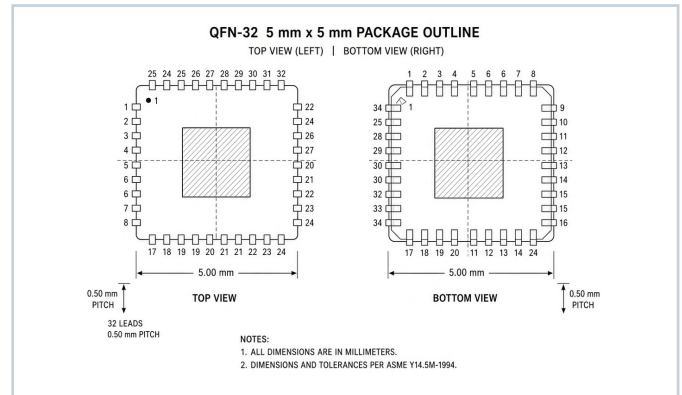
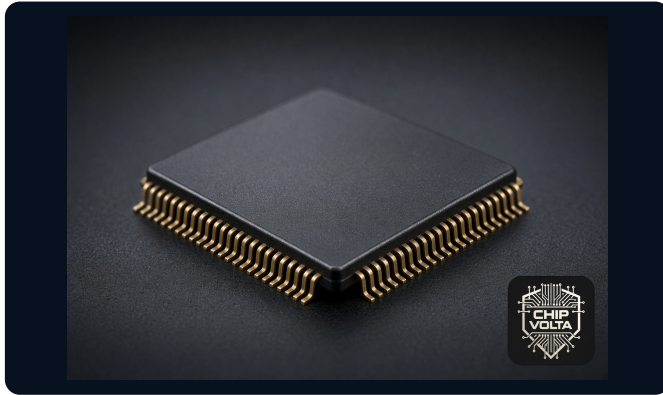


CV-PMIC-48A

Automotive Multi-Rail PMIC · Power Management ICs

Package: QFN-32 5.00 mm × 5.00 mm, 0.50 mm pitch



Description

Five-output power management IC for 12 V automotive body and gateway modules. A load-dump tolerant pre-regulator, four downstream converters/LDOs, programmable sequencing and a window watchdog reduce discrete count on the primary rail tree.

Features

- 4.5 V to 40 V operating input; 45 V load-dump tolerant
- Five regulated outputs (2 buck + 3 LDO)
- Programmable power-up / power-down sequencing
- Window watchdog and reset controller
- 28 μ A typical quiescent current
- Junction temperature range -40°C to $+150^{\circ}\text{C}$

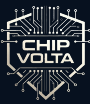
Typical applications

- Body control modules
- Gateway ECUs
- Instrument cluster
- Telematics / TCU

Absolute maximum ratings

Parameter	Value	Unit
VIN to GND	-0.3 to $+45$	V
Buck switch nodes	-0.3 to $\text{VIN}+0.3$	V
Logic I/O	-0.3 to $+6.0$	V
Junction temperature	-40 to $+150$	$^{\circ}\text{C}$
Storage temperature	-55 to $+150$	$^{\circ}\text{C}$
ESD HBM / CDM	± 2 kV / ± 750	V

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



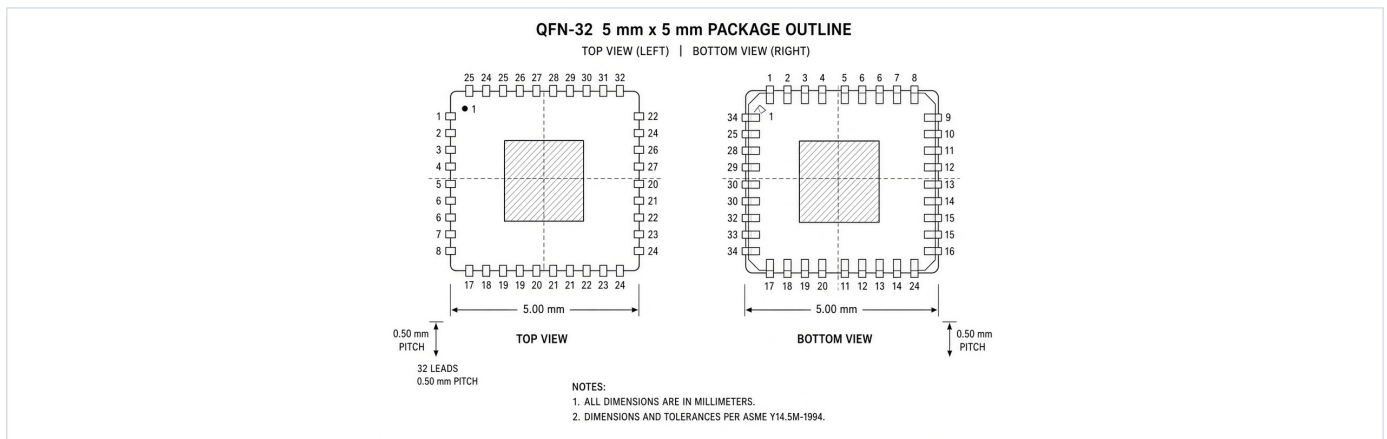
Electrical characteristics ($T_j = 25\text{ °C}$ unless noted)

Parameter	Min	Typ	Max	Unit
VIN operating range	4.5	12	40	V
IQ, standby	—	28	45	μA
Buck 1 IOUT	—	—	3.0	A
Buck 2 IOUT	—	—	2.0	A
LDO IOUT each	—	—	300	mA
Peak efficiency	—	94	—	%
Watchdog window	8	—	256	ms

Pin assignment (simplified)

Pin	Name	Function
1–2	VIN	Battery / pre-reg input
3–4	SW1	Buck 1 switch node
5	FB1	Buck 1 feedback
8–9	SW2	Buck 2 switch node
14	WDI	Watchdog input
15	nRESET	Open-drain reset
17–20	LDO1–3	Linear regulator outputs
25	SEQ	Sequence program pin
PAD	GND / θ_{JA}	Exposed thermal pad, must be soldered

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-PMIC-48A. 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.