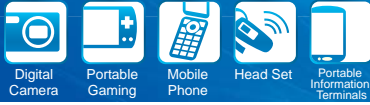
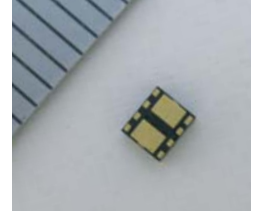


400mA micro DC/DC Converter with integrated coil

XCL208/XCL209 Series



The XCL208/209 is a family of 400mA micro DC/DC Step-Down Converter with integrated coil. Measuring only 2.5mm x 2.15mm x 1.0mm, the XCL208/209 series is designed to minimize EMC emissions and maximize efficiency, while delivering a very stable output with low peak to peak ripple Voltage (<10mV). Operating from input voltages as low as 1.8V up to 6.0V, the XCL208/209 is ideal for RF circuits and applications where PCB space is at a premium. Internally the XCL utilizes a simple package construction with low production costs resulting in a truly cost effective solution for high volume consumer applications.

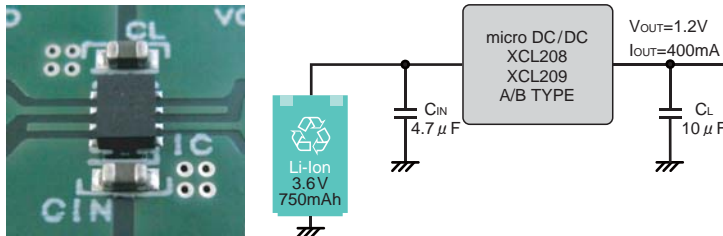


USP-10B03

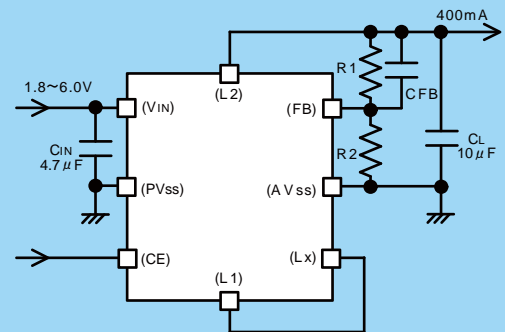


A switching regulator can be used with the same feel as a series regulator

Simple circuit consisting of the IC and two external capacitors

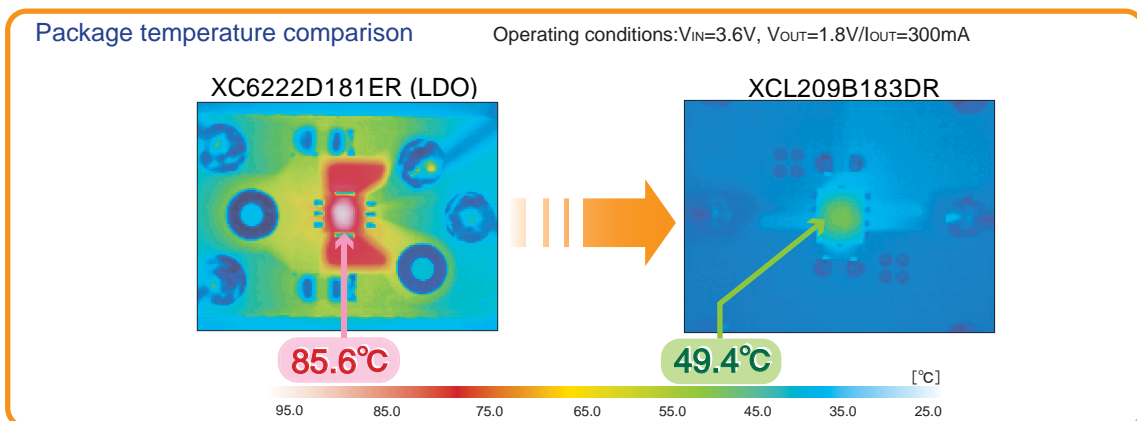


An adjustable version is also available



Solves thermal problems

The small size and simple circuit architecture makes the XCL208/209 an ideal replacement for inefficient LDO Voltage Regulators. In the thermal images below, you can see just how much energy is dissipated by an LDO circuit when compared to the XCL208/209 micro DC/DC under the same test conditions



Features			
Input Voltage Range	1.8V~6.0V (F Type, Variable Output Voltage)	CE Function	Active High
	2.0V~6.0V (A/B Type, Fixed Output Voltage)		Soft Start
Output Voltage Range	0.8V~4.0V ($\pm 2.0\%$) (A/B Type)	Control Methods	C_L Discharge (B/F Type)
Output Current	400mA		PWM (XCL208)
Oscillation Frequency	3.0MHz ($\pm 15\%$)		PWM/PFM Auto (XCL209)
Efficiency	90% ($V_{IN}=4.2V$, $V_{OUT}=3.3V$)	Operating Ambient Temperature	-40°C~+85°C
Protection Circuits	Current Limiter Circuit (Constant Current+Latching)	Package	USP-10B03

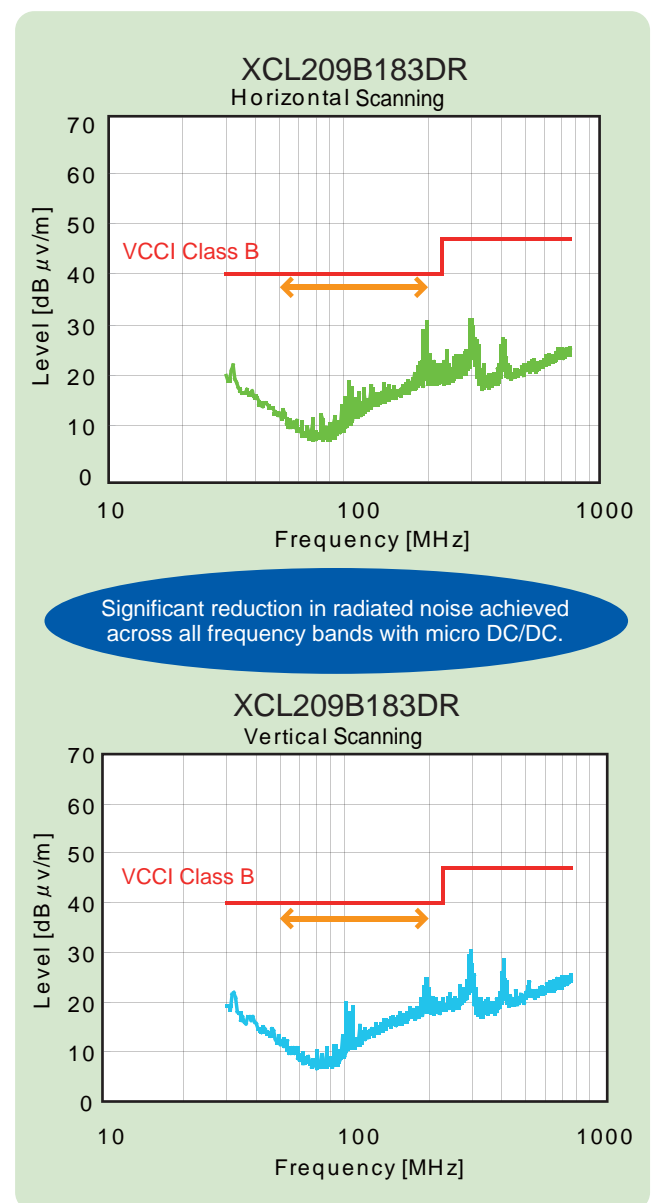
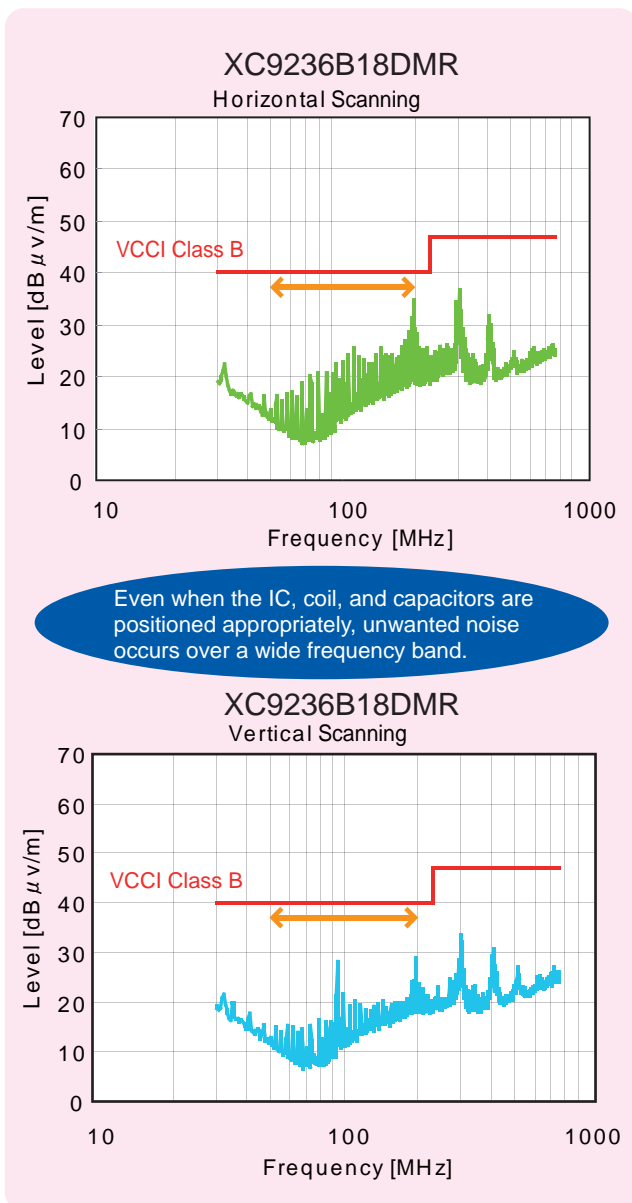


400mA micro DC/DC Converter with integrated coil **XCL208/XCL209 Series**



Minimizes radiated noise

Radiated Noise or EMC is a constant concern for many electronic design engineers. The XCL208/209 has been designed to minimize this unwanted noise, making it ideal for sensitive applications like RF supplies. Below we show the radiated noise from a conventional DC/DC circuit with external Coil (XC9236B18DMR) and compare it to the XCL209B183DR with integrated coil. Under the same test conditions the results show a significant reduction in radiated noise when using the XCL208/209 series. By integrating the coil, Torex has simplified the circuit layout for the designer and reduced the number of external components normally needed to implement this type of DC/DC solution. The smaller circuit layout means less PCB tracking, which helps further reduce the radiated noise.



Test Condition: $V_{IN}=3.7V, V_{OUT}=1.8V/I_{OUT}=200mA$ Standard: VCCI Class B

