

# 5.5V Input, 200mA Synchronous Step-down Switching Regulator with 260nA Quiescent Current



## ULTRAHIGH EFFICIENCY SWITCHING REGULATOR

### S-85S1A Series

- 5.5V input, 200mA with **260nA** quiescent current. Extends up to **2.5 times\*** battery operation time maximally
- Achieves fast transient response due to our original switching control system
- Housed in an industry's smallest class ultra-compact package

\*Compared to standard LDO regulators

Actual size



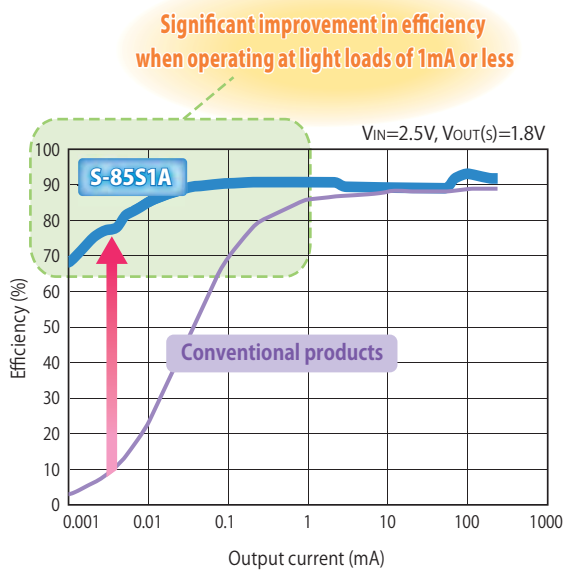
SNT-6A

#### High efficiency **90.5%** (at 100μA load)

The world's lowest current consumption of **260nA** makes it possible to achieve high efficiency even under light load. Supports extended operation of wearable and other devices which are equipped with compact batteries.

\*Based on available information

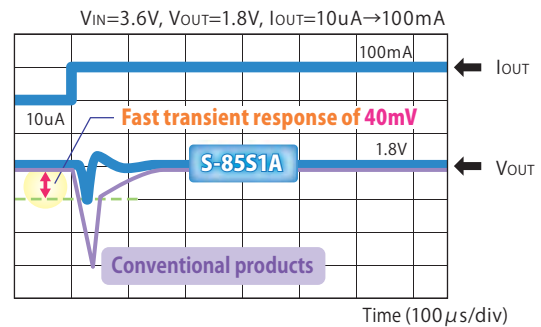
##### Efficiency comparison of S-85S1A with conventional products



#### Fast transient response

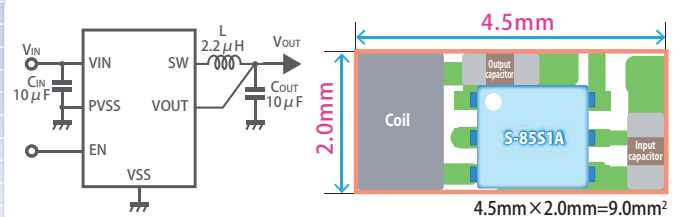
Our own COT (Constant On-Time) control system allows for fast response to load fluctuations.

##### Transient response comparison of S-85S1A with conventional products



#### Standard external circuit example

Allows for small footprint mounting, including surrounding components.



#### Specifications

Item	S-85S1A Series
Quiescent current	260nA
Efficiency (when under 100μA load)	90.5%
Input voltage	2.2 to 5.5V
Output voltage	0.7 to 2.5V (selectable in 0.05V steps), 2.6 to 3.9V (selectable in 0.1V steps)
Output voltage accuracy	$\pm 1.5\%$ ( $1.0V \leq V_{OUT} \leq 3.9V$ ), $\pm 15mV$ ( $0.7V \leq V_{OUT} < 1.0V$ )
Switching frequency	1.0MHz (at PWM operation)
High side power MOS FET on-resistance	420mΩ
Low side power MOS FET on-resistance	320mΩ
Protection function	Under voltage lockout function (UVLO), Thermal shutdown function, Overcurrent limit function, Automatic recovery type short-circuit protection function, Soft-start function
Operation temperature range	$T_a = -40$ to $+85^\circ C$

Refer to the S-85S1A Series datasheet for the latest information.  
Contact our sales office for the information on samples.

#### Package

##### SNT-6A



1.8×1.57×t0.5 (max.)

(Unit : mm)