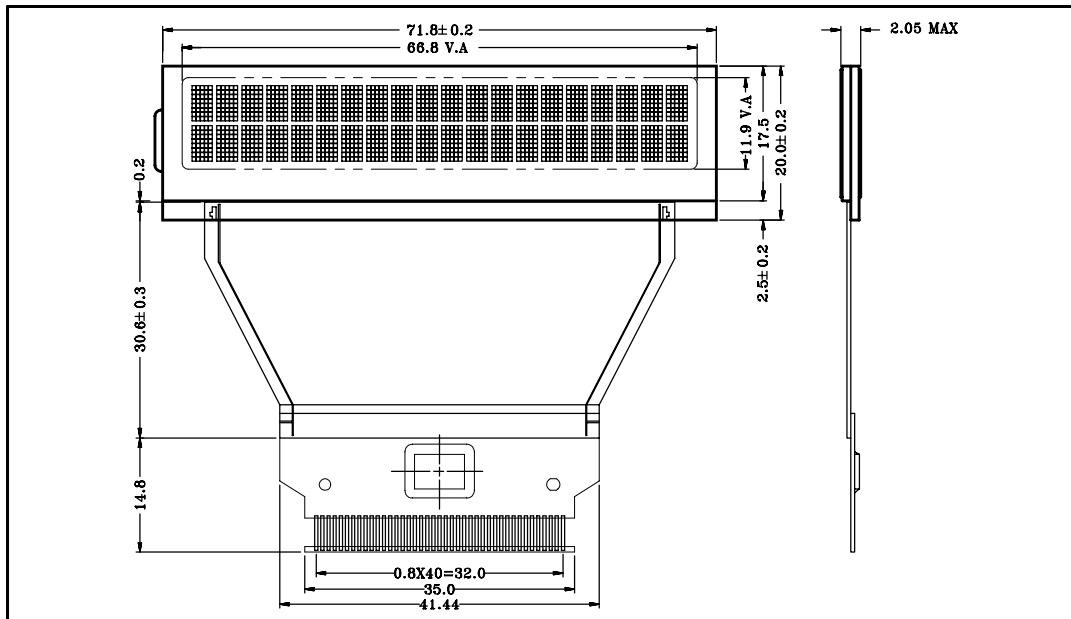


Features

- Display mode : STN (Gray)- Reflective Type
- Display format : 20 Characters×2 Lines
- Character font : 5×7 Dot+Cursor
- LCD driver : SED1530
- Driving method : 1/33 Duty, 1/6 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	Ta = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		Ta = 25°C	5.0	5.3	5.6		
		Ta = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

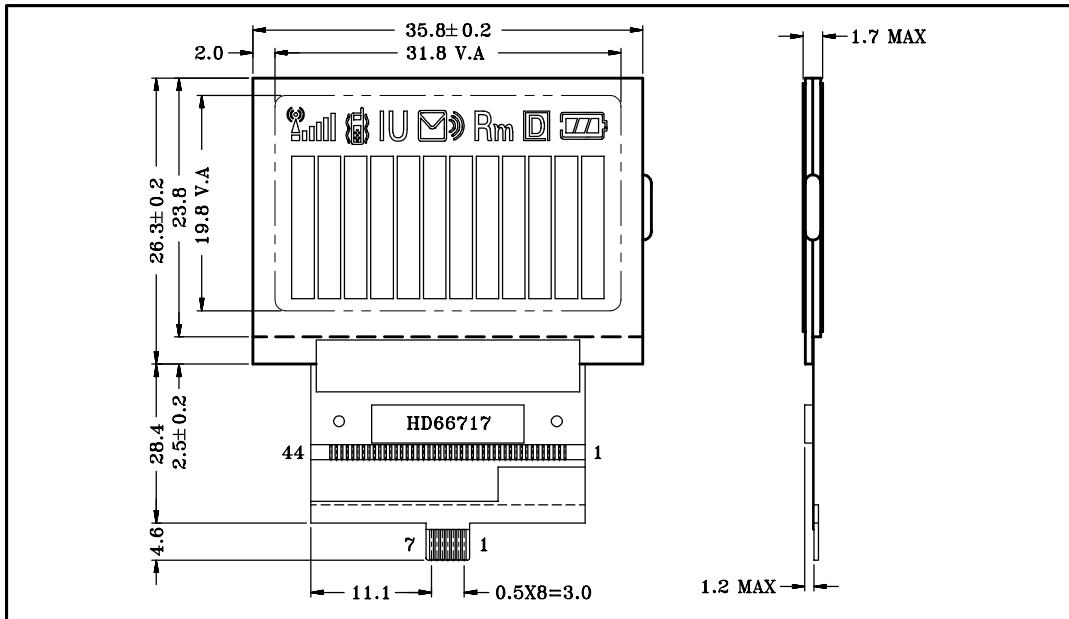
Pin connections

Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name
1	N.C	10	P/S	19	D1	28	CAP3-	37	V2
2	FRS	11	$\overline{\text{CS1}}$	20	D2	29	CAP1+	38	V3
3	FR	12	CS2	21	D3	30	CAP1-	39	V4
4	DYO	13	C86	22	D4	31	CAP2+	40	V5
5	CL	14	A0	23	D5	32	CAP2-	41	N.C
6	$\overline{\text{DOF}}$	15	$\overline{\text{WR}}(\text{R}/\overline{\text{W}})$	24	D6	33	V5		
7	VS1	16	$\overline{\text{RD}}(\text{E})$	25	D7	34	VR		
8	$\overline{\text{M/S}}$	17	VDD	26	VSS	35	VDD		
9	$\overline{\text{RES}}$	18	D0	27	VOUT	36	V1		

Features

- Display mode : FSTN - Transflective Type
- Display format : 12 Characters×4 Lines+ICON
- Character font : 5×7 Dot+Cursor
- LCD driver : HD66717
- Driving methode : 1/34 Duty, 1/6 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	Ta = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		Ta = 25°C	5.0	5.3	5.6		
		Ta = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

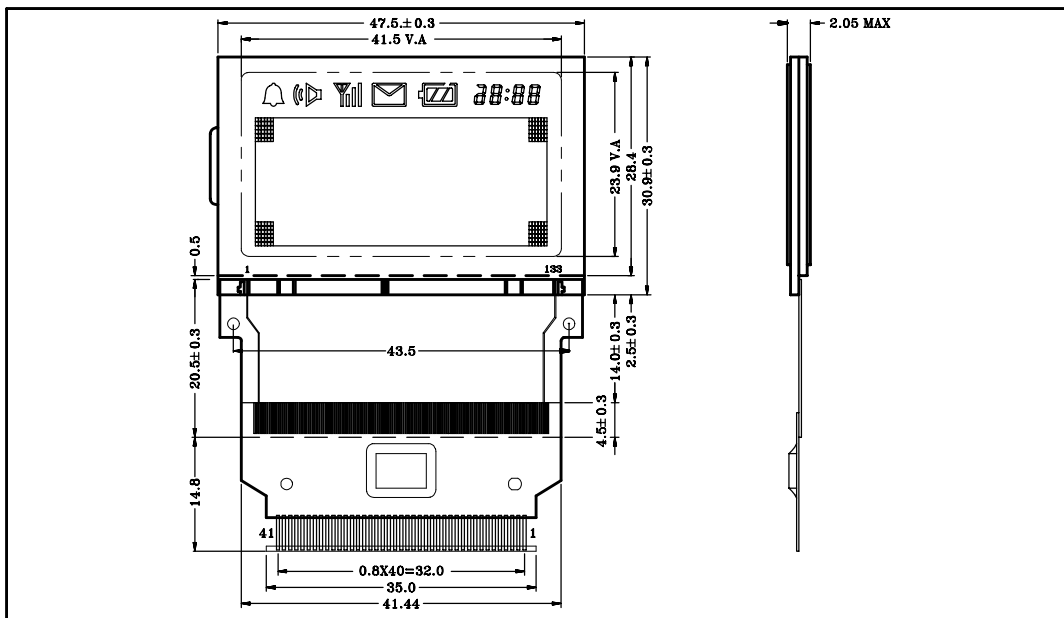
Pin connections

Pin no.	Pin name
1	VCC
2	$\overline{\text{RESET}}$
3	SDA
4	$\overline{\text{CS}}$ /
5	SCL
6	N.C
7	VSS

Features

- Display mode : STN (Gray)- Transflective Type
- Display format : 97×32 Dots+ICON
- LCD driver : SED1530
- Driving methode : 1/33 Duty, 1/6 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	T _a = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		T _a = 25°C	5.0	5.3	5.6		
		T _a = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

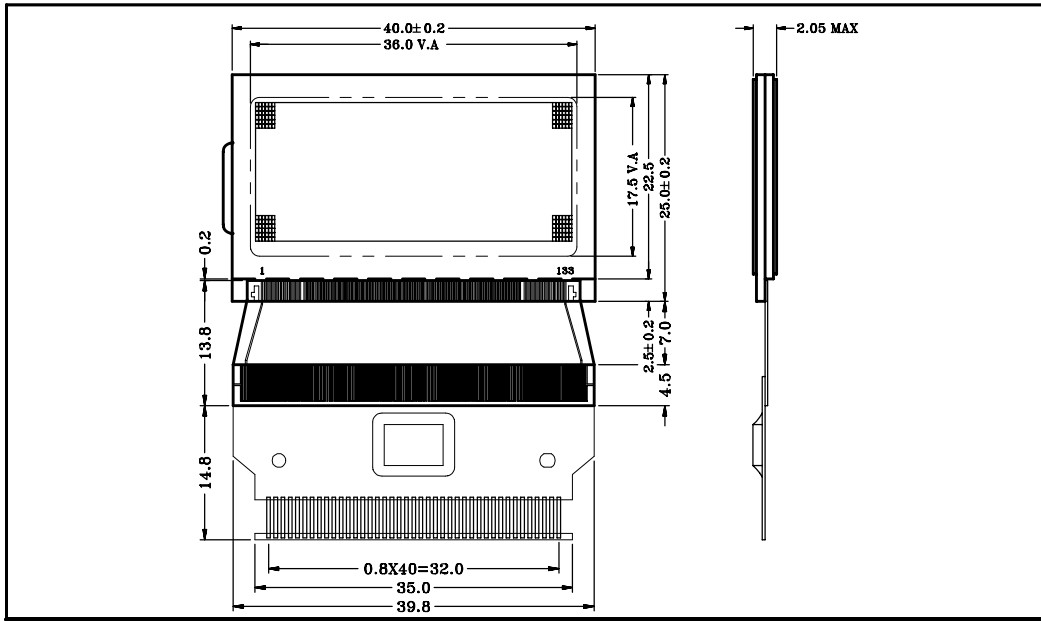
Pin connections

Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name
1	N.C	10	P/S	19	D1	28	CAP3-	37	V2
2	FRS	11	$\overline{CS1}$	20	D2	29	CAP1+	38	V3
3	FR	12	CS2	21	D3	30	CAP1-	39	V4
4	DYO	13	C86	22	D4	31	CAP2+	40	V5
5	CL	14	A0	23	D5	32	CAP2-	41	N.C
6	\overline{DOF}	15	$\overline{WR(R/\overline{W})}$	24	D6	33	V5		
7	VS1	16	$\overline{RD(E)}$	25	D7	34	VR		
8	M/S	17	VDD	26	VSS	35	VDD		
9	\overline{RES}	18	D0	27	VOUT	36	V1		

Features

- Display mode : STN (Gray)- Transflective Type
- Display format : 97×32 Dots
- LCD driver : SED1530
- Driving methode : 1/32 Duty, 1/6 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	T _a = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		T _a = 25°C	5.0	5.3	5.6		
		T _a = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

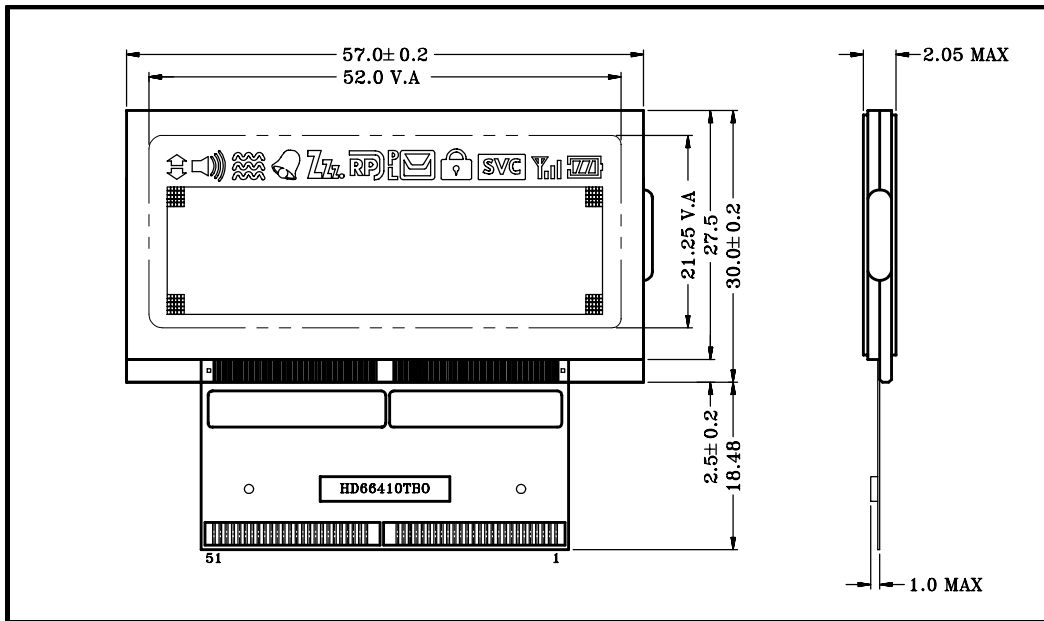
Pin connections

Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name
1	N.C	10	P/S	19	D1	28	CAP3-	37	V2
2	FRS	11	$\overline{CS1}$	20	D2	29	CAP1+	38	V3
3	FR	12	CS2	21	D3	30	CAP1-	39	V4
4	DYO	13	C86	22	D4	31	CAP2+	40	V5
5	CL	14	A0	23	D5	32	CAP2-	41	N.C
6	\overline{DOF}	15	$\overline{WR(R/\overline{W})}$	24	D6	33	V5		
7	VS1	16	$\overline{RD(E)}$	25	D7	34	VR		
8	M/S	17	VDD	26	VSS	35	VDD		
9	\overline{RES}	18	D0	27	VOU	36	V1		

Features

- Display mode : FSTN – Transflective Type
- Display format : 97×32 Dots+ICON
- LCD driver : HD66410
- Driving methode : 1/33 Duty, 1/6.7 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	T _a = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		T _a = 25°C	5.0	5.3	5.6		
		T _a = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

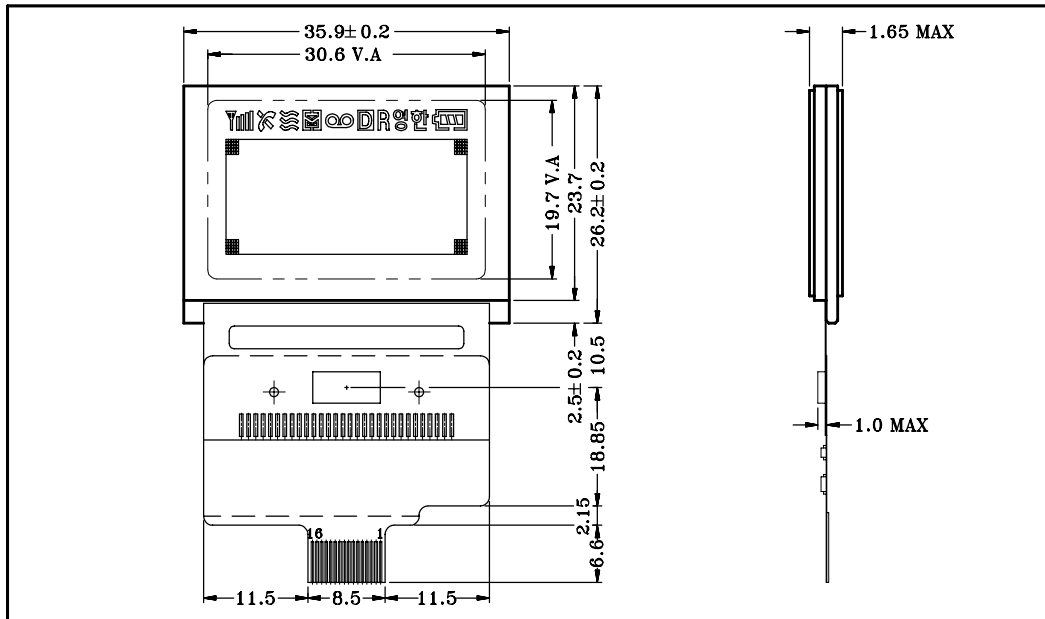
Pin connections

Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name
1	AV3	11	CR	27	VDD	37	V5	47	VSH
2	V5	12	TEST1	28	GND	38	V4	48	VSL
3	VCL	13	TEST0	29	VCI	39	V3	49	VCSH
4	VCH	14	RES	30	C1+	40	V2	50	VCSL
5	VSCL	15	CS	31	C1-	41	V1	51	AV3
6	VSCH	16	RS	32	C2+	42	VSL0		
7	VDD	17	WR	33	C2-	43	VCL0		
8	GND	18	RD	34	C3+	44	VSH0		
9	C	19~26	D0~D7	35	C3-	45	VCH0		
10	R			36	VEE	46	VDD		

Features

- Display mode : FSTN - Transflective Type
- Display format : 95×38 Dots+ICON
- Character font : 11×12 Dot
- LCD driver : HD66731
- Driving method : 1/40 Duty, 1/7 Bias

External dimensions



Electrical characteristics

ITEM	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	Pin used
Supply Voltage for Logic	V _{DD}	-	2.7	3.0	3.3	V	V _{DD}
Supply Voltage for LCD	V _{DD} -V ₅	Ta = 0°C	5.3	5.7	6.0	V	V _{DD} , V ₅
		Ta = 25°C	5.0	5.3	5.6		
		Ta = 50°C	4.7	5.0	5.3		
Power Supply Current	I _{DD}	V _{DD} =3V : 3Times amplified	-	350	500	μA	V _{DD}

Pin connections

Pin no.	Pin name	Pin no.	Pin name	Pin no.	Pin name
1	VDD	8	DB1	15	VSS
2	RESET	9	DB2	16	VDD
3	RW/SID	10	DB3		
4	RS/CS	11	DB4		
5	E/SCLK	12	DB5		
6	IM	13	DB6		
7	D0/SOD	14	DB7		