

DL1236

MULTIFUNCTION 12 DIGITS RGB LED DRIVER WATCH CMOS

Feature

- * Single-chip CMOS construction
- * Driver 12-digit triplexed LCD
- * Colon display
- * 32768Hz crystal frequency
- * Debounce circuitry on switch input
- * Touch tone signal
- * On chip oscillator.
- * Single 3.0v battery operation
- * Low power dissipation

Function

- * 6 Functions: Month, Date, Day-of-week, Hour, Minute and second.
- * 8-digit chronograph
- * Split Function of chronograph.
- * Use selectable 12-hour/24 hour format.
- * 4-year calendar
- * One-touch correction of time error Within ± 30 seconds.
- * Fast advance for time and alarm time set
- * Chime on every hour, alarm, Snooze.
- * 4-switch sequential operation

Description

The DL1236 is a CMOS digital 6-function watch integrated circuit with alarm, Snooze and chronograph function; designed for a 12-digit triplexed liquid crystal display.

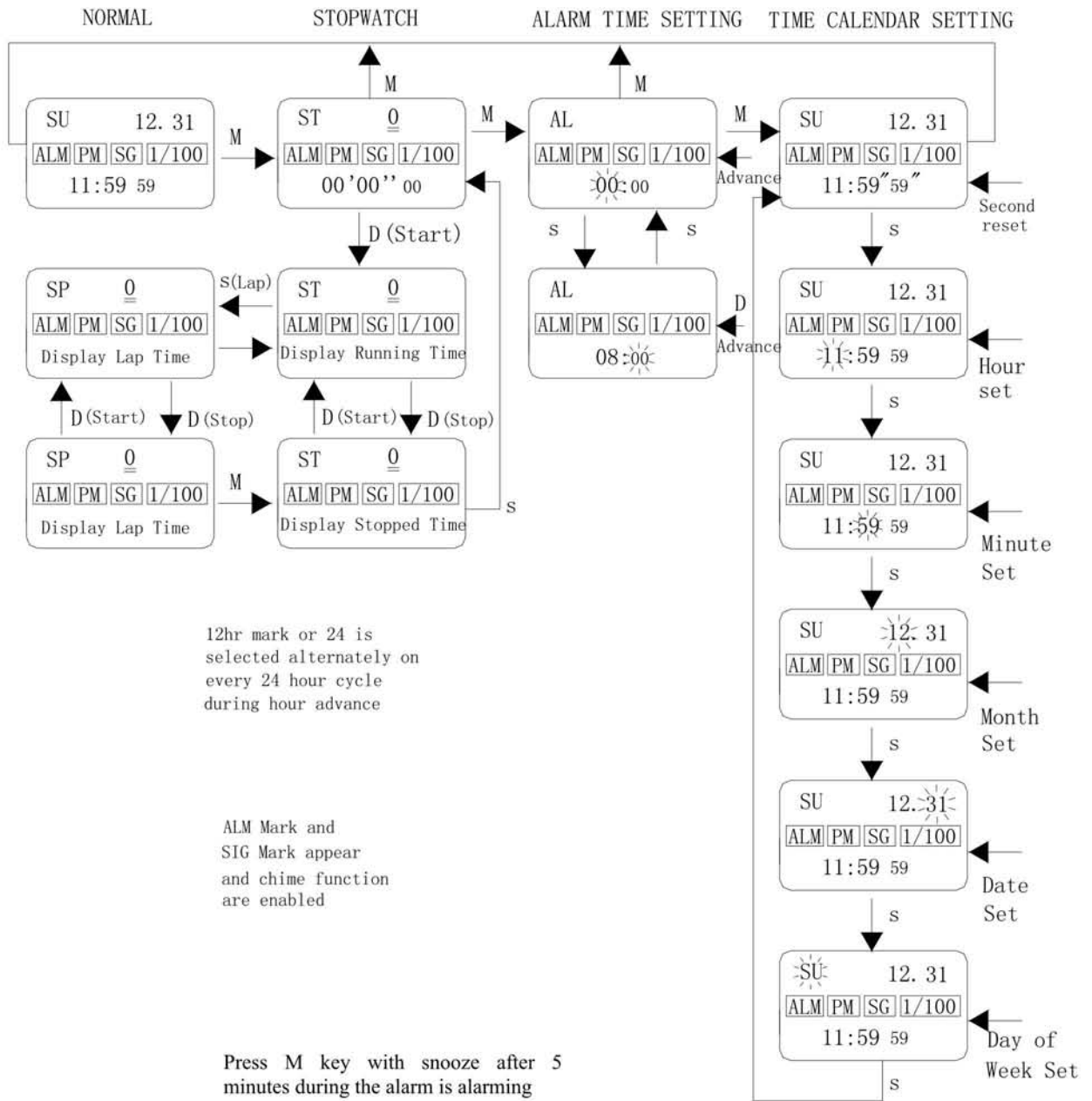
LCD Drawing



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Setting Sequence and Operation



NOTE:

When switches S,M,D are pressed together all segment of LCD will be displayed and after released all digits of LCD will be released.

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Pin Assignment

DESIGNATION	TYPE	DESCRIPTION
BD,BDN	OUTPUT	Buzzer output
TEST	INPUT (PL)	TEST pin
OO	OUTPUT	oscillator output
OI	INPUT	oscillator input
VDD	POWER	+3.0V power supply
GND	POWER	Ground
D,S,M ,L	INPUT {PL}	Input key
R,G,B	OUTPUT	Output /LED output
C[1:3]	OUTPUT	LCD Common output
S[1:27]	OUTPUT	LCD Segment output

Note: (PL) – pull low
(PH) – pull high

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Absolute Maximum Ratings

Supply voltage Vdd - Gnd.....0 to 5V
 Input voltage Vin.....Vss to Vdd
 Operating temperature Top-10°C to 60°C
 Storing temperature Tst-40°C to 70°C

Comments

Stress above those listed under “ Absolute Maximum Ratings” may cause permanent damage to the device. These are stress rating only. Functional operation of this device at these or any other conditions above those indicated in the operational sections of this specification is not implied and exposure to absolute maximum rating conditions for extended periods may affect device reliability.

D.C. Electrical Characteristics

(GND = 0V, Vdd = 3.0V, Ta = 25°C unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Supply Voltage	Vdd	2.5	3.0	3.6	V	
Operating current	Idd	-	1.5	3	μA	No load
OSC. built-in cap	Cd	-	15	-	pF	Bonding option
Buzzer output current	Ib	500	-	-	μA	Vbd-Vss=0.5
LCD frequency	Flcd	-	64	-	Hz	
Segment current	Is	0.15	-	-	μA	Vseg=0.2V
Common current	Ic	3.0	-	-	μA	Vcom=0.2V
R[0:1] output current	Ir	0.8	-	-	mA	Vr-Vss=0.7

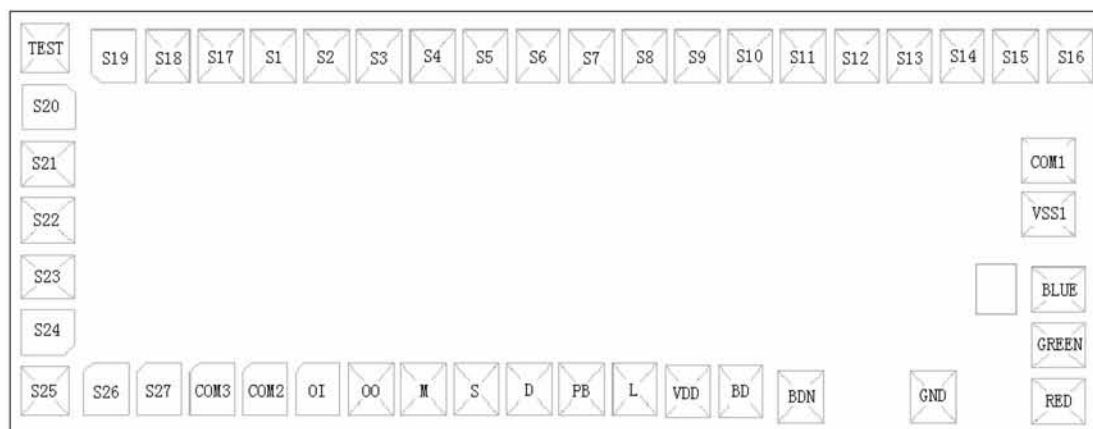
Application Information

Name	Function	Name	Function
VDD	Positive Voltage	EL	Light Key
C[1:3]	LCD Common Out	M	Mode Key
S[1:28]	LCD Segment Out	D	ADJ Key
PB	Reset	S	Set Key
BD, BDN	Buzzer output	OI	Oscillator Input
R0, R1	EL output	OO	Oscillator Output
GND	Ground	VSS1	LCD Voltage

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Pad Location



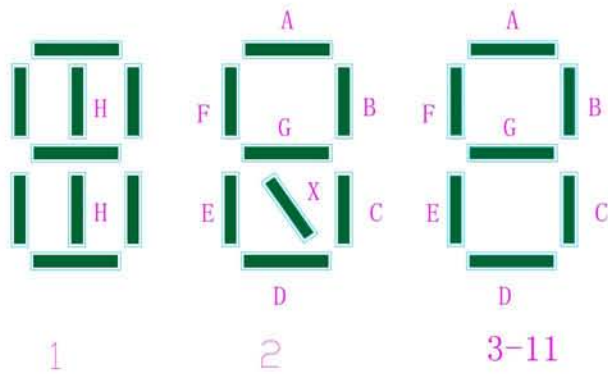
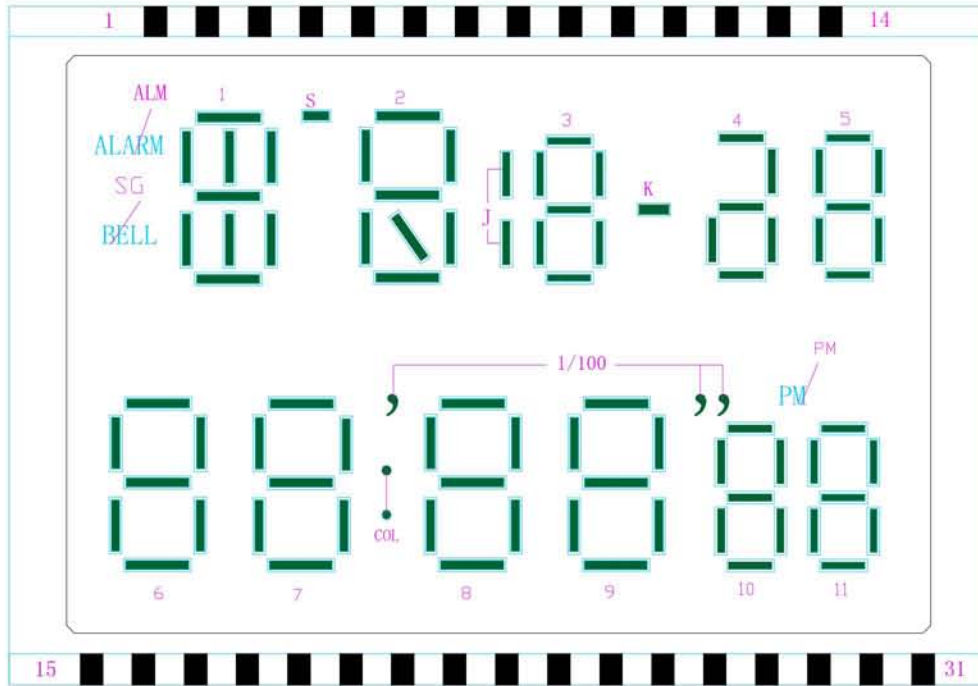
X= 2110 Y=837

I.C. Substrate is connected to GND.

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LCD Display



DL1236**MULTIFUNCTION 12 DIGITS RGB LED DRIVER WATCH CMOS****LCD Table**

PIN	I.C PAD	COM2	COM1	COM3
1	S27	PM	SG	ALM
2	S26	1H	1E	1F
3	S25	1B	1G	1A
4	S24	1C	1D	S
5	S23	2EF	1/100	2A
6	S22	2G	2X	2B
7	S21	2C	2D	J
8	S20	3G	3E	3F
9	S19	3B	K	3A
10	S18	4E	3C	4AGD
11	S17	4C	3D	4B
12	S1	5F	5E	5A
13	S2	5G	5C	5B
14	C1		C1	
15	C2	C2		
16	C3			C3
17	S16	6E	6F	6AD
18	S15	6G	6B	6C
19	S14	7E	7F	7D
20	S13	7G	7A	7C
21	S12	COL	7B	8E
22	S11	8G	8F	8AD
23	S10	8C	8B	9E
24	S9	9G	9F	9D
25	S8	9B	9A	9C
26	S7	10E	10F	10D
27	S6	10G	10A	10C
28	S5	11F	10B	11E
29	S4	11G	11A	11D
30	S3	11B	5D	11C

LCD Voltage=3.0V

LCD Duty = 1/3

LCD Bias = 1/2