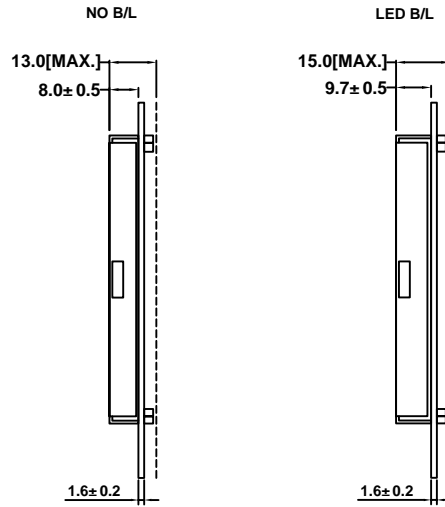
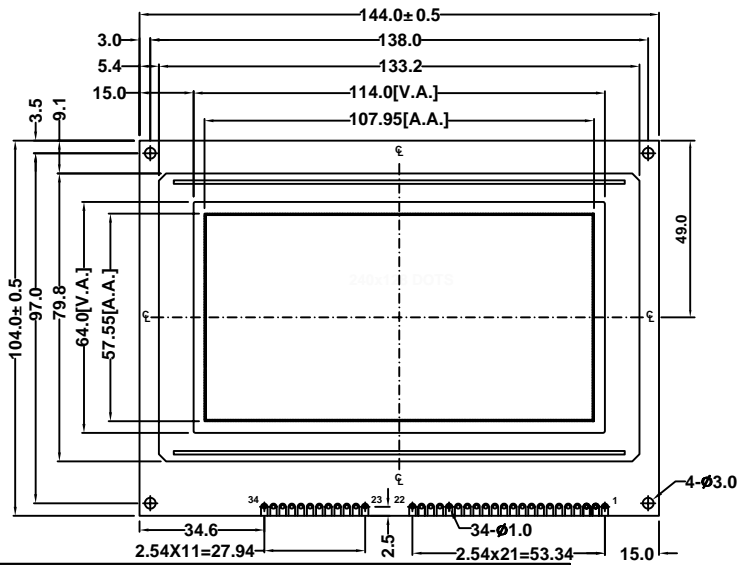
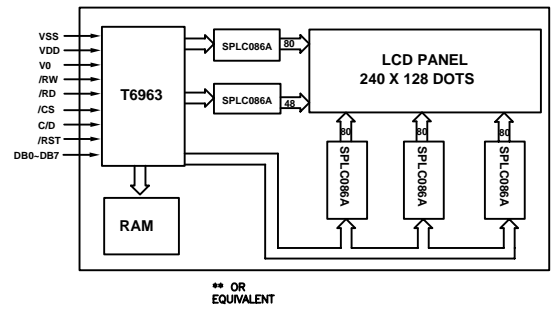
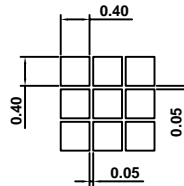


BHG240128B

CONTOUR DRAWING & BLOCK DIAGRAM



MECHANICAL SPECIFICATION		
ITEM	SPECIFICATION	UNIT
Module Size	144.0X104.0X13.0/15.0	mm
Viewing Area	114.0X64.0	mm
Number of dots	240X128	dots
Dot Pitch	0.45X0.45	mm
Dot Size	0.40X0.40	mm



PIN CONNECTIONS		
PIN	SYMBOL	DESCRIPTION
1	FGND	Frame GND
2	VSS	Ground
3	VDD	Supply voltage for LCD(+)
4	V0	Supply voltage for LCD(-)
5	/WR	Write Data into T6963C
6	/RD	Read Data from T6963C
7	/CS	Chip enable for T6963C
8	C/D	Data write/read
9	NC	NC
10	/RST	Reset
11~18	DB0-DB7	Data Bus
19	FS	Pins for selection of font
20	VEE	Negative Voltage Output
21/33	A	Anode for backlight
22/34	K	Cathode for backlight
23	ED	Data output for columns
24	CDATA	Synchronous signal for row driver
25	M	Frame signal
26	LP	Latch pulse and Shift clock pulse
27	HSCP	Shift clock pulse for column driver
28	NC	NC
29	VDD	Supply voltage for LCD(+)
30	VSS	Ground
31	V0	Supply voltage for LCD(-)
32	VEE	Negative Voltage Output

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Supply Voltage	Vdd	-0.3	7.0	V
LCD Supply Voltage	Vlcd(Vdd-V0)	0	30	V
Input Voltage	Vin	-0.3	Vdd+0.3	V
Operating Temperature*	Top	0/-20	50/70	° C
Storage Temperature*	Tstr	-10/-30	60/80	° C

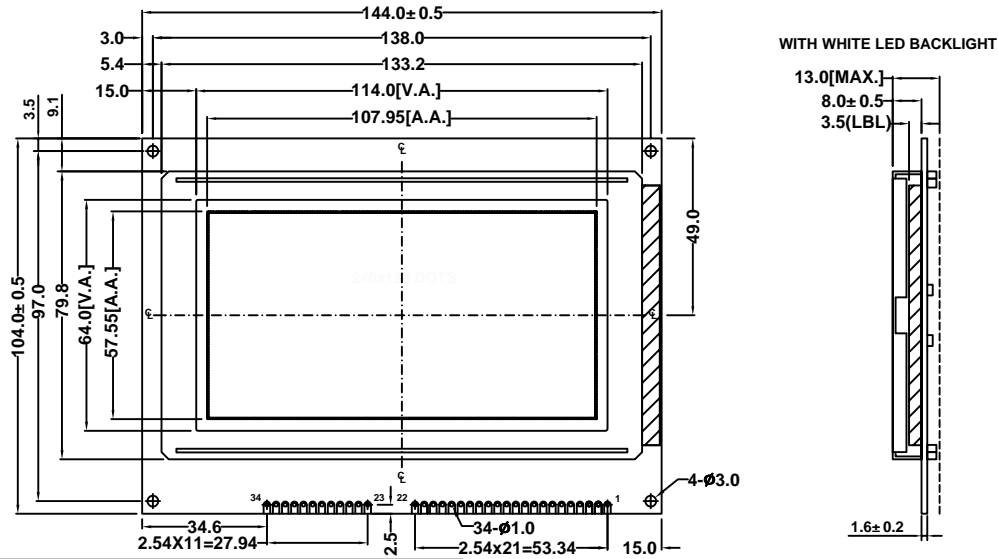
ELECTRICAL CHARACTERISTICS(Ta=25° C)						
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage(logic)	Vdd	-	4.5	5.0	5.5	V
Supply Current(logic)	Idd	Vdd=5.0	8.5	9.5	12.5	mA
Driving Voltage(LCD)	Vlcd	-	18.0	18.5	19.0	V
Driving Current(LCD)	Ilcd	-	4.5	5.0	5.5	mA

BACKLIGHT CHARACTERISTICS (Ta=25° C)						
PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	Vf	If=720mA	3.8	4.2	4.3	V
LED Forward Current	If	-	-	720	-	mA
LED Dissipation	Pd	-	-	3024	-	mW

*T1/T2: T1for standard temperature LCM, T2 for wide temperature LCM

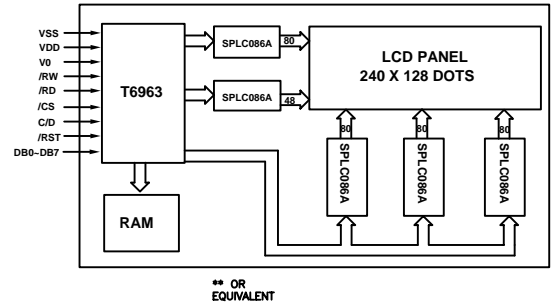
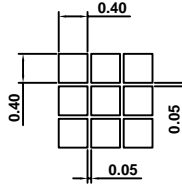
BHG240128B

CONTOUR DRAWING & BLOCK DIAGRAM



MECHANICAL SPECIFICATION		
ITEM	SPECIFICATION	UNIT
Module Size	144.0X104.0X13.0/15.0	mm
Viewing Area	114.0X64.0	mm
Number of dots	240X128	dots
Dot Pitch	0.45X0.45	mm
Dot Size	0.40X0.40	mm

PIN CONNECTIONS		
PIN	SYMBOL	DESCRIPTION
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2	VSS	Ground
3	VDD	Supply voltage for LCD(+)
4	V0	Supply voltage for LCD(-)
5	/WR	Write Data into T6963C
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8	C/D	Data write/read
9	NC	NC
10	/RST	Reset
11~18	DB0-DB7	Data Bus
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ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Supply Voltage	Vdd	-0.3	7.0	V
LCD Supply Voltage	Vlcd(Vdd-V0)	0	30	V
Input Voltage	Vin	-0.3	Vdd+0.3	V
Operating Temperature*	Top	0/-20	50/70	° C
Storage Temperature*	Tstr	-10/-30	60/80	° C

ELECTRICAL CHARACTERISTICS(Ta=25° C)						
ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage(logic)	Vdd	-	4.5	5.0	5.5	V
Supply Current(logic)	Idd	Vdd=5.0	8.5	9.5	12.5	mA
Driving Voltage(LCD)	Vlcd	-	18.0	18.5	19.0	V
Driving Current(LCD)	Ilcd	-	4.5	5.0	5.5	mA

BACKLIGHT CHARACTERISTICS (Ta=25° C)						
PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	Vf	If=90mA	2.9	3.1	3.3	V
LED Forward Current	If	-	-	90	-	mA
LED Dissipation	Pd	-	-	280	-	mW

*T1/T2: T1for standard temperature LCM, T2 for wide temperature LCM