCD Module
Specification			
Version: 1		Date: 31/10/2016	
Revision			

Display Features			
Character Count	2 x 24		
Appearance	Black on Yellow/Green		
Logic Voltage	5V		
Interface	Parallel		
Font Set	English / European		
Display Mode	Transflective		
Character Height	5.55mm		
LC Type	STN		
Module Size	118.00 x 36.00 x 13.60 mm		
Operating Temperature	-20°C ~ +70°C		
Construction	COB	Box Quantity	Weight / Display
LED Backlight	Yellow/Green	---	---

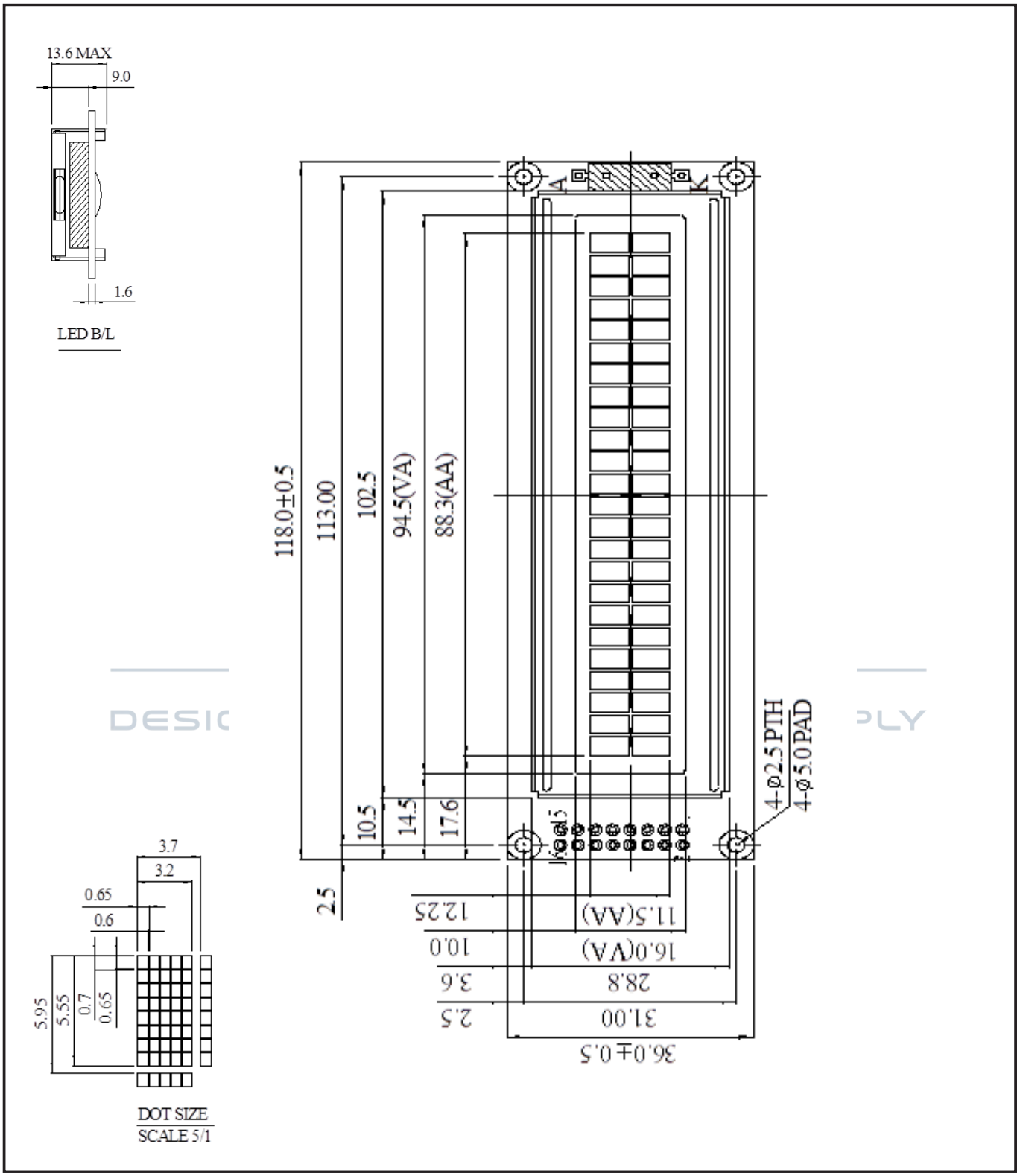
RoHS compliant

* - For full design functionality, please use this specification in conjunction with the ST7066U specification. (Provided Separately)

Display Accessories	
Part Number	**Description**
MCCMDB-16DIL	LCD Interconnect board, can be driven from either a PC or a single Board computer with a USB output.
MCCBL1A16DLIP -16DILS-150	16 Way, Dual in-line to Dual In-line connector Cable.

Optional Variants		
Fonts	**Appearances**	**Voltage**
English / Russian	White on Blue	

Mechanical Specifications					
Module Size	118.00 x 36.00 x 13.60 (With Backlight)				W x H x D mm
Viewing Area	94.50 x 16.00	W x H mm	Hole-to-Hole	108.00 x 29.00	W x H mm
Character Size	3.20 x 5.55	W x H mm	Character Pitch	3.70 x 5.95	W x H mm
Dot Size	0.60 x 0.65	W x H mm	Dot Pitch	0.65 x 0.70	W x H mm

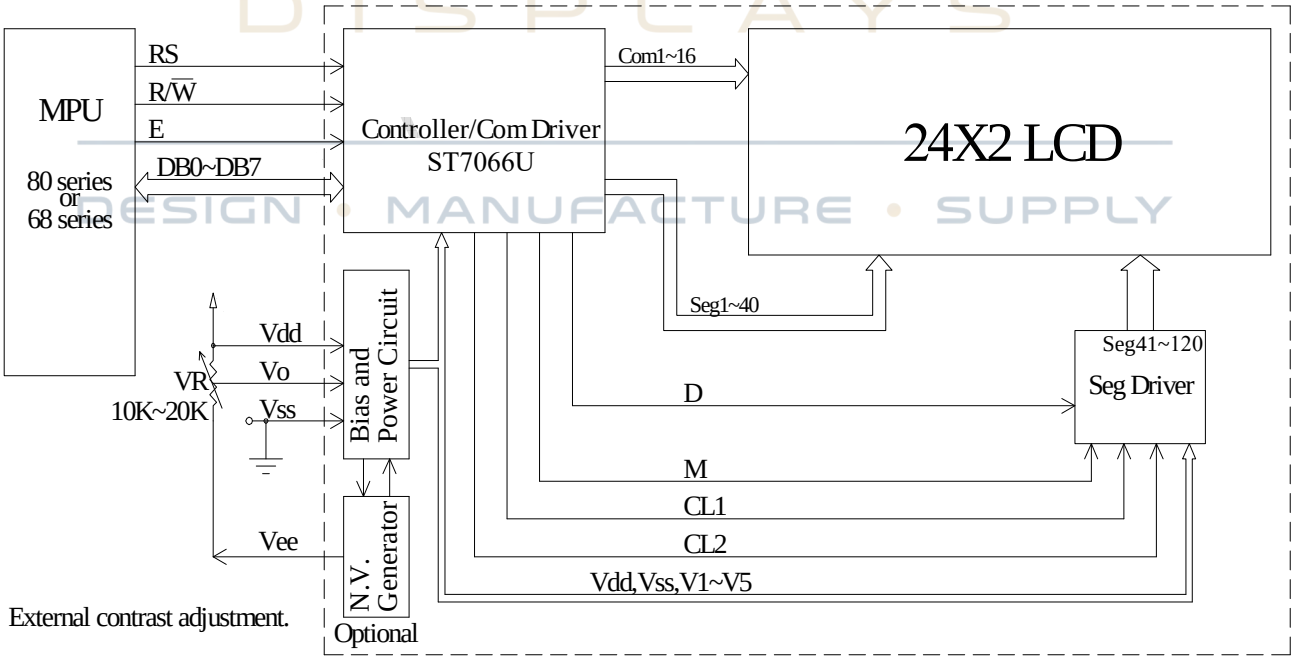


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Pin Layout

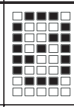
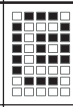
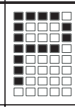
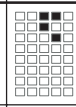
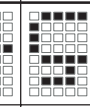
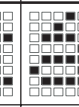
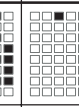
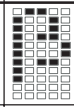
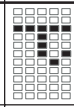
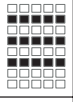
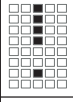
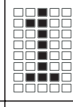
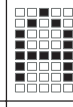
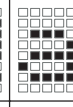
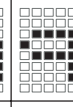
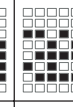
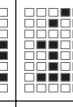
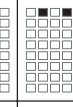
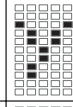
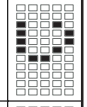
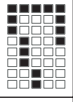
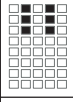
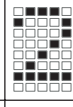
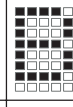
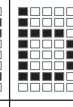
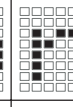
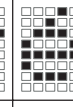
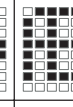
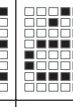
PI	SYMBOL	DESCRIPTION	REMARKS
1	Vss	GND	
2	Vdd	Power supply for LCM	5.0V
3	V0	Operating Voltage for LCD	
4	RS	Instruction Code	
5	R/W	Data Read / Write	
6	E	Chip Enable Signal	
7	DB0	Data bus line	
8	DB1	Data bus line	
9	DB2	Data bus line	
10	DB3	Data bus line	
11	DB4	Data bus line	
12	DB5	Data bus line	
13	DB6	Data bus line	
14	DB7	Data bus line	
15	A	Power supply for BKL+	5.0V
16	K	Power supply for BKL -	

MIDAS DISPLAYS
DESIGN • MANUFACTURE • SUPPLY



Character located	1	2	3	4	5	6	----------	19	20	21	22	23	24
DDRAM address	00	01	02	03	04	05	----------	12	13	14	15	16	17
DDRAM address	40	41	42	43	44	45	----------	52	53	54	55	56	57

Font Map

Upper 4bit / Lower 4bit	LLLL	LLLH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
LLLL	CG RAM (1)															
LLLH	(2)															
LLHL	(3)															
LLHH	(4)															
LHLL	(5)															
LHLH	(6)															
LHHL	(7)															
LHHH	(8)															
HLLL	(1)															
HLLH	(2)															
HLHL	(3)															
HLHH	(4)															
HHLL	(5)															
HHLH	(6)															
HHHL	(7)															
HHHH	(8)															

MDTFT
Design and Manufacture of Display Modules

Absolute Maximums Ratings

Item	Symbol	Minimum	Typical	Maximum	Unit
Power Supply (Logic)	Vdd	-0.3	---	7.00	V
Power Supply (LCD)	V0	Vss -0.3	---	Vss +13.00	V
Input Voltage	Vin	Vss	---	Vdd	V
Operating Temperature	T_{OP}	-20°C	---	70°C	°C
Storage temperature	T_{ST}	-30°C	---	80°C	°C

Electronic Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Input Voltage High	V_{IH}	---	0.70	---	V_{DD}	V
Input Voltage Low	V_{IL}	---	Vss	---	0.60	V
Output Voltage High	V_{OH}	---	3.90	---	---	V
Output Voltage Low	V_{OL}	---	---	---	0.40	V
Supply Voltage Logic	$V_{DD} - V_{SS}$	---	4.20	4.35	4.50	V
Supply Voltage LCD	$V_{DD} - V_0$	Ta=25°C	---	4.50	---	V
Supply Current	I_{DD}	V_{DD}=5.0V	1.00	1.20	1.50	mA

LCD Characteristics

For STN/FSTN LCD Panel Types

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Viewing Angle	Φ2 – Φ1	CR ≥ 10	---	---	20	ψ=180°
	Θ	---	---			
Contrast Ratio	CR	---	---	3	---	---
Response Time (Rise)	TR	---	---	150	200	ms
Response Time (Fall)	TF	---	---	150	200	ms

MIDAS DISPLAYS
DESIGN • MANUFACTURE • SUPPLY

LED Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Supply Current	ILED	V=4.2V	171	190	228	mA
Supply Voltage	V	---	4.00	4.20	4.40	V
Reverse Voltage	VR	---	---	---	8	V
Luminance (Without LCD)	IV	ILED=190mA	220	250	---	Cd/m^2
Wave Length	λp	ILED=180mA	568	570	574	---
LED Life Time	---	ILED=190mA	---	100K	---	Hour

Attention: It is constant current, not constant voltage, which should be applied when driving the LED backlight, please ensure you adhere to this rule.