

AC/DC Converter Controller

Application Information

| | |
|-----------------|-------------------|
| IC Product Name | BM2P201W-Z |
| Control Method | PWM |
| Input | 85 Vac to 264 Vac |
| Output | 19.5V 0.5A |
| Type | Non- Isolation |
| Document Number | 66AN139E |
| Revision | 001 |

Reference Circuit

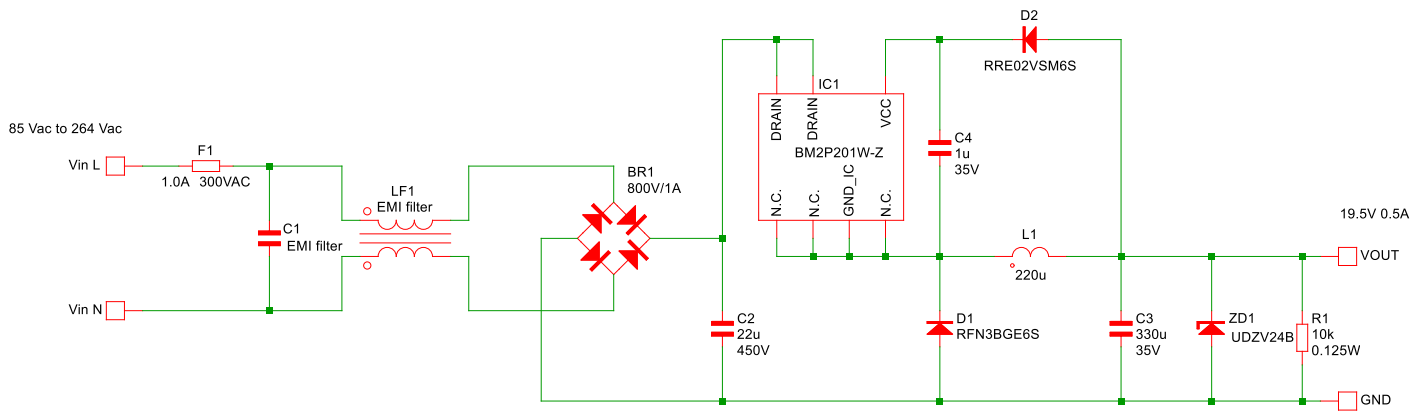


Fig1. Reference Circuit

Bill of Materials

| Item | Specification | Parts name | Manufacture |
|------|---------------|--------------|-------------|
| IC1 | | BM2P201W-Z | Rohm |
| BR1 | 800V/1A | | |
| C1 | EMI filter | X-Capacitor | |
| C2 | 22uF/450V | | |
| C3 | 330uF/35V | | |
| C4 | 1uF/35V | | |
| D1 | 600V/3A | RFN3BGE6S | Rohm |
| D2 | 600V/0.2A | RRE02VSM6S | Rohm |
| F1 | 1.0A/300VAC | | |
| L1※ | 220uH/1.5A | | |
| LF1 | EMI filter | | |
| R1 | 10kΩ/0.125W | MCR10EZPJ103 | Rohm |
| ZD1 | 24V/0.2W | UDZV24B | Rohm |

※コイルは閉磁型のものを選んでください。

Use a shield coil.

Fig2. Bill of Materials

Typical Characteristics

| | 85Vac | 100Vac | 230Vac | 264Vac |
|--------|--------|--------|--------|--------|
| 0A | 20.54V | 20.54V | 20.66V | 20.70V |
| 0.005A | 20.25V | 20.24V | 20.25V | 20.25V |
| 0.01A | 20.14V | 20.15V | 20.14V | 20.14V |
| 0.025A | 19.92V | 19.92V | 20.03V | 20.02V |
| 0.05A | 19.78V | 19.78V | 19.82V | 19.83V |
| 0.07A | 19.72V | 19.71V | 19.72V | 19.73V |
| 0.1A | 19.69V | 19.68V | 19.66V | 19.66V |
| 0.2A | 19.63V | 19.62V | 19.59V | 19.59V |
| 0.3A | 19.60V | 19.59V | 19.56V | 19.55V |
| 0.4A | 19.56V | 19.56V | 19.54V | 19.53V |
| 0.5A | 19.55V | 19.54V | 19.51V | 19.51V |

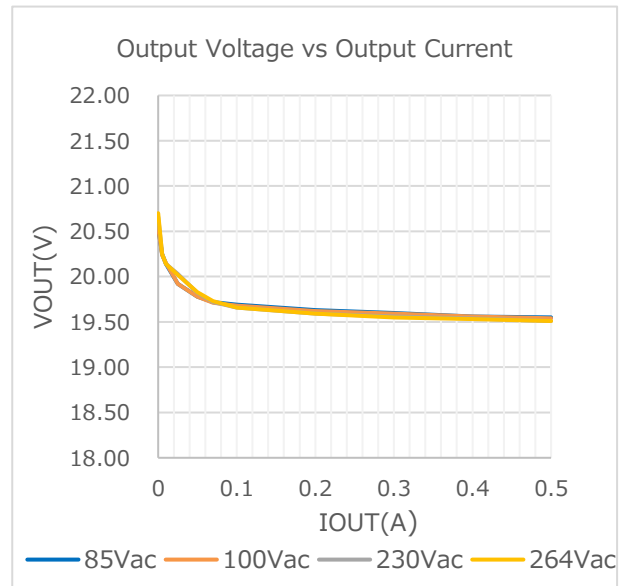


Fig3. Output Voltage vs Output Current

| | 85Vac | 100Vac | 230Vac | 264Vac |
|--------|-------|--------|--------|--------|
| 0.005A | 54.1% | 53.0% | 51.9% | 51.8% |
| 0.01A | 64.8% | 63.8% | 61.6% | 61.0% |
| 0.025A | 78.5% | 77.8% | 71.2% | 70.4% |
| 0.05A | 83.9% | 83.5% | 78.6% | 77.1% |
| 0.07A | 85.4% | 85.1% | 81.5% | 80.2% |
| 0.1A | 85.9% | 85.7% | 83.0% | 82.0% |
| 0.2A | 87.5% | 87.3% | 84.5% | 83.9% |
| 0.3A | 87.7% | 87.6% | 85.5% | 84.7% |
| 0.4A | 88.1% | 88.0% | 86.0% | 85.2% |
| 0.5A | 88.1% | 88.0% | 86.3% | 85.7% |

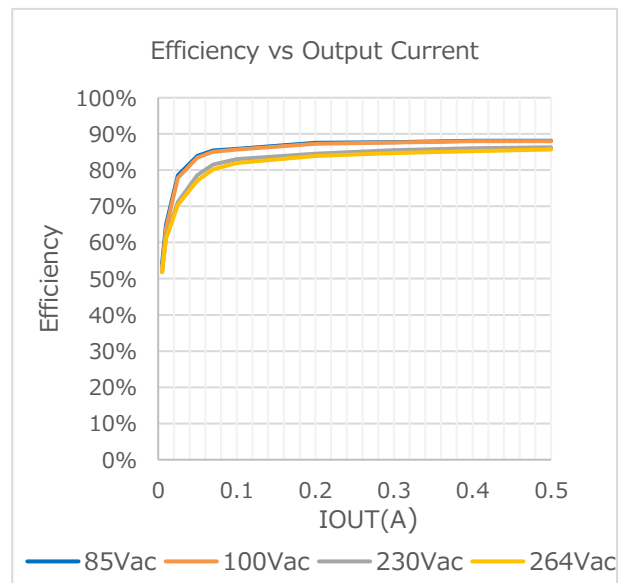


Fig4. Efficiency vs Output Current

Revision History

| Date | Revision | Changes |
|-------------|----------|-------------|
| 19.Feb.2024 | 001 | New Release |

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