

PRESS RELEASE

XCL205/XCL206/XCL207 Series Coil-Integrated Step-Down “micro DC/DC” Converters

TOREX SEMICONDUCTOR LTD. (Chuo-Ku, Tokyo: President, Tomoyuki Fujisaka) announces the new step-down micro DC/DC converters with integrated coil.

The XCL205/XCL206/XCL207 series are step-down micro DC/DC converters with an integrated coil. As mobile devices have become smaller and lighter in recent years, the need for miniaturization of the power IC has also grown. With dimensions of 2.5 mm x 2.0 mm and a height of only 1.0 mm, these newly launched converters are the world's smallest class of converters.

By simply adding two external ceramic capacitors to the DC/DC converter, a power supply with a maximum load current of 600 mA can be configured. The operating voltage is 2.0 V to 6.0 V. The output voltage is fixed and can be selected within the range 0.8 V to 4.0 V in steps of 0.05 V. The control IC operates at a switching frequency of 3 MHz and performs synchronous rectification using a built-in 0.42 Ω P-ch driver transistor and a built-in 0.52 Ω N-ch switching transistor. The operation mode can be selected from three types: PWM control (XCL205), PWM/PFM automatic switching control (XCL206), and manual control switching (XCL207). A high-speed response, low ripple, and high efficiency are achieved over the full load range from light loads to heavy loads, and the quiescent current is reduced to 1.0 μ A or less by shutting down all circuits during standby.

The built-in UVLO (Under Voltage Lock Out) function forcibly turns off the internal driver transistor when the input voltage is 1.4 V or less.

The XCL205B/XCL206B/XCL207B series has as a high-speed soft-start function, 0.25ms (TYP.). The XCL205B(C) /XCL206 B(C) / XCL207B(C) series discharges the charge of the load capacitor C_L , by turning on the internal switch during standby using the C_L discharge function. This makes it possible to quickly return the output voltage to the V_{SS} level.

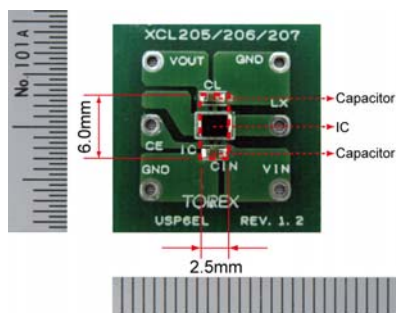
【XCL205/XC206/XCL207 Series Features】

Ultra-small size (2.5 mm x 2.0 mm, H = 1.0 mm) reduces the board mounting area.

Low profile: only 1mm in height.

Despite the ultra-small size, IC characteristics are the same as the XC9235/XC9236/XC9237 series.

Ideal for small mobile devices that require high efficiency.



▲ micro DC/DC XCL205/XCL206/XCL207 Series (board mounting area: 2.5mm x 6.0mm = 15mm²)