

■ DESCRIPTIONS

This IC is a C-MOS real-time clock IC based on the 3-wire serial interface system.

The real time clock section provides various functions such as the automatic leap-year compensation time (from seconds to years) and clock/calendar circuit, time alarm interrupt function, and interval timer interrupt function, and 32.768KHz output (1024Hz, or 1Hz selective output). This IC, featuring low operation voltage and low current consumption required for portable devices, can also be applied to applications of various portable devices, handy terminals, Smart Card, and other compact electronic devices.

■ FEATURES

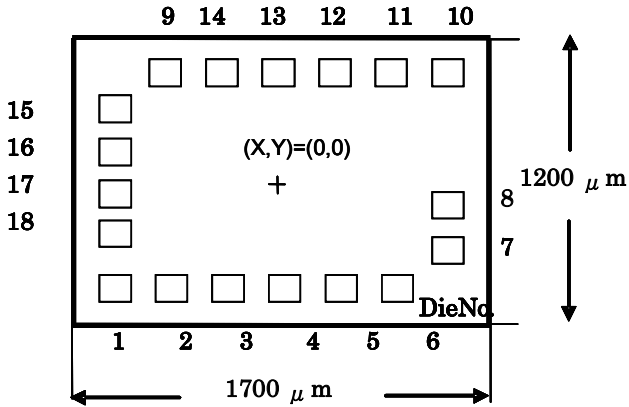
- Real-Time Clock : Provides a variety of features including clock/calendar, automatic leap-year compensation, alarm interrupt function, etc.
- Timer interrupt : Equipped with a programmable timer provided with interrupt output from 244.14 μ s to 4,095min.
- 32.768KHz output : C-MOS output provided with the OE function.
- Interface : 3-wire serial interface
- interface voltage range : 1.6V~5.5V
- Clock (retention) voltage range : 1.3V~5.5V
- Current consumption at backup : Typ. 0.16 μ A (VDD=3V, Ta=25°C, clock output: OFF, periodic timer clock 1/60Hz selected, CI=40k Ω , CL optins 4.8pF selected)
- Built-in Power Supply : TVSEL1,TVSEL0=(VSS,VSS) selected, Voltage Detection: OFF)
- Oscillation circuit : Equipped with CG, CD, Rf, and Rd
•S1T54400D0A Series: CGvalue Fine-Tuning terminal (CGregulation)
- Built-in power supply circuit : Operating voltage matched with the crystal selectable
- This product is not radiation- or light-proofed. See "Precautions".

S1T54400D0A/D0B Series

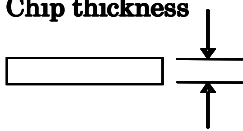
■ PIN DESCRIPTION

Pin Assignment 【S1T54400D0A Series】

(1) Pin assignment



(2) Chip thickness

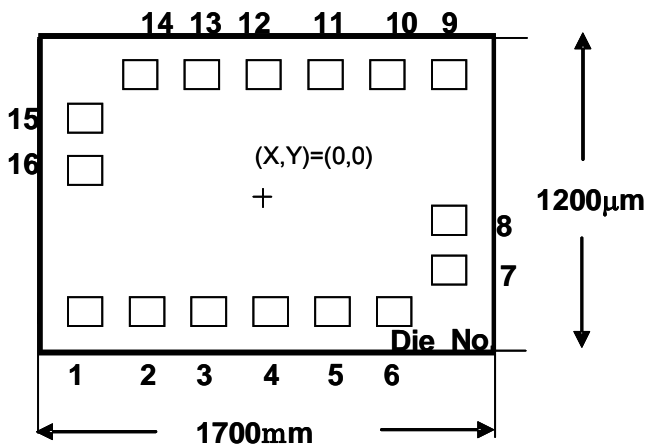


【AL PAD】
D0A
• $150 \pm 15 \mu\text{m}$

PAD shape
S1T54400D0A0000 : Aluminum Pad
Pad aluminum Size : $100 \times 100 \mu\text{m}$
Passivation Film Size : $85 \times 85 \mu\text{m}$
Die No. : T5440D0A0

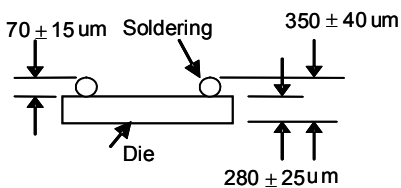
【S1T54400D0B Series】

(1) Pin assignment



PAD shape
S1T54400D0B Series Soldering bump
Pad bump size : $\Phi 80 \mu\text{m}$
Pad Aluminum Size $100 \times 100 \mu\text{m}$
Die No. T5440D0B0

(2) Chip thickness:



【Soldering bump】
D0B
• $350 \pm 40 \mu\text{m}$

S1T54400D0A/D0B Series

■ Pin Coordinates

【S1T54400D0A Series】

Pad No.	Pin Name	Pad Center Coordinate		Pad Aluminum Size	Passivation Film Aperture Size
		X	Y	X x Y μm	X x Y μm
1	VSS	-580.5	-493.5	100x100	85X85
2	TRIM	-344.5	-493.5	100x100	85X85
3	VREF	-154.5	-493.5	100x100	85X85
4	/IRQ	35.5	-493.5	100x100	85X85
5	(VSS)	288.5	-493.5	100x100	85X85
6	(VDD)	478.5	-493.5	100x100	85X85
7	TVSEL1	743.5	-344.9	100x100	85X85
8	TVSEL0	743.5	-144.9	100x100	85X85
9	CE	634.9	493.5	100x100	85X85
10	DIO	282.3	493.5	100x100	85X85
11	CLK	76.2	493.5	100x100	85X85
12	FOUT	-188.6	493.5	100x100	85X85
13	FOE	-378.6	493.5	100x100	85x85
14	VDD	-580.5	493.5	100x100	85x85
15	GATE	-743.5	318.0	100x100	85x85
16	DRAIN	-743.5	82.0	100x100	85x85
17	CG1	-743.5	-118.0	100x100	85x85
18	CG2	-743.5	-318.0	100x100	85x85

【S1T54400D0B Series】

Pad No.	Pin Name	Pad Center Coordinate		Bump Size
		X	Y	$\phi\mu\text{m}$
1	Vss	-580.5	-493.5	80
2	TRIM	-344.5	-493.5	80
3	VREF	-154.5	-493.5	80
4	/IRQ	35.5	-493.5	80
5	(Vss)	288.5	-493.5	80
6	(Vdd)	478.5	-493.5	80
7	TVSEL1	743.5	-344.9	80
8	TVSEL0	743.5	-144.9	80
9	CE	634.9	493.5	80
10	DIO	282.3	493.5	80
11	CLK	76.2	493.5	80
12	FOUT	-188.6	493.5	80
13	FOE	-378.6	493.5	80
14	VDD	-580.5	493.5	80
15	GATE	-743.5	318.0	80
16	DRAIN	-743.5	82.0	80

S1T54400D0A/D0B Series

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