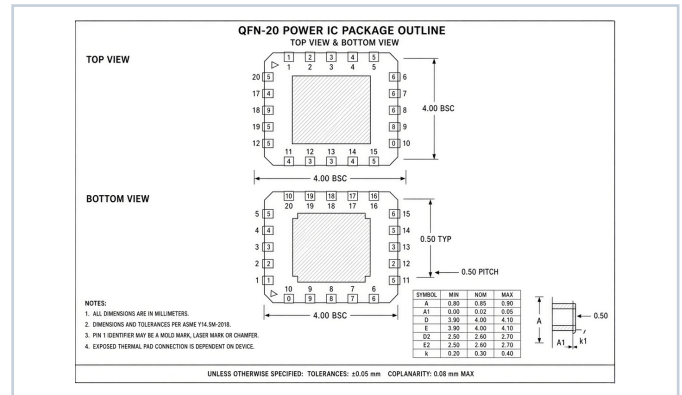
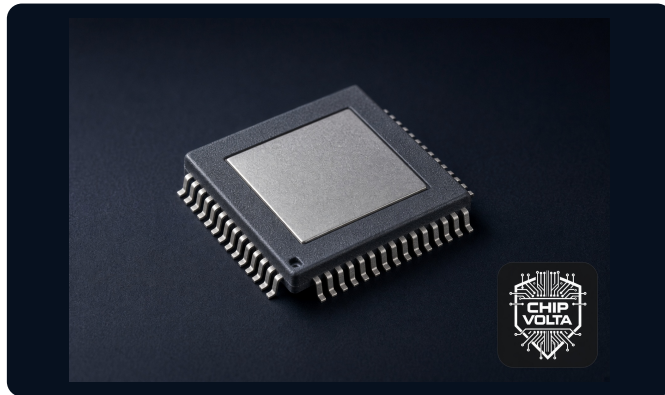


CV-POL-12B

12 A Synchronous Buck Converter · Power Management ICs

Package: QFN-20 with exposed thermal pad



Description

12 A synchronous buck converter with compensation-free current-mode control for 3.3 V and 1.8 V point-of-load rails feeding MCUs, SerDes and small FPGAs.

Features

- 3.0 V to 18 V input, 0.6 V to 5.5 V output
- 12 A continuous output current
- 400 kHz to 2.2 MHz selectable switching
- Internal compensation, ceramic-cap stable
- Hiccup short-circuit and thermal shutdown
- -40 °C to +125 °C ambient intent

Absolute maximum ratings

Parameter	Value	Unit
VIN to GND	-0.3 to +20	V
SW to GND	-0.3 to VIN+0.3	V
BOOT to SW	-0.3 to +6.0	V
Junction temperature	-40 to +150	°C

Stresses beyond these limits may cause permanent damage. These are stress ratings only.

Typical applications

- Industrial controllers
- ADAS companion rails
- MCU / FPGA core power



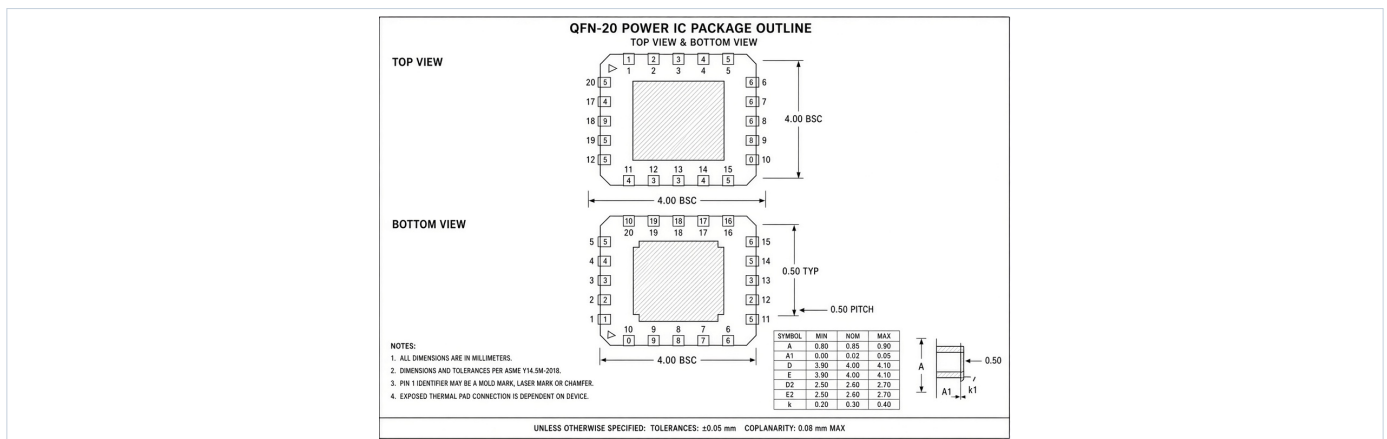
Electrical characteristics ($T_j = 25\text{ }^{\circ}\text{C}$ unless noted)

Parameter	Min	Typ	Max	Unit
VIN	3.0	12	18	V
VOUT range	0.6	—	5.5	V
IOUT continuous	—	—	12	A
fSW	400	1000	2200	kHz
RDS(on) HS / LS	—	12 / 8	—	m Ω

Pin assignment (simplified)

Pin	Name	Function
1–3	VIN	Input supply, decouple to PGND
4–7	SW	Switch node to inductor
8–10	PGND	Power ground
12	FB	Output feedback
14	EN	Enable, active high
15	FREQ	Frequency select / sync
PAD	PGND	Thermal pad

Package outline / mechanical sketch



Ordering and document control

This public brief supports schematic evaluation. The controlled datasheet (full electrical tables, SOA graphs, reliability summary, recommended land pattern and PPAP package) is released through Chip Volta applications engineering after an RFQ. Request it on the Contact / RFQ page quoting CV-POL-12B. Samples follow the same path. Shorter lead-time builds use the released test program.

Quality: Chip Volta quality management system is certified by Bureau Veritas. Devices are specified to meet applicable industry standards. Values in this brief are typical catalog figures and may be revised without notice until the controlled revision is frozen for a customer program.