I`ve facing a problem with my power management circuit based on TPS61202 IC. When supplied by single cell Li-ion the IC and inductor burn and do not work (no 5V in Vout).

I ask expert team to help me reviewing the design and suggesting ways for fixing this issue.

* Circuit Detail:



Vin = 2.5V ~ 3.7V

Expected Vout = 5V

Iout = 0.3A

* Bill of material:

|  |  |  |  |
| --- | --- | --- | --- |
| Designator | Quantity | Manuf\_part\_1 | Manuf\_1 |
| C3 | 1 | CC0402KRX7R7BB104 | YAGEO |
| C4 | 1 | DNP |   |
| C28 | 1 | TAJA475K016R | AVX |
| C29 | 1 | TAJA106K016R | AVX |
| C37 | 1 | TAJA106K016R | AVX |
| C41 | 1 | CC0402KRX7R7BB104 | YAGEO |
| C99 | 1 | TAJA475K016R | AVX |
| C100 | 1 | TAJA475K016R | AVX |
| C102 | 1 | LMK107B7105MAHT | Taiyo Yuden |
| C103 | 1 | TAJA106K016R | AVX |
| CN14 | 1 |   |   |
| CN15 | 1 | 505567-0281 | MOLEX |
| D6 | 1 | RSX071VYM30FHTR | Rohm Semiconductor |
| D7 | 1 | ESDZL5-1F4 | ST |
| L6 | 1 | LQH3NPN2R2MJRL | Murata |
| Q1 | 1 | NVR1P02T1G | ON Semiconductor |
| R1 | 1 | DNP |   |
| R2 | 1 | RC0603FR-07510RL | YAGEO |
| R3 | 1 | RC0603FR-07680RL | YAGEO |
| R4 | 1 | RC0603FR-07680RL | YAGEO |
| R5 | 1 | RC0603FR-07680RL | YAGEO |
| R6 | 1 | RC0603FR-07100KL | YAGEO |
| R7 | 1 | RC0603FR-07820RL | YAGEO |
| R8 | 1 | DNP |   |
| R9 | 1 | RC0603FR-0710KL | YAGEO |
| R10 | 1 | RC0603FR-07100RL | YAGEO |
| R11 | 1 | RC0603FR-0710KL | YAGEO |
| R12 | 1 | DNP |   |
| R13 | 1 | DNP |   |
| R18 | 1 | RC0603FR-07330RL | YAGEO |
| R19 | 1 | RC0603FR-07220KL | YAGEO |
| R44 | 1 | RC0603JR-070RL | YAGEO |
| R45 | 1 | RC0603FR-0710KL | YAGEO |
| R50 | 1 | RC0603FR-0710KL | YAGEO |
| R51 | 1 | CRCW06032M00FKEAC | Vishay |
| R52 | 1 | RC0603FR-07180RL | YAGEO |
| SB1 | 1 | DNP |   |
| SB8 | 1 | DNP |   |
| SB22 | 1 | DNP |   |
| U7 | 1 | LD1117S33TR | ST |
| U15 | 1 | MCP73831T-2ATI/OT | Integrated Circuits |
| U17 | 1 | TPS61202DRC | Texas Instruments |