



Excel Technology International Corporation

ES-12864E 128 x 64 dots

**1/64 Duty, 1/9 Bias
STN, Reflective, EL, LED**

General Specification

Item	Value	Unit
Display Format	128 x 64	dots
Module Dimensions	78 x 70 x 12.4	mm
Viewing Area	62 x 44	mm
Dot Size	0.42 x 0.58	mm
Dot Pitch	0.44 x 0.60	mm
Controller	T6963C (Toshiba)	

Electrical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			Min.	Typ.	Max.	
Supply Voltage for Logic	$V_{DD}-V_{SS}$		4.5	5.0	5.5	V
Input Voltage	V_{IH}	H Level	$0.8V_{DD}$	V_{DD}	-	V
	V_{IL}	L Level	V_{SS}	$0.2V_{DD}$	-	
LCM Recommended LCD Module Driving Voltage	$V_{DD}-V_{LCD}$	Ta=0°C	8.3	9.0	9.3	V
		Ta=25°C	8.4	8.7	9.0	
		Ta=50°C	7.7	7.92	8.2	
Power Supply Current for LCM	I_{DD} (LED B/L OFF)	$V_{DD}=5.0V$ $V_{DD}-V_{LCD}=8.7V$ FLM=64Hz $V_{LED}=4.2V$	-	13	15	mA
	I_{LED} (LED B/L ON)		-	100	150	
	I_{EE}		-	0.4	1.0	
Power Supply for EL Backlight	V_{EL}		-	100V/-400Hz	-	V AC

Pin Assignment

No.	Symbol	Function
1	FGND/ V_{EE}	Frame Ground for DC to DC built in type, this pin becomes supply voltage output for LCD Panel
2	VSS	GND
3	VDD	Logic Supply Voltage
4	VLCD	LCD driver supply voltage
5	WR	Write Data
6	RD	Read Data
7	CE	Chip enable
8	C/D	Command/Data Register select
9	RES	Reset
10~17	DB0~DB7	Data Bus
18	FS	Font Select, H=6x8 dot matrix, L=8x8 dot matrix
19	BKL _A	Power Supply for Backlight. (4.2V/100~150mA DC for LED Backlight, 110V/400Hz AC for EL)
20	BKL _K	

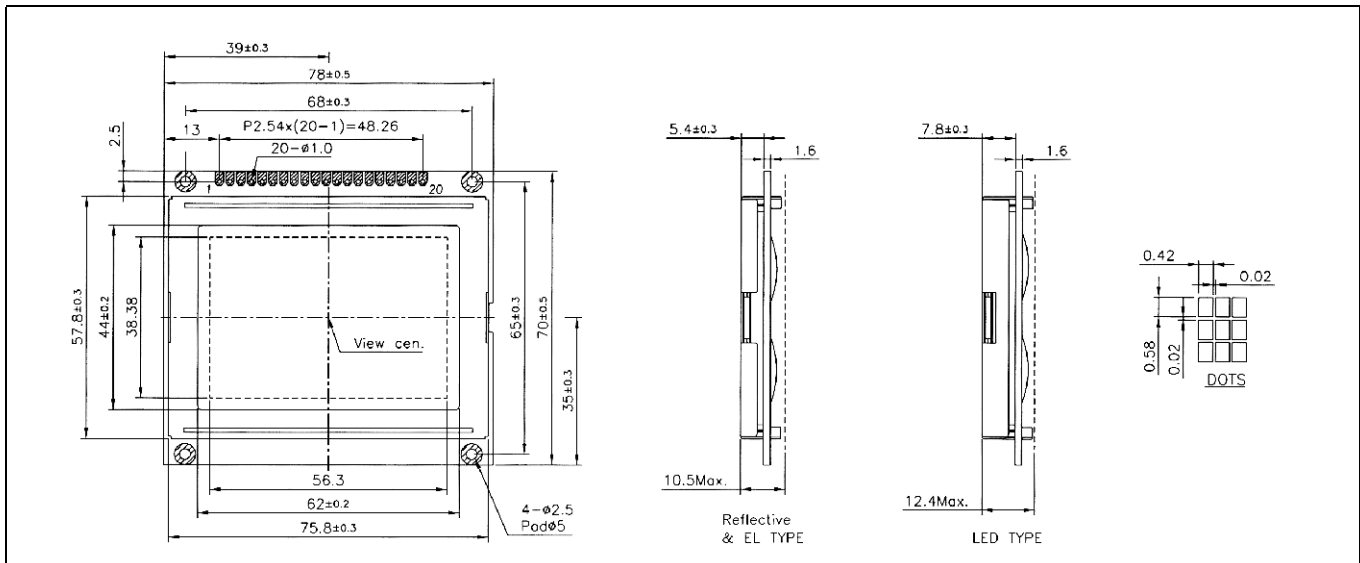


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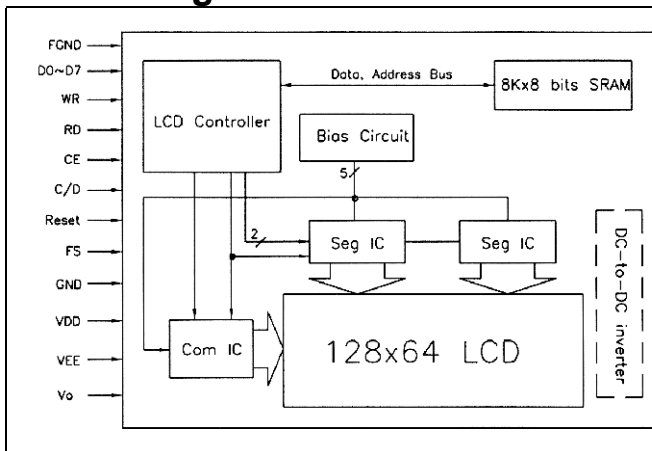
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External Dimensions



Block Diagram



Power Supply

