



- NOTES:**
1. DISPLAY TYPE: FSTN
  2. VIEWING DIRECTION: 6 O'CLOCK
  3. POLARIZER MODE: TRANSPARENT/POSITIVE
  4. DRIVE METHOD: 1/160DUTY 1/13BIAS
  5. LCD DRIVING VOLTAGE: 16.8V(VOP=VEE-VSS)
  6. LOGIC POWER SUPPLY VOLTAGE: 2.7--3.3V
  7. OPERATING TEMP: -20°C TO +70°C
  8. STORAGE TEMP: -30°C TO +80°C
  9. CONNECTOR: FFC
  10. BACKLIGHT: LED(YELLOW/GREEN & RED)
  11. LED DRIVE VOLTAGE: 4.2V
  12. DRIVE IC: NT7701/NT7702 OR EK7011/EK7010

**FEATURE**

1. FSTN, Positive, Transflective
2. 1/160Duty, 1/13Bias, 6 O'clock
3. IC: NT7702N-TABF4/NT7701H-TABF3
4. Backlight: LED(Yellow-Green & Red), Display dot: Black, Background: White

Pin NO	Symbol	Function
1	VDD	Power supply for logic (+3V)
2	VSS	Power supply (0V)
3	VEE	Power supply for LCD
4	FRAM	AC signal input for LCD driver output level
5	FLM	Frame start signal (first line mark of common signal)
6	/DOFF	Control input pin to deselect output level
7	LP	Latch pulse input for displaying data
8	XCK	Input clock pin for displaying data
9	D3	Display data
10	D2	
11	D1	
12	D0	
13	LED+(Y/G)	LED Yellow-Green power supply
14	LED-(Y/G)	
15	LED-(RED)	LED Red power supply
16	LED+(RED)	

MECHANICAL DATA		
Item	Standard Value	Unit
Module Dimension	109.5(W) × 214.5(H) × 7.9MAX(T)	mm
Viewing Area	103MIN(W) × 60MIN(H)	mm
Dot Size	0.3(W) × 0.37(H)	mm
Dot Pitch	0.33(W) × 0.40(H)	Mm

ABSOLUTE MAXIMUM RATING					
Item	Symbol	Standard Value			Unit
		min	typ	max	
Supply Voltage For Logic	VDD-VSS	-0.3	-	7.0	V
Input Voltage	VIN	-0.3	-	VDD+0.3	V

ELECTRONICAL CHARACTERISTICS						
Item	Symbol	Condition	Standard Value			Unit
			min	typ	max	
Input Voltage	VIH		0.8VDD	-	-	V
	VIL		-	-	0.2VDD	
Output Voltage	VOH	-	VDD-0.4	-	-	V
	VOL		VSS	-	0.4	
Supply Voltage For Logic	VDD-VSS	-	2.7	-	3.3	V
Supply Voltage For LCD	VOP=VEE-VSS	Ta=25°C	16.2	16.8	17.3	V
Current Consumption	IDD	VDD=3.0V	-	10.10	15.0	mA