

FUNCTIONS

- 5 Functions: month, date, hour, minute and second.
- Selective alternation of time-date display mode.
- One-touch correction of time error within 30 seconds.
- 4-year calendar.
- 2-switch sequential operating.
- LCD test.

FEATURES

- Drives 3.5-digit duplexed LCD
- Low power dissipation
- 32,768Hz 0± -30ppm crystal controlled operation
- Single 1.5V battery operation
- Full on chip voltage doubler
- Debounce circuitry on switch input
- ESD protection up to 4000 V
- Built-in crystal oscillator network input and output capacitor

ABSOLUTE MAXIMUM RATINGS

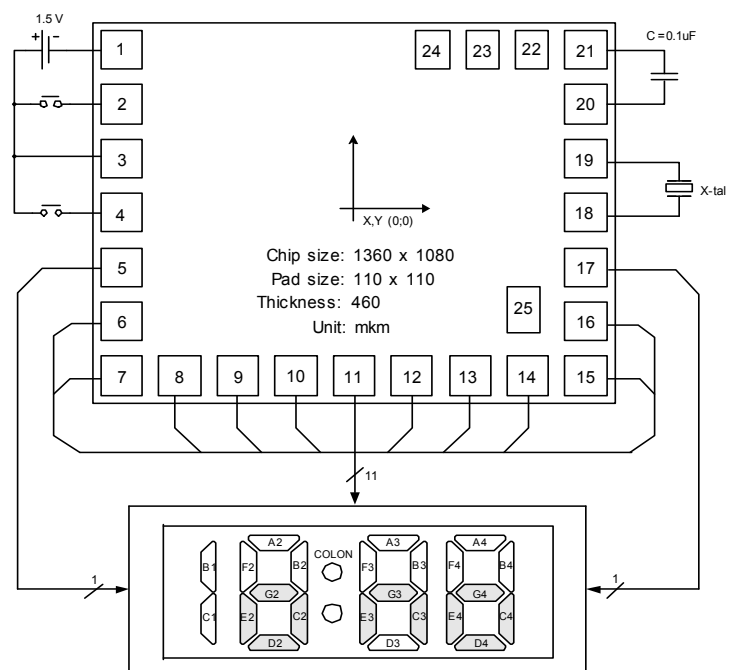
Parameter	Symbol	Value	Unit
Supply Voltage	$V_{DD}-V_{SS}$	-0.3~+5.0	V
Operating Temperature	T_{OPR}	-20~+75	°C
Storage Temperature	T_{STG}	-55~+150	°C

ELECTRICAL CHARACTERISTICS $T_A=25^{\circ}\text{C}$, $V_{DD}=0\text{V}$, $V_{SS}=1.5\text{V}$, X-tal $R_S=25\text{K}\Omega$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Operating Voltage	V_{SS}		1.2	1.5	1.8	V
Operation Current	I_{DD}	Without load		1.2	1.5	μA
Input Low Voltage	V_{IL}		$V_{SS}+0.3$		V_{SS}	V
Input High Voltage	V_{IR}		-0.3		0	V
Switch Activation Current	I_{SW}	$V_{IN}=V_{DD}$	0.1	1.0	10	μA
Oscillator Start Voltage	$ V_{OSC} $	Within 5 sec			1.45	V
Oscillator Stop voltage	$ V_{OSP} $				1.15	V
Osc.input/output Capacitor	OI/OO			20/20		pF
LCD Frequency	F_{LCD}			32		Hz

PAD DESCRIPTION

Pad	Pad Name	Function Description	X(μm)	Y(μm)
1	Vss	Power supply negative	-560	420
2	S	Control Switch	-560	280
3	V_{DD}	Power supply positive	-560	140
4	D	Control Switch	-560	0
5	COM1	Common	-560	-140
6	B4/G4	Segment Output	-560	-280
7	A4/G4	Segment Output	-560	-420
8	F4/E4	Segment Output	-420	-420
9	B3/C3	Segment Output	-280	-420
10	AD3/G3	Segment Output	-140	-420
11	F3/E3	Segment Output	0	-420
12	COLON/D4	Segment Output	140	-420
13	B2/C2	Segment Output	280	-420
14	A2/G2	Segment Output	420	-420
15	F2/E2	Segment Output	560	-420
16	BC/D2	Segment Output	560	-280
17	COM2	Common	560	-140
18	IN	Oscillator input	560	0
19	OUT	Oscillator output	560	140
20	512HZ	CAP output	560	280
21	CAP	CAP input	560	420
22	T1	NC	400	440
23	T2	NC	310	440
24	T3	NC	220	440
25	T4	NC	420	-195

APPLICATION CIRCUITSubstrate of chip is connected to V_{DD}