

XCL223/24

Low Profile, Step-Down, Micro DC/DC Converter with Integrated Coil



The XCL223/24 is a family of Ultra Low Profile Micro DC/DC Step-Down Converters with integrated coil. Measuring only 2.25mm x 1.5mm x 0.75mm (max), the XCL223/24 series is designed to minimise EMI emissions and maximize efficiency, while delivering a very stable output with low peak to peak ripple Voltage (<10mV).

Utilising Hi-SAT COT, Torex's Constant ON Time architecture gives the XCL223/24 extremely fast load transient response performance in comparison to standard DC/DC solutions. Hi-SAT COT also provides less fluctuation in oscillation frequency against load and input voltage when compared to traditional COT control architectures.

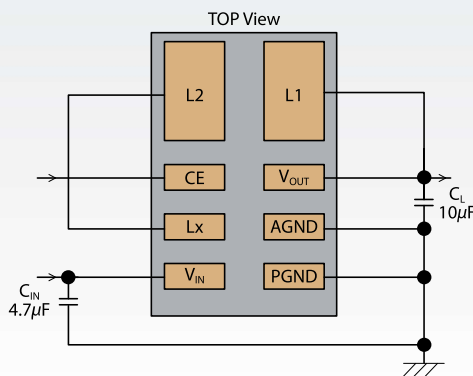
The small size and simple circuit architecture makes the XCL223/24 an ideal replacement for inefficient LDO voltage regulators and by integrating the coil, Torex has simplified the circuit layout for the designer and reduced the number of external components normally needed to implement this type of DC/DC solution. The smaller circuit layout also means less PCB tracking, which helps further reduce the radiated noise.

**World's Smallest Micro DC/DC
2.25 x 1.5 x 0.75mm**

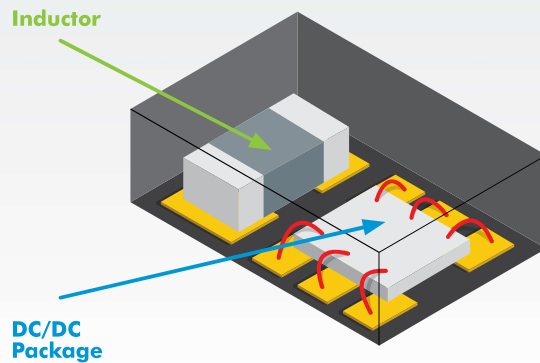
KEY FEATURES

Output Current		400mA (B Type)
		700mA (A Type)
ON Resistance	N-Ch	0.10Ω (typ)
	P-Ch	0.14Ω (typ)
Input Voltage Range		2.7V ~ 5.5V
Output Voltage Range		0.8V ~ 3.6V
Switching Frequency		3.0MHz
Quiescent Current		25μA (typ)
Max Duty Cycle		100%
Product Select	XCL223	Fixed PWM Control
	XCL224	PWM/PFM Automatic Switching
Protection Circuits		Current Limit Circuit
		Thermal Shut Down
		Short Circuit Protection
Additional Features		ULVO (2.0V)
		High Speed Soft-start
		CL Discharge
Package		USP-8B04

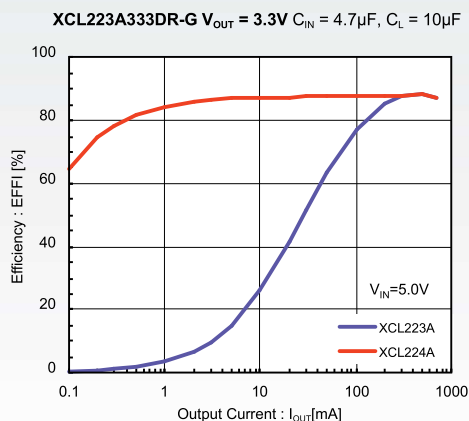
TYPICAL APPLICATION CIRCUIT



INTERNAL CONSTRUCTION



EFFICIENCY VS. OUTPUT CURRENT



OUTPUT RIPPLE VS. OUTPUT CURRENT

