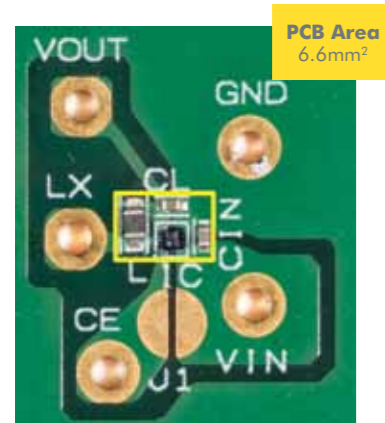


STEP DOWN DC/DC

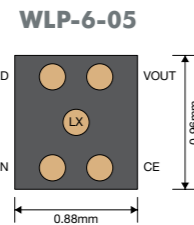
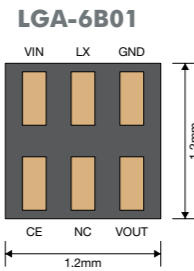
XC9281/82 5.5V 0.6A Step-Down DC/DC

WORLD'S SMALLEST SOLUTION

- World's Smallest 600mA DC/DC
- Lowest Profile Solution
 - <0.33mm Incl. All Components
- Small PCB Area = Short interconnects
 - Minimized EMI Noise
- Low Quiescent Current
- Hi-SAT COT Control
 - Ultra-Fast Transient Response
 - Stable Switching Frequency
- Extended Temperature Range
 - 40°C ~ +105°C



PCB Area 6.6mm²

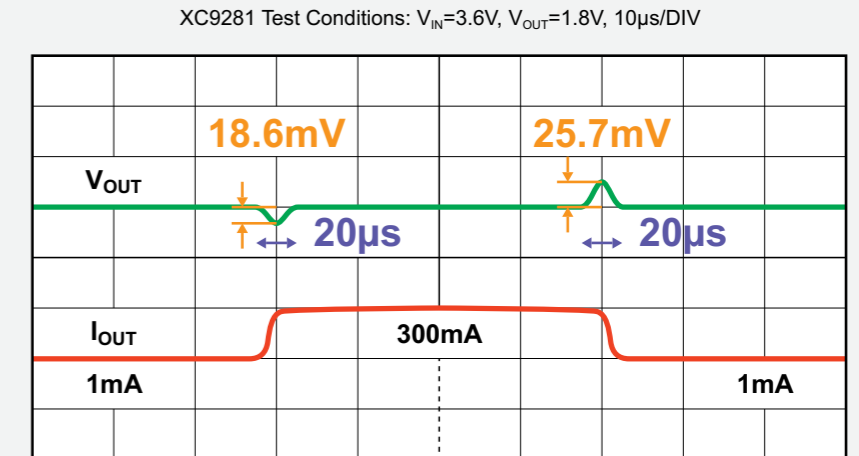


SERIES		XC9281	XC9282
Output Current		600mA	
ON Resistance	P-Ch	0.26Ω (typ)	
	N-Ch	0.32Ω (typ)	
Input Voltage Range		2.5V ~ 5.5V	
Output Voltage Range		0.7V ~ 3.6V (±1.5%)	
Switching Frequency		6.0MHz	
Quiescent Current (typ.)		590μA	11μA
		PWM	PWM/PFM
Max Duty Cycle		100%	
Protection Circuits		Current Limit, UVLO, Thermal Shutdown	
Additional Features		Soft-start	
		Optional CL Discharge	
Package		LGA-6B01 or WLP-5-06	

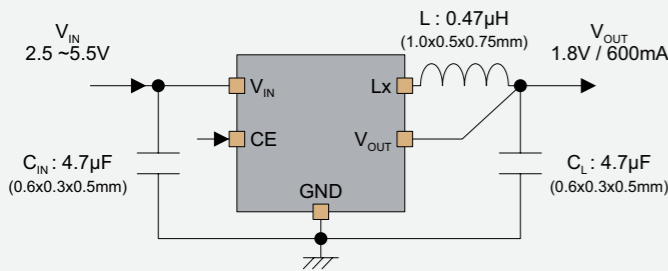
LOAD TRANSIENT RESPONSE

Utilising Hi-SAT COT, Torex's Constant ON Time architecture ensures extremely fast load transient response performance when compared with standard DC/DC solutions.

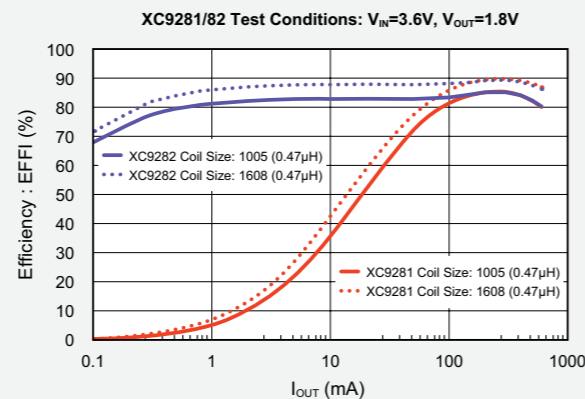
Hi-SAT COT also provides less fluctuation in oscillation frequency against load and input voltage when compared to traditional COT control architectures.



TIPO APPLICATION CIRCUIT



EFFICIENCY VS. OUTPUT CURRENT

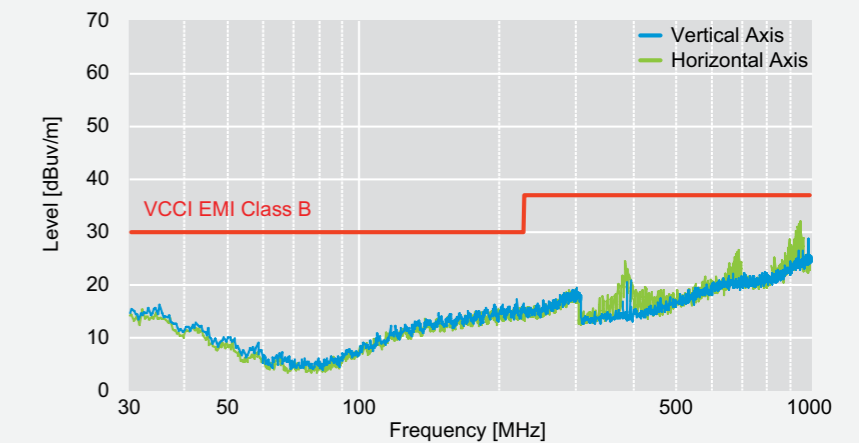


EMI

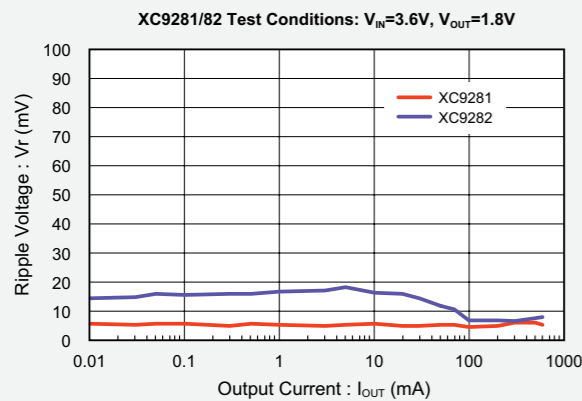
The PCB area and subsequently the length of copper tracks is minimised due to the use of ultra-small packaging and smaller external components.

This results in extremely low radiated noise and excellent EMI performance as illustrated in the graph.

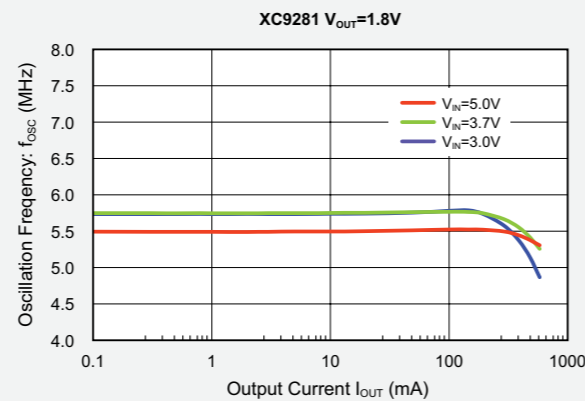
The XC9281/22 passes EN55022 (CISPR 22) CLASS B with good margin.



OUTPUT RIPPLE VS. OUTPUT CURRENT



STABLE SWITCHING FREQUENCY



ANY CAPACITOR

As shown in the graph, the C_L capacitance value will reduce to 2μF at 1.8V and this will further decrease at higher temperatures.

The XC9281/82 is designed to operate with lower capacitance values which will occur under DC bias conditions.

As a result, designers can safely use smaller, lower cost, 0603 sized (0.6 x 0.3 x 0.5mm) multilayer capacitors without sacrificing performance.

