


MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			
1	25/01/2018	First issue	

Display Features			
Display Size	3.9"		
Resolution	480 x 128		
VGA Size	N/A		
Orientation	Landscape		
Appearance	RGB		
Logic Voltage	3.3V		
Interface	RGB 24bit		
Brightness	350 cd/m ²		
Touchscreen	RTP		
Module Size	105.50 x 37.00 x 4.58		
Operating Temperature	-20°C ~ +70°C		
Pinout	40 - Way FFC		
		---	---

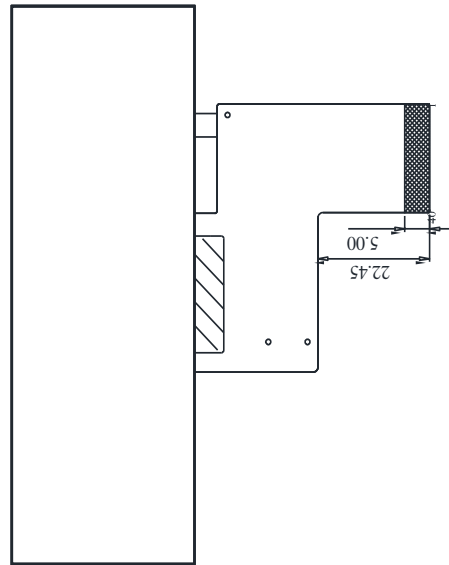
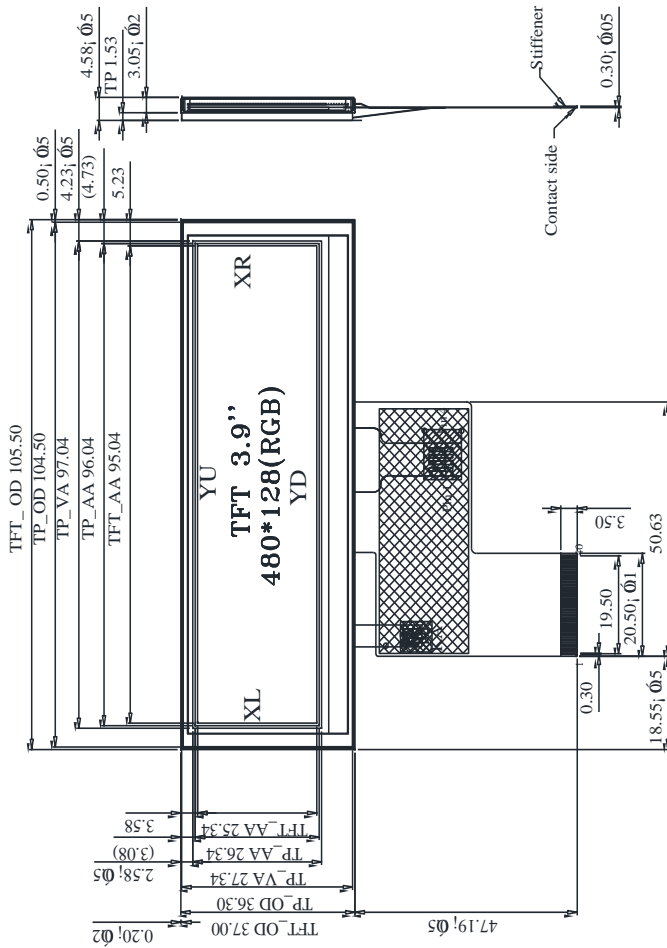
Display Accessories	
Part Number	Description
MPBV6	40 Way FFC to cable and wires. Driven by any driver board that can be wired to a 1mm pitch SHDR-40V-S-B receptacle.
MCIB-11	HDMI to RGB 40-way TFT. Can be used in conjunction with single board computers, i.e. Raspberry Pi
MCIB-15	FT800 display controller board. Mounted on the back of Raspberry Pi.

Optional Variants		
Variants	Appearances	Voltage
Capacitive Touch Panel Non Touch		

Mechanical Specifications

Module Size	105.50 x 37.00 x 4.58 (With Backlight)			W x H x D mm
Active Area	95.04 x 25.34	W x H mm	Hole-to-Hole	---
Dot Size	---	---	Dot Pitch	0.066 x 0.198
				W x H mm

PIN NO. SYMBOL	PIN NO. SYMBOL
1 VLED-	21 B0
2 VLED+	22 B1
3 GND	23 B2
4 VCC	24 B3
5 R0	25 B4
6 R1	26 B5
7 R2	27 B6
8 R3	28 B7
9 R4	29 GND
10 R5	30 DCLK
11 R6	31 DISP
12 R7	32 HSYNC
13 G0	33 VSYNC
14 G1	34 NC
15 G2	35 NC
16 G3	36 GND
17 G4	37 XR
18 G5	38 YD
19 G6	39 XL
20 G7	40 YU

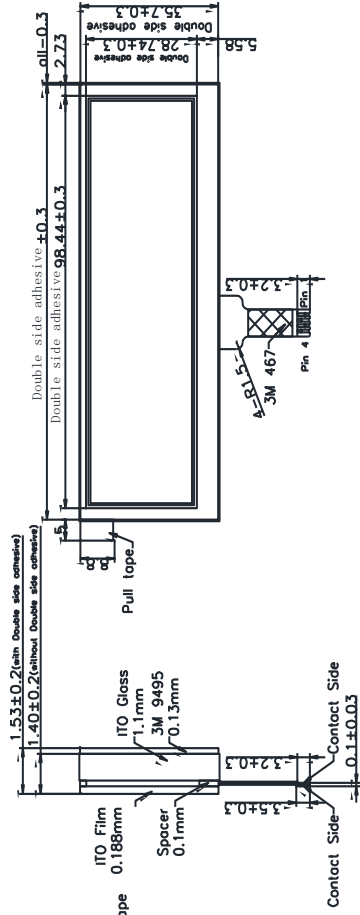


The non-specified tolerance of dimension is ±0.3 mm .

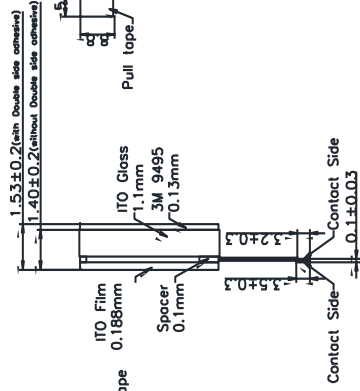
MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			

Resistive Touch Panel

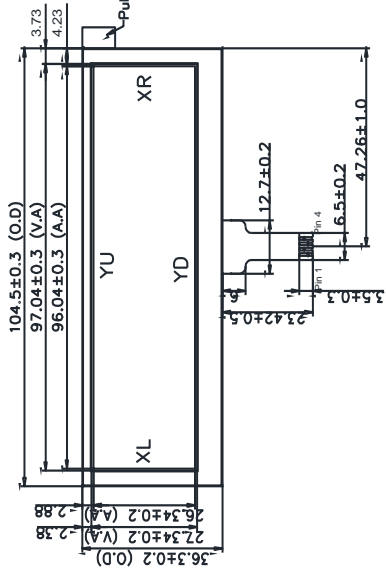
BACK VIEW



SIDE VIEW

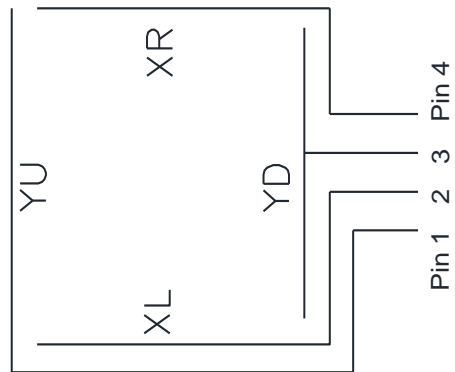


FRONT VIEW



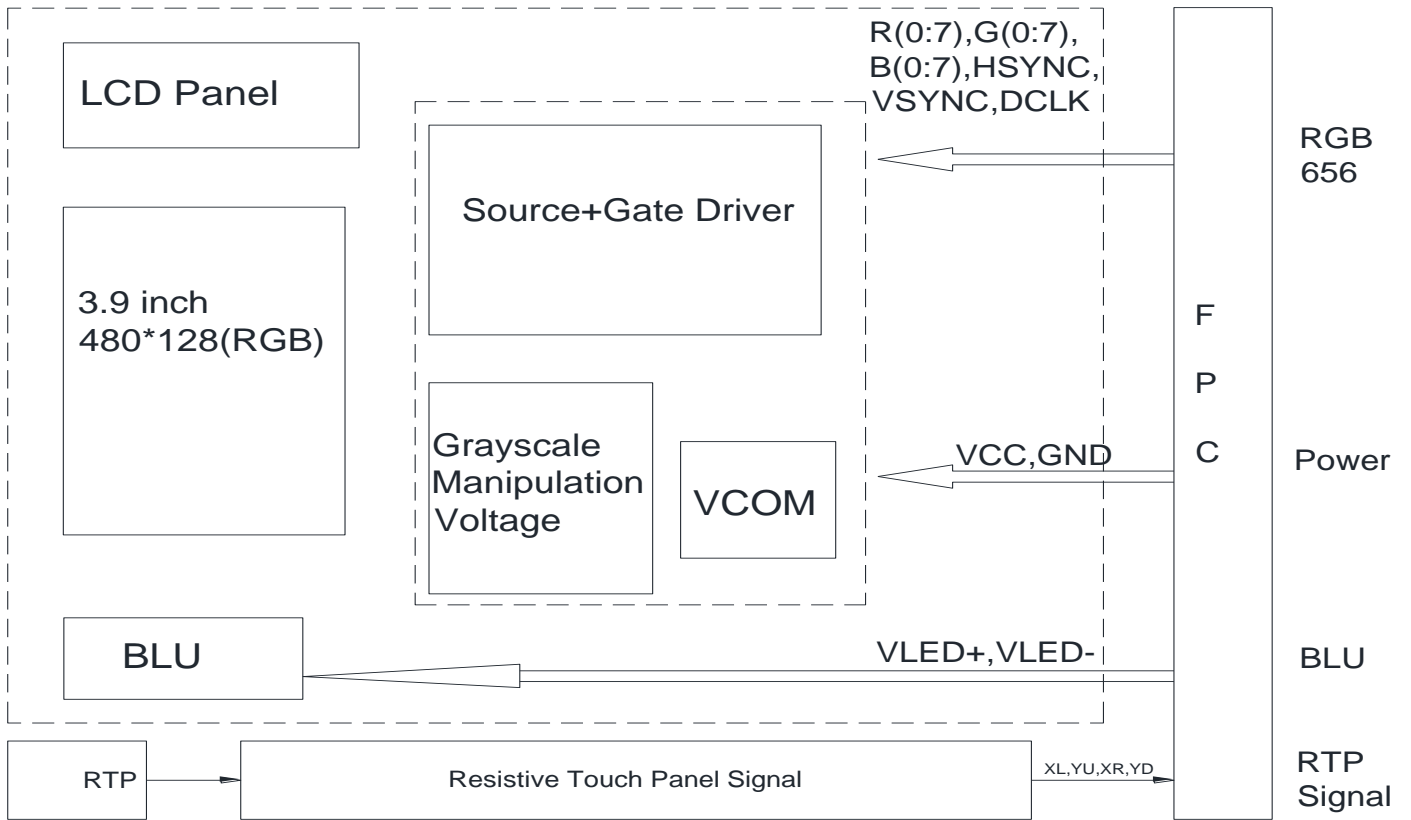
TOUCH PANEL PIN ASSIGNMENT

1	YU
2	XL
3	YD
4	XR



MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			

Block Diagram



MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			

Pin Layout			
Pin	Symbol	Description	Remark
1	VLED-	Backlight LED Cathode	
2	VLED+	Backlight LED Anode.	
3	GND	System Ground	
4	VCC	Power supply for logic operation	
5~12	R0~R7	Data bus	
13~20	G0~G7	Data bus	
21~28	B0~B7	Data bus	
29	GND	System Ground	
30	DCLK	Pixel clock signal	
31	DISP	Display on/off control	
32	HSYNC	Horizontal Sync signal	
33	VSYNC	Vertical Sync signal	
34	NC	No connection (Option DE)	
35	NC	No connection	
36	GND	System Ground	
37	XR	Right Electrode	
38	YD	Bottom Electrode	
39	XL	Left Electrode	
40	YU	Top Electrode	

MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			

Timing Characteristics

Item	Symbol	Min	Typ	Max	Unit	
CLK frequency	Fclk	-	9.05	-	MHz	
DCLK Period	Tclk	-	111	-	ns	
HSYNC	Period Time	Th	510	524	862	DCLK
	Display Period	Thdisp	-	480	-	DCLK
	Back Porch	Thbp	6	16	127	DCLK
	Front Porch	Thfp	24	28	255-	DCLK
	Pulse Width	Thw	11	16	127	DCLK
VSYNC	Period Time	Tv	280	288	526	H
	Display Period	Tvdisp	-	272	-	H
	Back Porch	Tvbp	4	8	127	H
	Front Porch	Tvfp	4	8	127	H
	Pulse Width	Tvw	1	3	20	H

MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			

Absolute Maximum Ratings

Item	Symbol	Condition	Min	Typ	Max	Unit
Operating Temperature	TOP	---	-20	---	70	°C
Storage Temperature	TST	---	-30	---	80	°C

Electronic Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit
Power Voltage	VCC	---	3.00	3.30	3.60	V
Driver Current	ICC	---	---	15	25	mA
Low Level Input Voltage	VIL	---	0.00	---	0.3VCC	V
High Level Input Voltage	VIH	---	0.7VCC	---	VCC	V

TFT Characteristics

Item	Symbol	Condition	Minimum	Typical	Maximum	Unit	
Viewing Angle	Hor.	ΘR	CR≥10	---	65°	---	Deg
		ΘL		---	65°	---	Deg
	Ver.	ΦT		---	65°	---	Deg
		ΦB		---	50°	---	Deg
Contrast Ratio	CR	At optimised viewing angle.	---	500	---	---	
Response Time	T Rise	θ=0° Φ=0°	---	10	---	.ms	
	T Fall		---	15	---	.ms	

LED Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
LED Forward Voltage	VLED+	---	14.00	15.00	17.00	V
LED Forward Current	ILED	---	---	40.00	---	mA
LED Colour Range	Wx	---	0.269	0.319	0.369	---
	Wy	---	0.273	0.323	0.373	---
LED Brightness	---	---	250	350	---	cd/m ²
LED Life Time	---	---	---	50k	---	Hours

MCT039C12TW480128LML	480 x 128	RGB Interface	TFT Module
Specification			
Version: 1		Date: 02/02/2018	
Revision			