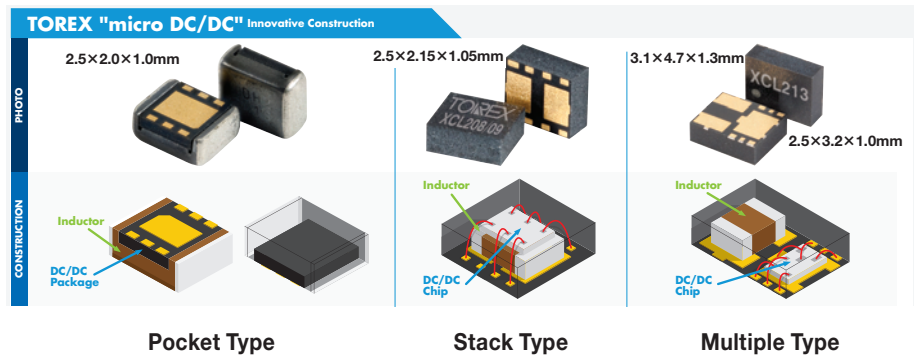


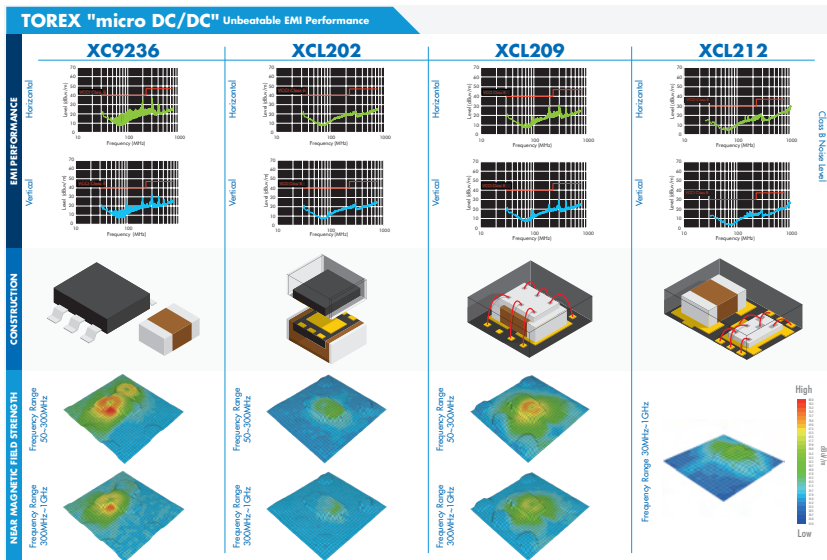
# Inductor Built-in “micro DC/DC” Converters XCL Series

## Torex “micro DC/DC” – Innovative Construction

Torex “micro DC/DC” converters are available in three different structures, an ultra-small, low EMI noise “Pocket Type” that supports currents up to 1A, a “Stack Type” that simplifies the manufacturing process and helps reduce costs and a “Multiple Type” that is designed to support large currents (currently up to 2A). We are building the “micro DC/DC” XCL series from a variety of approaches based on coil capacity.



## Ideal solutions for Noise Sensitive environments



When using a DC/DC converter, there is always a concern about noise. With wireless devices in particular, that concern is not only about noise from the power line, but EMI as well. Torex DC/DC converters are designed to be used with ceramic capacitors and with an appropriate switching speed to help create a stable power supply with low ripple voltage. What’s more, the XCL series of “micro DC/DC” converters enables the reduction of EMI. The structure of the Pocket Type, which is Torex’s original technology, is designed so that the inductor covers the DC/DC converter IC, enabling suppression of externally emitted noise.

The comparison between the XCL202 and the XC9236 (left) shows clearly the difference in noise. (The noise characteristics of the XC9236 are not particularly poor; the XC9236 is a typical product in terms of noise.)

## Selection Guide for the XCL Series

	XCL101	XCL201 XCL202	XCL205 XCL206 XCL207	XCL208 XCL209	XCL210	XCL211 XCL212	XCL213 XCL214	XCL219 XCL220
Type	Step Up	Step Down	Step Down	Step Down	Step Down	Step Down	Step Down	Step Down
Control Method	PFM	PWM PWM/PFM	PWM PWM/PFM	PWM PWM/PFM	PFM	PWM PWM/PFM	HiSAT-COT PWM PWM/PFM	HiSAT-COT PWM PWM/PFM
Input Voltage	0.9V - 5.5V	2.0V - 6.0V	2.0V - 6.0V	1.8V - 6.0V	2.0-6.0V	2.7V - 6.0V	2.5V - 5.5V	2.5-5.5V
Output Voltage	1.8-5.0V	0.8-4.0V	0.8-4.0V	0.8-4.0V	1.0-4.0V	0.9-Vin	0.8-3.6V	0.8-3.6V
Accuracy	±2%	±2%	±2%	±2%	±2%	±2%	±2%	±2%
Oscillation Frequency	—	1.2MHz	3MHz	3MHz	—	2.4MHz	3MHz	3MHz
Output Current	100mA	400mA	600mA	400mA	200mA	2000mA	1500mA	1000mA
Package	CL-2025	CL-2025	CL-2025	USB-10B03	CL-2025	USP-11B01	USP-9B01	CL-2025
Construction	Pocket Type	Pocket Type	Pocket Type	Stack Type	Pocket Type	Multiple Type	Multiple Type	Pocket Type