

PRESS RELEASE

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**XC9235B/XC9236B/XC9237B Series
High Speed Soft-Start Time and Fast Auto-Discharge added.**

Torex Semiconductor Ltd. (Chuo-Ku, Tokyo : President, Tomoyuki Fujisaka) announces the release of the XC9235B/XC9236B/XC9237B Series of Step-Down DC/DC converters with CL auto discharge and high speed soft-start functions.

The XC9235/XC9236/XC9237 series is a group of synchronous-rectification type DC/DC converters with a built-in 0.42Ω P-channel driver transistor and 0.52Ω N-channel switching transistor, designed to allow the use of ceramic capacitors. The ICs enable a high efficiency, stable power supply with an output current of 600mA to be configured using only a coil and two capacitors connected externally. Operating voltage range is from 2.0V to 6.0V. Output voltage is internally set in a range from 0.8V to 4.0V in increments of 50mV (accuracy: $\pm 2.0\%$). With the built-in oscillator, either 1.2MHz or 3.0MHz can be selected for suiting to your particular application. As for operation mode, the XC9235 series is PWM control, the XC9236 series is automatic PWM/PFM switching control and the XC9237 series can be manually switched between the PWM control mode and the automatic PWM/PFM switching control mode, allowing fast response, low ripple and high efficiency over the full range of loads (from light load to heavy load).

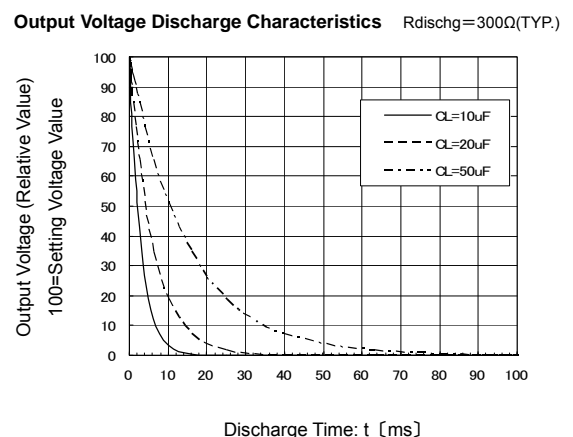
The soft start and current control functions are internally optimized. During stand-by, all circuits are shutdown to reduce current consumption to as low as $1.0\mu\text{A}$ or less. With the built-in UVLO (Under Voltage Lock Out) function, the internal P-channel driver transistor is forced OFF when input voltage becomes 1.4V or lower.

The XC9235B/XC9236B/XC9237B series provide short-time turn-on by the soft start function internally set in 0.2 ms (TYP). The XC9235B(C)/XC9236B(C)/XC9237B(C) integrate C_L auto discharge function which enables the electric charge at the output capacitor C_L to be discharged via the internal auto-discharge switch located between the L_X and V_{SS} pins. When the devices enter stand-by mode, output voltage quickly returns to the V_{SS} level as a result of this function.

Two types of package SOT-25 and USP-6C are available.

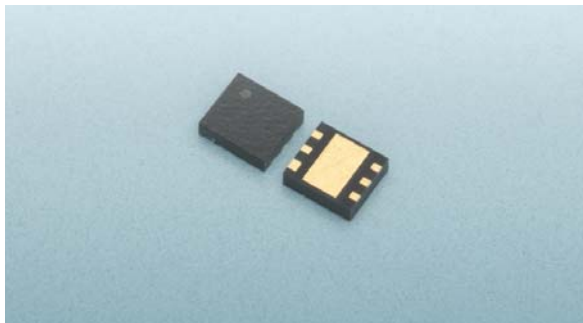
【XC9235B/XC9236B/XC9237B Series Features】

- High speed soft-start time in 0.2ms (TYP.) which improved from 1ms (TYP.) of the previous series.
- Quick turn-off through an internal discharge resistor of 300Ω (TYP.)
- USP-6C ultra small package provides high density mounting.

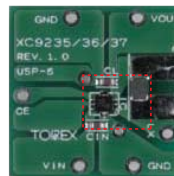


P-ch Driver Transistor Built-in :ON resistance 0.42
N-ch Driver Transistor Built-in :ON resistance 0.52
Input Voltage :2.0V ~ 6.0V
Output Voltage :0.8V ~ 4.0V
High Efficiency :92% (TYP.)
Output Current :600mA
Oscillation Frequency :1.2MHz, 3.0MHz (±15%)
Maximum Duty Cycle :100%
High Speed Soft-Start Circuit Built-In
CL High Speed Discharge
Current Limiter Circuit Built-In (Constant Current & Latching)
Low ESR Ceramic Capacitor Compatible
Control Methods :PWM (XC9235)
 PWM / PFM Auto (XC9236)
 PWM / PFM Manual (XC9237)
Packages :SOT-25, USP-6C

*Performance depends on external components and wiring on the PCB.



▲USP-6C (1.8 x 2.0 x 0.6mm)



▲Mounting Area inside of red line: 6x7.5=45mm²

[Company Outline]

Name : Torex Semiconductor Ltd.
 Found : 1995
 Capital : 984.78 million JPY
 President : Tomoyuki Fujisaka
 Employees : 213 (as of April 1, 2007)
 Operations : Manufacturing of ICs and active discrete components.
 Sales of ICs and active discrete components.

<http://www.torex.co.jp/english/>

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