

NCP6132

Dual Output 3 Phase & 2 Phase Controller with single SVID Interface for Desktop and Notebook CPU Applications

The NCP6132 dual output three plus two phase buck solution is optimized for Intel IMVP-7 and VR12 compatible CPUs. The controller combines true differential voltage sensing, differential inductor DCR current sensing, input voltage feed-forward, and adaptive voltage positioning to provide accurately regulated power for both Desktop and Notebook applications. The control system is based on Dual-Edge pulse-width modulation (PWM) combined with DCR current sensing providing the fastest initial response to dynamic load events and reduced system cost. It also sheds to single phase during light load operation and can auto frequency scale in light load while maintaining excellent transient performance.

Features

- Meets Intel's VR12/IMVP7 Specifications
- Three phase CPU voltage regulator with two internal MOSFET drivers and one external MOSFET driver
- Two phase Auxiliary voltage regulator with one internal MOSFET driver and external MOSFET driver
- Current Mode Dual Edge Modulation for Fastest Initial Response to Transient Loading
- Dual High Performance Operational Error Amplifier
- One Digital Soft Start Ramp for Both Rails
- Dynamic Reference Injection
- Accurate Total Summing Current Amplifier
- DAC with Droop Feed-forward Injection(Patent Pending)
- Dual High Impedance Differential Voltage and Total Current Sense Amplifiers
- Phase-to-Phase Dynamic Current Balancing
- "Lossless" DCR Current Sensing for Current Balancing
- Summed Thermally Compensated Inductor Current Sensing for Droop
- True Differential Current Balancing Sense Amplifiers for Each Phase
- Adaptive Voltage Positioning (AVP)
- Switching Frequency Range of 200 kHz – 1.0 MHz
- Startup into Pre-Charged Loads While Avoiding False OVP
- Power Saving Phase Shedding
- Vin Feed Forward Ramp Slope
- Pin Programming for Internal SVID parameters
- Over Voltage Protection (OVP) & Under Voltage Protection (UVP)
- Over Current Protection (OCP)
- Dual Power Good Output with Internal Delays
- These Devices are Pb-Free and are RoHS Compliant

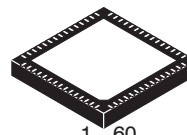
Applications

- Desktop & Notebook Processors



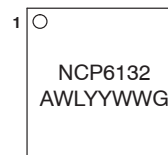
ON Semiconductor®

<http://onsemi.com>



QFN60
CASE 485BB

MARKING DIAGRAM



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

ORDERING INFORMATION

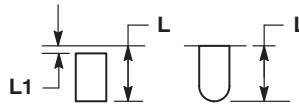
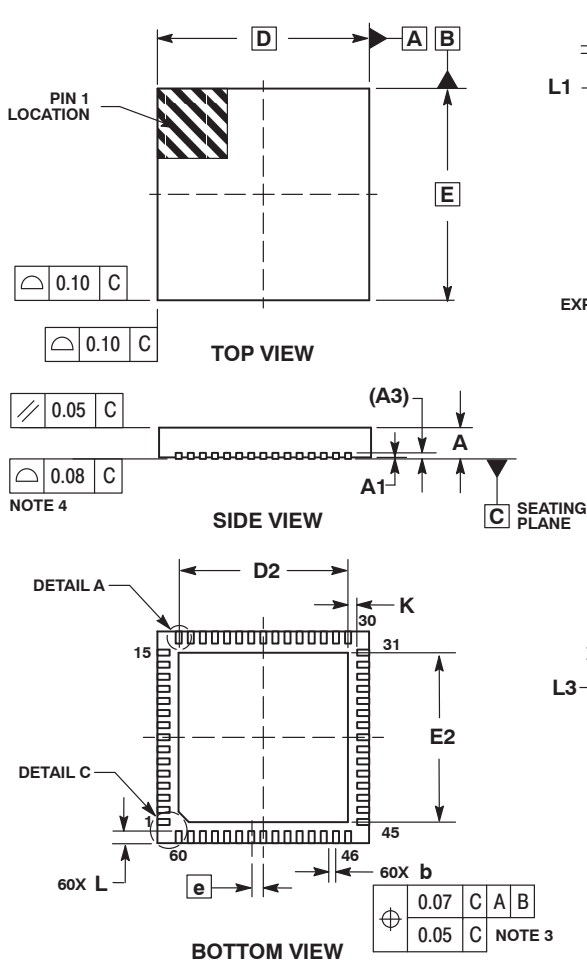
Device	Package	Shipping†
NCP6132MNR2G	QFN60 (Pb-Free)	2500/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

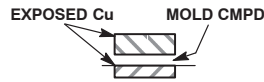
NCP6132

PACKAGE DIMENSIONS

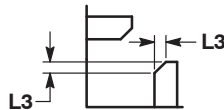
QFN60 7x7, 0.4P
CASE 485BB-01
ISSUE A



DETAIL A
ALTERNATE TERMINAL
CONSTRUCTIONS



DETAIL B
ALTERNATE
CONSTRUCTIONS



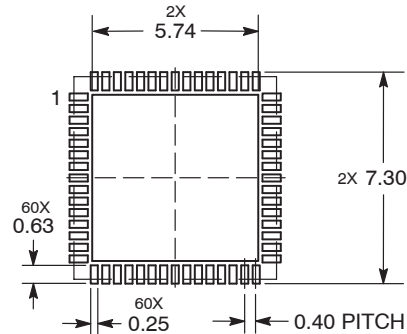
DETAIL C
ALTERNATE CORNER
LEAD CONSTRUCTION

NOTES:

1. DIMENSIONS AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b APPLIES TO THE PLATED TERMINAL AND IS MEASURED ABETWEEN 0.15 AND 0.30 MM FROM TERMINAL TIP.
4. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

MILLIMETERS		
DIM	MIN	MAX
A	0.80	1.00
A1	0.00	0.05
A3	0.20	REF
b	0.15	0.25
D	7.00	BSC
D2	5.50	5.70
E	7.00	BSC
E2	5.50	5.70
e	0.40	BSC
K	0.30	REF
L	0.30	0.50
L1	---	0.15
L3	0.10	REF

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

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

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