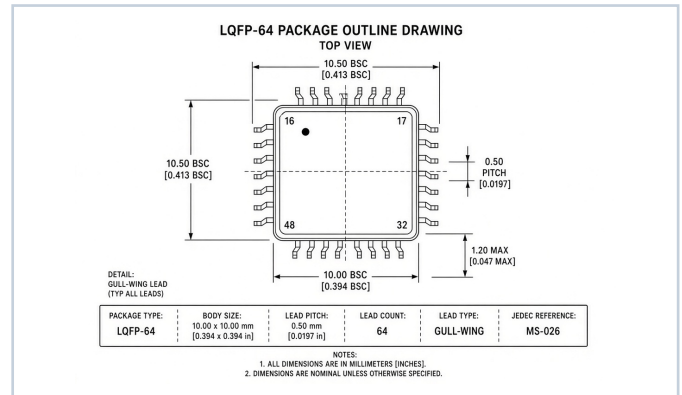
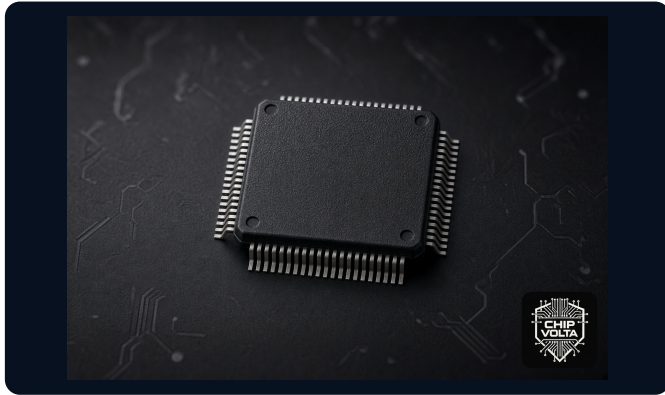


CV32-M4F

32-bit Industrial MCU with FPU · 32-bit MCUs

Package: LQFP-64, 10 mm × 10 mm, 0.50 mm pitch



Description

32-bit microcontroller with hardware FPU, dual 12-bit ADCs and three advanced motor-control timers for servo drives and pump inverters that need deterministic PWM.

Features

- 32-bit core with FPU, up to 180 MHz
- 512 KB flash, 128 KB SRAM
- 2 × 12-bit ADC, 3 advanced PWM timers
- CAN-FD, UART, SPI, I2C
- -40 °C to +125 °C

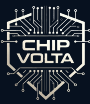
Absolute maximum ratings

Parameter	Value	Unit
VDD to VSS	-0.3 to +4.0	V
I/O voltage	-0.3 to VDD+0.3	V
Junction temperature	-40 to +150	°C

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

Typical applications

- Servo drives
- Pump inverters
- Industrial I/O
- BMS supervision



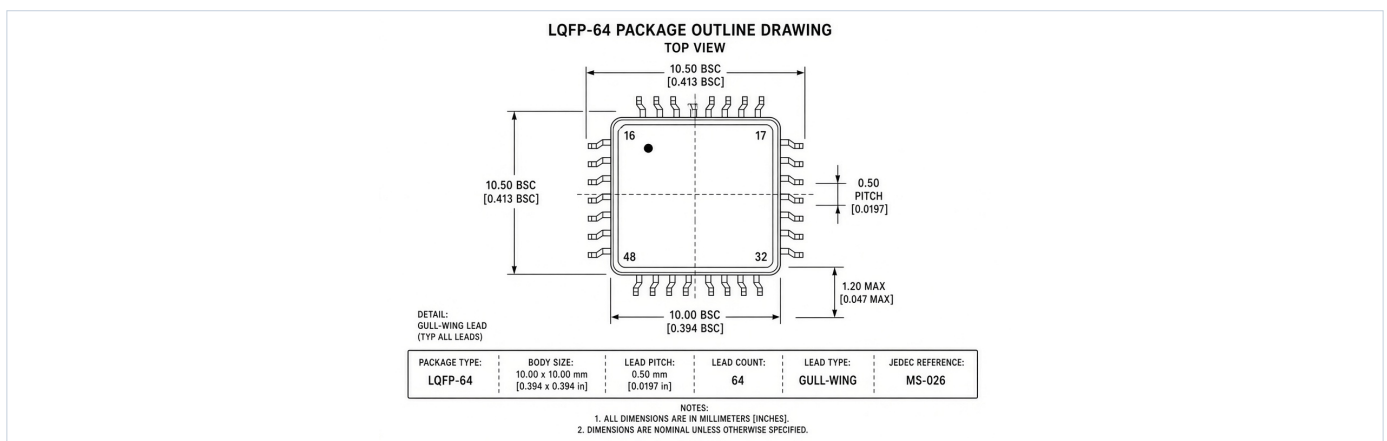
Electrical characteristics ($T_j = 25\text{ °C}$ unless noted)

Parameter	Min	Typ	Max	Unit
VDD	2.7	3.3	3.6	V
fCPU max	—	—	180	MHz
IDD run @ 180 MHz	—	48	—	mA
ADC resolution	—	12	—	bit
Flash endurance	10k	—	—	cycles

Pin assignment (simplified)

Pin	Name	Function
1–8	GPIO / TIM	Timer and general I/O
12–15	ADC1	Analog inputs
20–21	CAN-FD	CANH / CANL via transceiver
30	NRST	Reset
48	BOOT0	Boot mode
63–64	VDD / VSS	Core supply

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 CV32-M4F. 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.