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LP3917

CDMA Cellular Phone Power Management Unit

General Description

LP3917 is a complete Power Management Unit designed for CDMA cellular phones. LP3917 PMU contains 9 low noise low dropout voltage regulators, 2 buck regulators, an USB Transceiver, two comparators and a high speed serial interface to program on/off conditions and output voltages of individual regulators, and to read status information of the PMU.

Buck regulators have an automatic switch to PFM mode at low load conditions allowing very good efficiency also at low output currents.

LDO regulators provide very low noise, 35 μV typ, ideally suited for supplying voltage to RF section.

Two comparators can be used for detecting external accessories like ear plug etc.

LP3917 can use interrupt for alerting BB processor of status changes instead of using inefficient status polling.

Key Specifications

- 3.0V to 5.5V Input Voltage Range
- 170 mV typ Dropout Voltage on LDO's @ 300 mA
- 2% (typ) Output Voltage accuracy on LDO's
- 35 μV noise on LDO's
- 800/600 mA Buck regulators with 3% (typ) Accuracy and up to 90% efficiency

Features

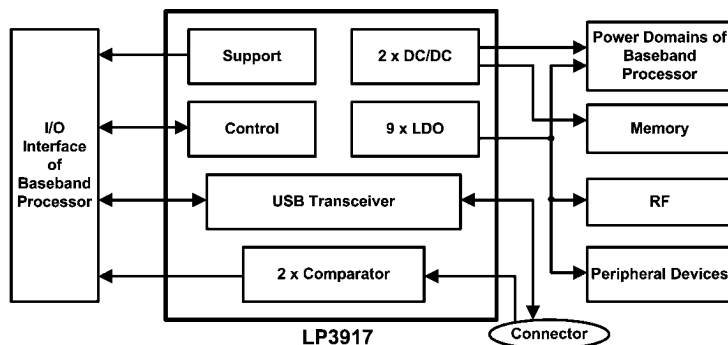
- Two high efficiency Synchronous Magnetic Buck Regulators, I_{OUT} 800 mA and 600 mA
High efficiency PFM mode @ low I_{OUT}
Auto Mode PFM/PWM switch
- Low inductance 2.2 μH @ 2 MHz clock
- 9 Low Noise LDO's
3 x 300 mA
5 x 150 mA
1 x 80 mA
- SW controllable LDO outputs
- USB 2.0 compatible Transceiver (12 Mbps)
- Thermal Shutdown with Early Warning Alarm
- Very low Sleep mode current
- Battery Voltage Monitor output
- Interrupt Request for reducing SW polling
- Ultra small 3.5x3.5 mm Micro SMDxt 49 bump package

Applications

- CDMA Handsets

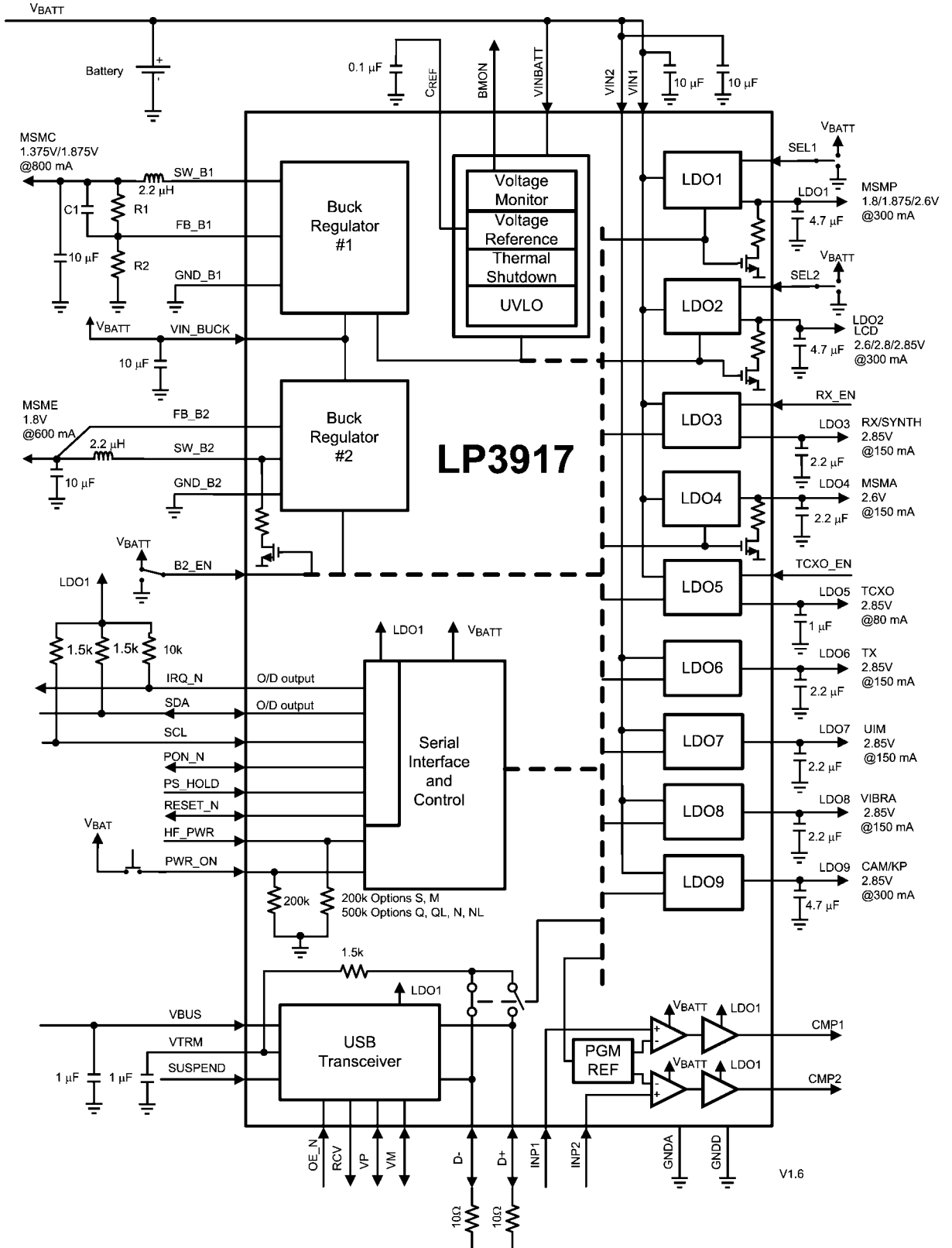
Please contact NSC Sales for a full datasheet for the device.

System Diagram



20176201

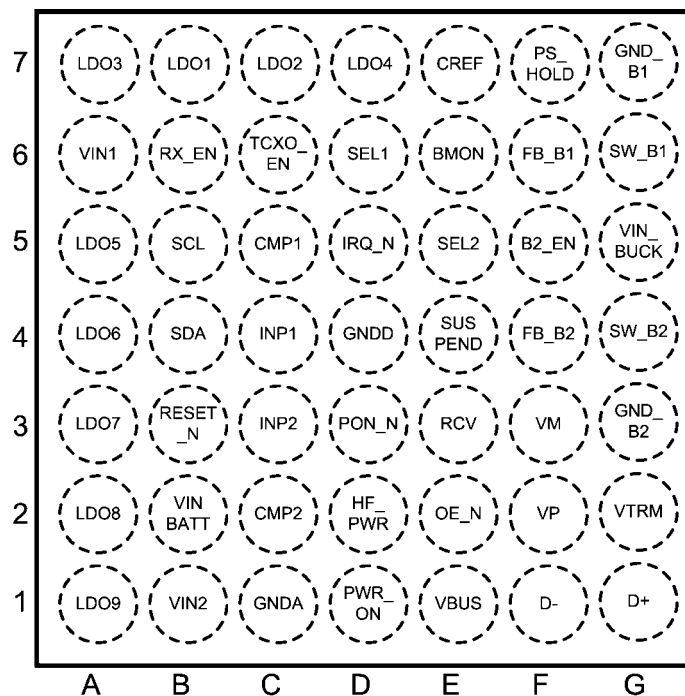
Typical Application Diagram



V1.6

20176202

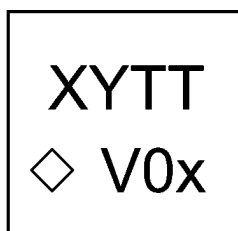
Device Pin Diagram



TOP VIEW

20176203

Package Marking Information



XY = 2 Digit Date Code
 TT = Die Traceability
 V0x = LP3917 Product ID

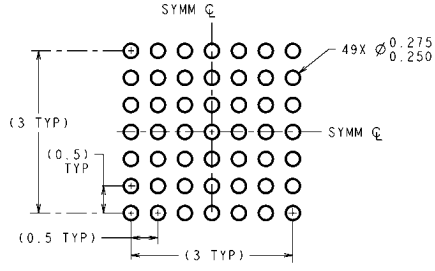
◇ = Pin 1A

20176204

Ordering Information

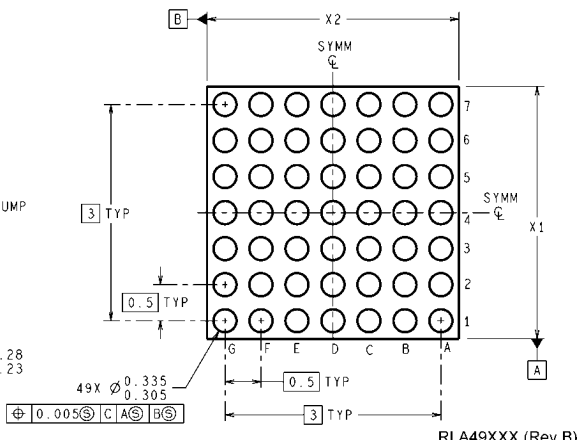
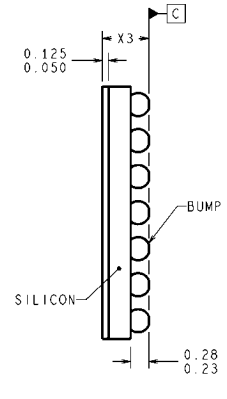
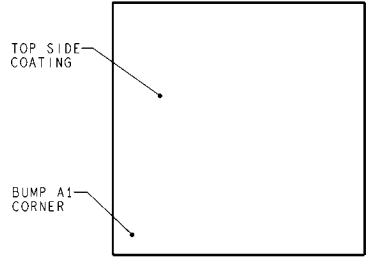
| Startup | HF_PWR trigger | LK Option | Part Number | Package Marking | Supplied As | NSC Drawing |
|----------------|----------------|-----------|--------------|-----------------|--------------------------|-------------|
| Sequential | Edge | No | LP3917RL-S | V01 | 250 units tape and reel | RLA49 |
| | | | LP3917RLX-S | | 1000 units tape and reel | |
| Non-Sequential | Edge | No | LP3917RL-M | V05 | 250 units tape and reel | |
| | | | LP3917RLX-M | | 1000 units tape and reel | |
| Sequential | Level | No | LP3917RL-Q | V04 | 250 units tape and reel | |
| | | | LP3917RLX-Q | | 1000 units tape and reel | |
| Sequential | Level | Yes | LP3917RL-QL | V06 | 250 units tape and reel | |
| | | | LP3917RLX-QL | | 1000 units tape and reel | |
| Non-Sequential | Level | No | LP3917RL-N | V03 | 250 units tape and reel | |
| | | | LP3917RLX-N | | 1000 units tape and reel | |
| Non-Sequential | Level | Yes | LP3917RL-NL | V07 | 250 units tape and reel | |
| | | | LP3917RLX-NL | | 1000 units tape and reel | |

Physical Dimensions inches (millimeters) unless otherwise noted



DIMENSIONS ARE IN MILLIMETERS
DIMENSIONS IN () FOR REFERENCE ONLY

LAND PATTERN RECOMMENDATION



Micro SMDxt 49 Package
NS Package Number MKT-RLA49AAA
X1 = 3.465mm ± 0.030mm
X2 = 3.465mm ± 0.030mm
X3 = 0.650mm ± 0.075mm

RLA49XXX (Rev B)

Notes

Notes

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