The Intel® Enpirion® EN29A0QI 10 A PowerSoC DC-DC step-down power converter is designed to power supply rails requiring very low ripple and electromagnetic interference (EMI), and tight DC and AC accuracy. The device is optimized to meet the stringent requirements for powering FPGA, SoC, and ASIC transceivers, as well as other noise-sensitive circuits. The EN29A0QI device delivers high conversion efficiency while maintaining excellent accuracy.

The EN29A0QI device utilizes a high-performance control loop that enables a significant reduction in bulk capacitor decoupling requirements. In addition, the EN29A0QI device is highly integrated and designed, characterized, and qualified as a power system, which further enables improved system level reliability.

The EN29A0QI device provides a high degree of programmability. This includes programmable startup and shutdown timing and programmable switching frequency, which allows you to optimize the trade-offs between ripple and efficiency. The EN29A0QI device also features a precision enable and Power OK flag to optimize sequencing, and a bi-directional SYNC pin that enables the device to output a master clock or synchronize to another EN29A0QI device or an external system clock.
**Very Low Ripple: <4 mV\(_{p-p}\)**

![Graph showing very low ripple]

**Conditions:** \(V_{IN} = 12\, \text{V}, \, V_{OUT} = 1.05\, \text{V}, \, \text{Load} = 10\, \text{A}\)

*Capable of meeting stringent FPGA and power supply ripple requirements*

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**Excellent Transient Response**

![Graph showing excellent transient response]

**Conditions:** \(V_{IN} = 12\, \text{V}, \, V_{OUT} = 1.05\, \text{V}, \, \text{Load Step} = 5\, \text{A} \text{ to } 10\, \text{A}\)

*Achieves ±1% deviation during 5 A load step*

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**Low EMI Performance**

![Graph showing low EMI performance]

**Conditions:** \(V_{IN} = 12\, \text{V}, \, V_{OUT} = 1.2\, \text{V}\)

*Meets CISPR32 Class B Emissions with greater than 10dB margin*

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**No Thermal Derating Up To 85°C**

![Graph showing no thermal derating]

**Conditions:** \(V_{IN} = 12\, \text{V}, \, T_{JMAX} = 125^\circ\, \text{C}, \, \Theta_{JA} = 10^\circ\, \text{C/W}, \, \text{No Air Flow}\)

*Eliminate the need to oversize your power supply*

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**EN29A0QI PowerSoC: www.intel.com/en29a0**