

Octal Solenoid Current Controller with N-FET Predrivers

Product Preview NCV71208

NCV71208 is an eight-channel solenoid current controller with low side predrivers for discrete N-FETs. The chip can be used in accurate current controlled solenoid applications.

Each predriver channel contains a programmable PWM current controller with dithering modulation.

The NCV71208 has an SPI interface and advanced diagnostic features with fault protection functions. Each channel monitors its external MOSFET for fault conditions. An open drain fault output notifies the host controller immediately upon detection of a fault or error. The specific fault source information can be read back via SPI. The fault/error flags are cleared after a 32-bit SPI read of the appropriate register.

Features

- Supply Voltage Range from 4.2 V up to 30 V
- 8-Channel Solenoid Current Measurement and Control
- Average Current up to 1.2 A
- Accuracy +/- 3 mA in Operating Range
- On-chip Sense Resistors with EEPROM Calibration Data
- Low Side FET ON, OFF or PWM (1 kHz ... 5 kHz)
- Programmable Dither Amplitude and Frequency
- Programmable Kp and Ki Parameters
- Overcurrent Detection and Protection per Channel
- Overtemperature Detection and Protection per Channel
- Non-qualified Pre-production Samples Available
- Supporting ISO-26262 Documentation Available

Typical Applications

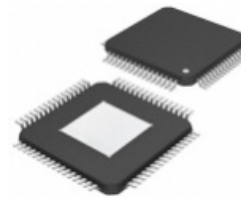
- Linear Solenoids in Transmission and Suspension
- Hydraulic and Pneumatic Control
- Medical Applications

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.



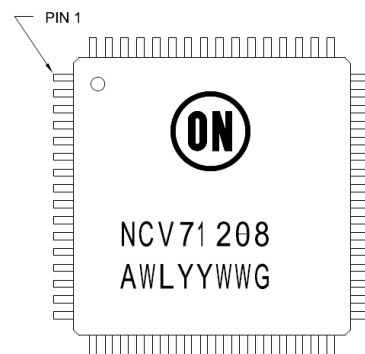
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TQFP-64 EP
10x10
CASE 136AC

MARKING DIAGRAM



SAFETY SUPPORT

Support integration into customer's safety application with a set of safety documents including FME-DA and a hardware-software interface document.

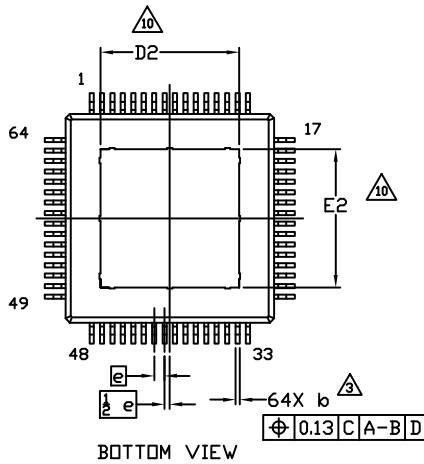
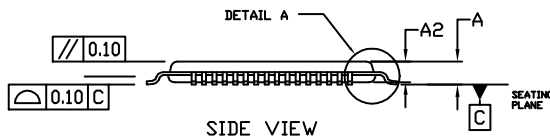
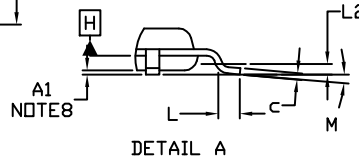
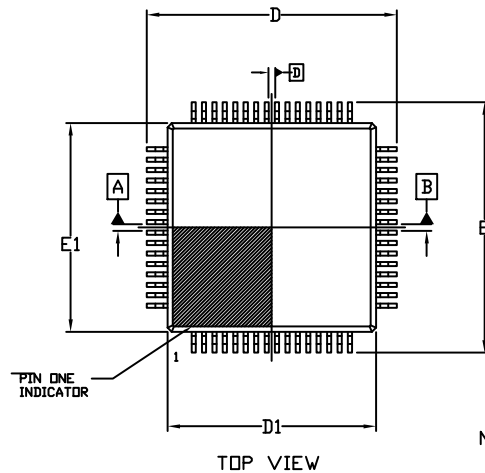
MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS

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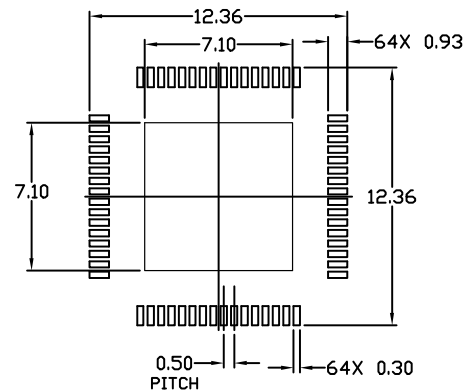
TQFP64 EP, 10x10 CASE 136AC ISSUE A

DATE 14 SEP 2020



- NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
 2. CONTROLLING DIMENSION: MILLIMETERS
 3. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. DAMBAR PROTRUSION SHALL BE 0.08 MAX. AT MMC. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OF THE FOOT.
 4. DIMENSIONS D1 AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.25 PER SIDE. DIMENSIONS D1 AND E1 ARE MAXIMUM PLASTIC BODY SIZE INCLUDING MOLD MISMATCH.
 5. THE TOP PACKAGE BODY SIZE IS SMALLER THAN THE BOTTOM PACKAGE SIZE AND TOP PACKAGE WILL NOT OVERHANG THE BOTTOM.
 6. DIMENSIONS D1 AND E1 TO BE DETERMINED AT DATUM PLANE H.
 7. DATUMS A-B AND D ARE DETERMINED AT DATUM PLANE H.
 8. A1 IS DEFINED AS THE VERTICAL DISTANCE FROM THE SEATING PLANE TO THE LOWEST POINT ON THE PACKAGE BODY.
 9. DIMENSIONS D AND E TO BE DETERMINED AT DATUM PLANE C.
 10. EXPOSED PAD TO BE COPLANAR WITH THE BOTTOM OF THE PACKAGE.

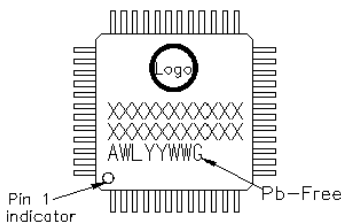
DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	---	---	1.20
A1	0.05	---	0.15
A2	0.95	1.00	1.05
b	0.17	0.22	0.27
c	0.09	---	0.20
D	11.80	12.00	12.20
D1	9.80	10.00	10.20
D2	6.54	6.64	6.74
E	11.80	12.00	12.20
E1	9.80	10.00	10.20
E2	6.54	6.64	6.74
e	0.50 BSC		
L	0.45	0.60	0.75
L2	0.25 REF		
M	0°	---	7°



RECOMMENDED MOUNTING FOOTPRINT

* For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SLDERRM/D.

GENERIC MARKING DIAGRAM*



XXXX = Specific Device Code
 A = Assembly Location
 WL = Wafer Lot
 YY = Year
 WW = Work Week
 G = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "μ", may or may not be present. Some products may not follow the Generic Marking.

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