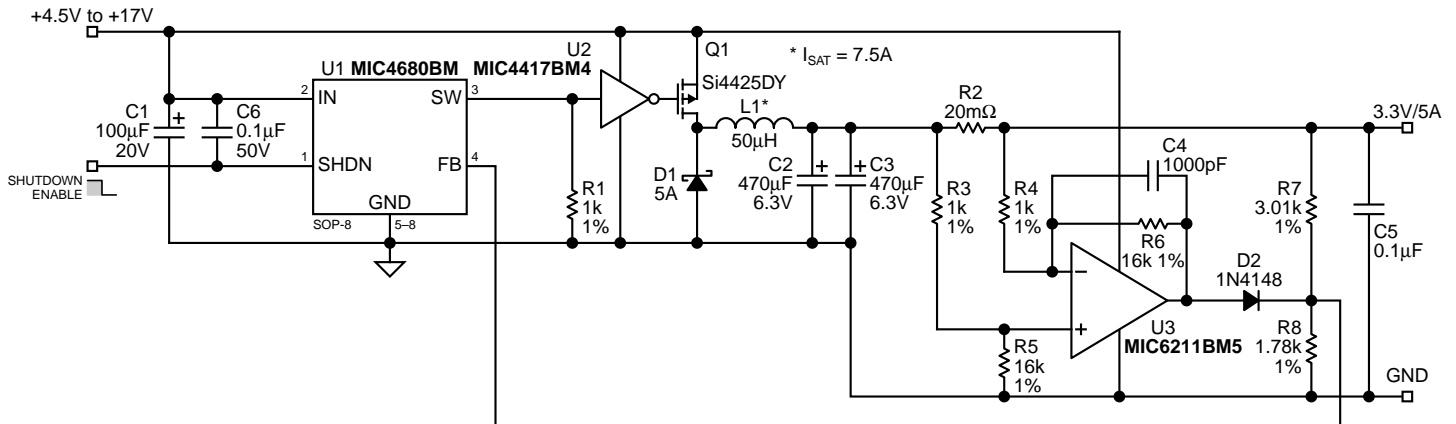


Circuit Performance

- Easily upgradable to 20A (change FET and R2)
- 2% voltage accuracy over temperature
- 190 line regulation



Bill of Material

| Reference | Part Number | Manufacturer | Description | Qty |
|------------|-------------------|------------------------------------|-------------------------------------|-----|
| C1 | TPSV107020R0085 | AVX | 100µF 20V, tantalum | 1 |
| C2, C3 | TPSE477006R0050 | AVX | 470µF 6.3V, tantalum | 2 |
| C4 | 08055C102KAT1 | AVX or other | 1000pF 50V, ceramic | 1 |
| C5, C6 | 08055C104KAT2 | AVX or other | 0.1µF 50V, ceramic | 2 |
| D1 | 50SQ080 | IR | 5A 80V, Schottky diode | 1 |
| D2 | 1N4148 | Vishay Lite-On ^(Note 1) | | 1 |
| L1 | CTX50-2-52 | Coiltronics | 50µH, I _{SAT} = 7.5A | 1 |
| Q1 | Si4425DY | Siliconix | 20V, 5A P-channel FET | 1 |
| R1, R3, R4 | CRCW08051001FRT1 | Vishay-Dale ^(Note 2) | 1k 1% 1/4W | 3 |
| R2 | WSL-2512-R20F | Vishay-Dale ^(Note 2) | 20mΩ 5% 1W | 1 |
| R5, R6 | CRCW08051602FRT1 | Vishay-Dale ^(Note 2) | 16k 1% 1/4W | 2 |
| R7 | CRCW08053011FRT1 | Vishay-Dale ^(Note 2) | 3.01k 1% 1/4W | 1 |
| R8 | CRCW08051781FRT1 | Vishay-Dale ^(Note 2) | 1.78k 1% 1/4W | 1 |
| U1 | MIC4680BM | Micrel | 1A 200kHz power-SO-8 buck regulator | 1 |
| U2 | MIC4417BM4 | Micrel | IttyBitty™ low-side MOSFET driver | 1 |
| U3 | MIC6211BM5 | Micrel | IttyBitty™ operational amplifier | 1 |

Note 1: Vishay-Lite On, Inc. (805) 446-4800

Note 2: Vishay-Dale (402) 371-0080

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