

S1A00112B Power Management IC(PMIC)

■ DESCRIPTIONS

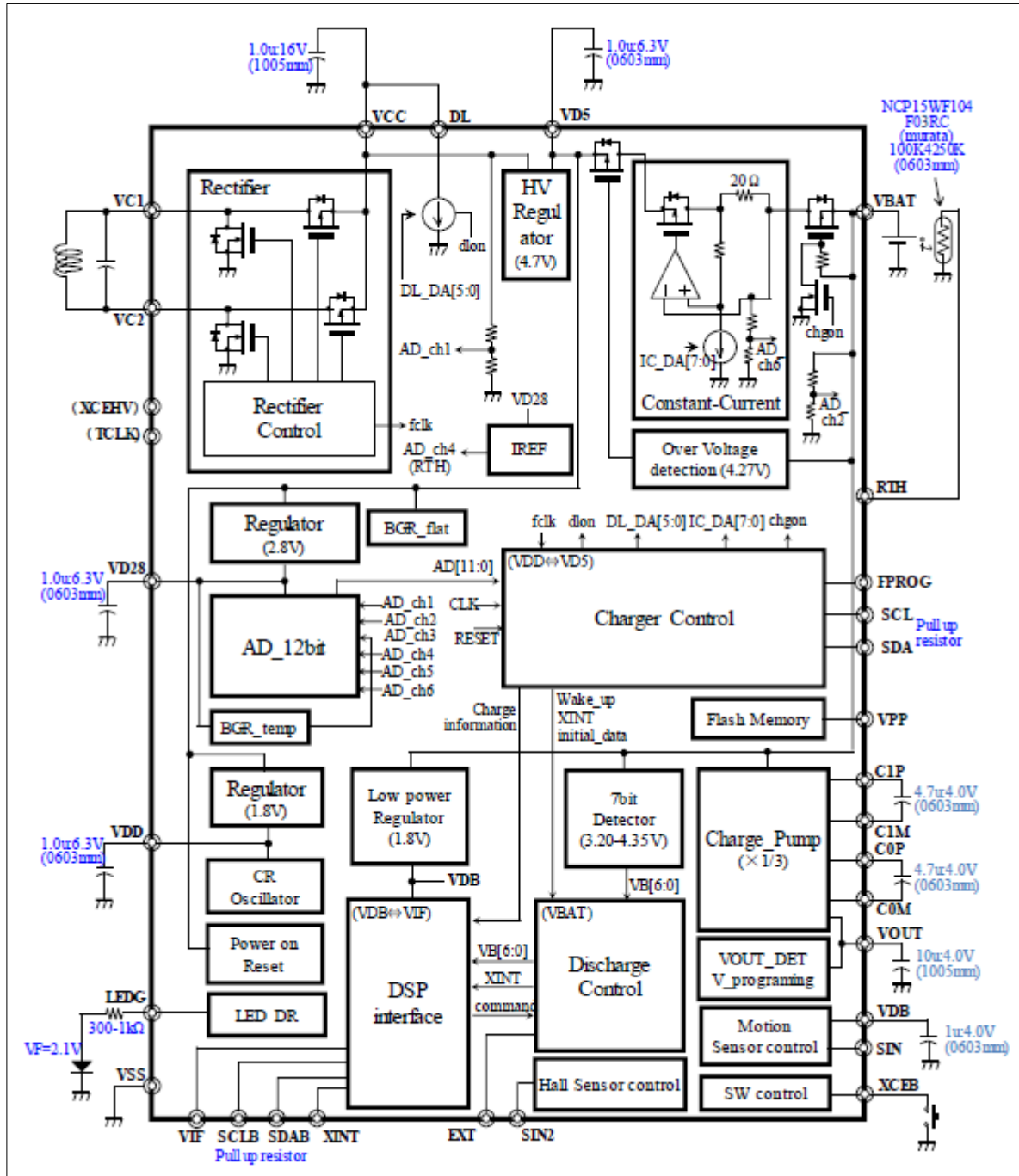
S1A00112B is a control IC with 0.1W secondary power receiver and charger for the Lithium-ion battery. It has four functions such as Rectifier circuit, Power receiving control, Charger, and Power management.

■ FEATURES

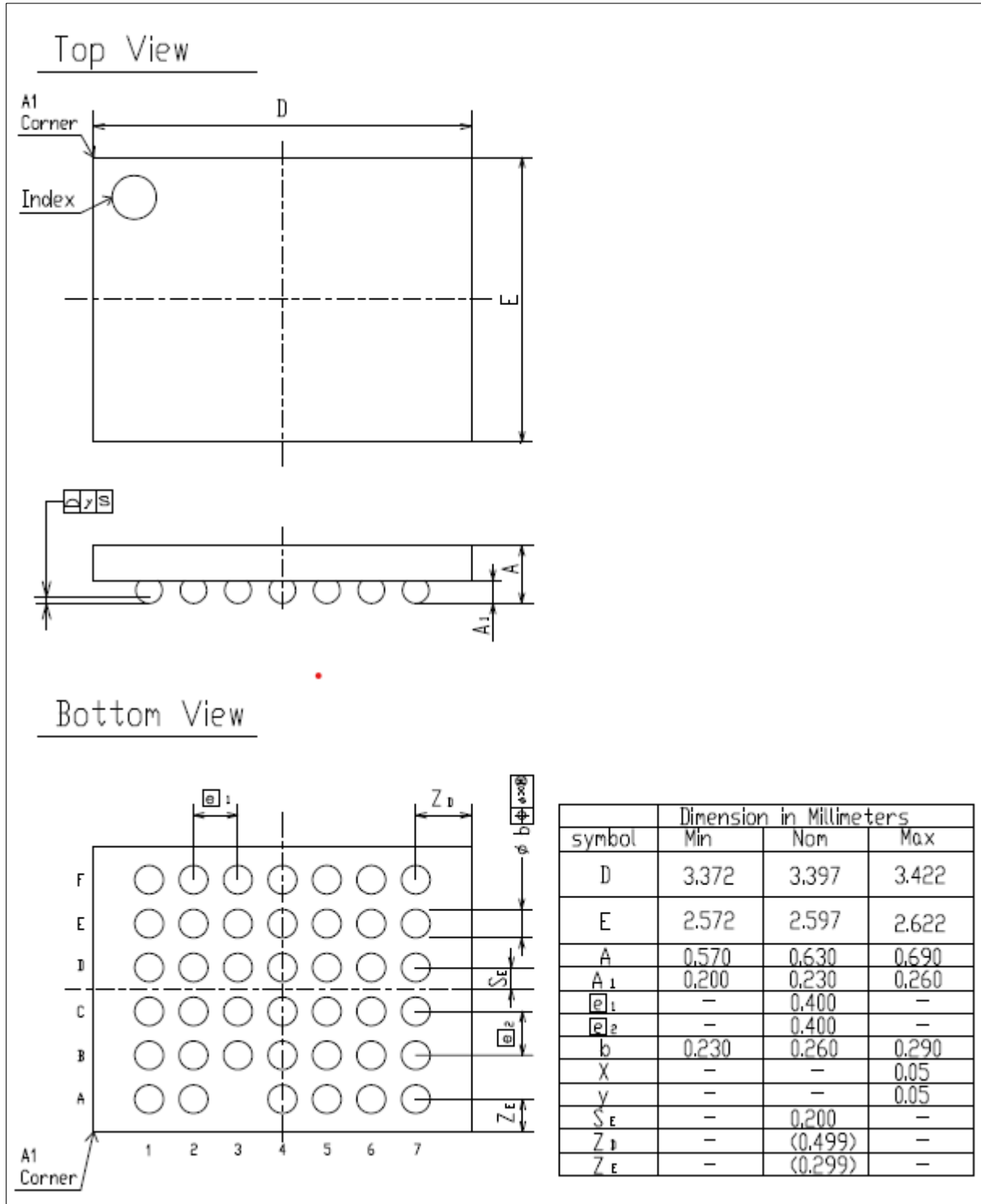
- **0.1W secondary power receiver**
 - ✓ Optimum control of the electromagnetic induction power for safety power receiving.
 - ✓ Synchronous Rectifier circuit.
- **Charger for Lithium-ion battery**
 - ✓ CC-CV charge method for Lithium-ion battery.
 - ✓ Constant current is settable in the built-in flash memory.
 - ✓ Over Charge Voltage detection function (4.27V/4.37V/4.42V detection for 100ms)
 - ✓ Over Charge Current detection, threshold value is settable in the built-in flash memory
- **Power management**
 - ✓ x1/3 Charge-pump, 90% efficiency (I_{out}=2mA, f=60.1kHz)
 - ✓ Over discharge detection (3.2V, Intermittent detection for 200ms at every 12s)
 - ✓ VOUT-GND short detection (1/3×VBAT×0.7216 detection for 25ms)
 - ✓ V_programing connection detection (1/3×VBAT×1.0254 detection for 3ms)
- **Communication to the Primary (Tx) IC**
 - ✓ Communication load is settable in the built-in flash memory.
 - ✓ Battery charging conditions (voltage, current, temperature, cycle time)
 - ✓ Rectified output voltage
 - ✓ Charging status
 - ✓ IC number (12-bit), ID code (15-bit, Epson's control code:4-bit + User's free code:11-bit)
 - ✓ DSP communication data: Arbitrary data can be sent from the Secondary (Rx) DSP to the Primary (Tx) IC
- **DSP communication**
 - ✓ Battery voltage monitor (7-bit detector), Power control command, Charging information.
 - ✓ I2C interface (0.9V~VBAT, Max100kHz)
- **DSP Power control**
 - ✓ External control by switching (using pushbutton) and motion sensor, hall sensor.
 - ✓ DSP command control, power-off command and shutdown command etc.
- **Built in CR oscillator circuit 10MHz**
- **Operation current**
 - ✓ During charge: max.3mA
 - ✓ DCDC ON: max.70uA(60.1kHz)
max.80uA(70.5kHz)
max.90uA(81kHz)
max.104uA(92.3kHz)
 - ✓ DCDC OFF: max.0.4uA(Ta=25°C)
 - ✓ Shutdown: max.0.06uA(Ta=25°C)
- **Shipment in WCSP package (2.6mm×3.4mm)**
- **No anti-radiation and light resistance design**

S1A00112B

■ BLOCK DIAGRAM



■ PACKAGE OUTLINE



S1A00112B

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