



mEZ Product Options:

1. Ready-to-Use products
 2. Do-It-Yourself.
- Manufacture assistance is provided



Typical Application Circuit

Efficiency vs. Load Current

$V_{IN}=12V, V_{OUT} = 1V - 5V$



FEATURES

- 4.5V to 24V Wide Operating Input
- 2A Load Current
- Hiccup Short-Circuit Protection
- Over-/Under-Voltage Protection
- Over-Current Protection
- Over-Temperature Protection
- Open Design Files and BOM

ORDERING INFORMATION

| Part Number | Input Voltage (V) | Output Voltage (V) | Output Current (A) |
|-------------------------------|--------------------------------|-------------------------------|--------------------|
| MEZD71202A-X | A - F: 4.5 - 24 G: 6.5 - 24 | 1, 1.2, 1.5, 1.8, 2.5, 3.3, 5 | 2 |
| Output Voltage Options | | | |
| A = 1.0V | B = 1.2V | C = 1.5V | D = 1.8V |
| E = 2.5V | F = 3.3V | G = 5.0V | |

mEZD712xx FAMILY PRODUCTS

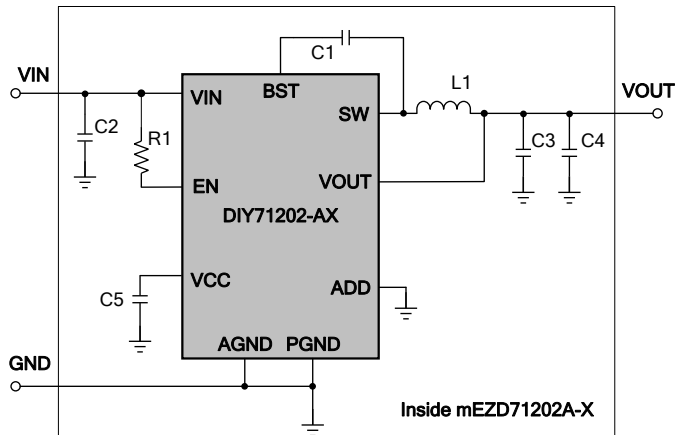
| Part Number | Input Voltage (V) | Output Voltage (V) | Output Current (A) |
|--------------|-------------------|-------------------------------|--------------------|
| mEZD71201A-X | 4.5 - 24 | 1, 1.2, 1.5, 1.8, 2.5, 3.3, 5 | 1 |
| mEZD71202A-X | 4.5 - 24 | 1, 1.2, 1.5, 1.8, 2.5, 3.3, 5 | 2 |
| mEZD71203A-X | 4.5 - 16 | 1, 1.2, 1.5, 1.8, 2.5, 3.3 | 3 |
| mEZD71210A-A | 4.5 - 17 | 1 | 10 |

ELECTRICAL CHARACTERISTICS

| | | |
|-----------------------------|---|--------------------------|
| Input Voltage Range | V_{IN_MIN} higher than V_{OUT} by 1V | 4.5 or 6.5 to 24V |
| Output Voltage Set Accuracy | | $\pm 2.5\%$ (Typ.) |
| Output Voltage Ripple | $V_{IN}=12V, V_{OUT}=3.3V$, Full Load | 33.6mV |
| Line Regulation | V_{IN} from MIN to MAX, $V_{OUT}=3.3V$ | $\pm 1\%$ (Typ.) |
| Load Regulation | I_{OUT} from MIN to MAX, $V_{OUT}=3.3V$ | $\pm 1\%$ (Typ.) |
| Switching Frequency | Typical Switching Frequency | 400kHz |
| Short-Circuit Protection | Short Output to Ground | Hiccup Mode |
| Operating Temperature Range | | -40 to 85°C |
| Over-Temperature Protection | OTP | 150°C |
| Rise Time | V_{OUT} from 0% to 90% | 0.75ms (Typ.) |
| Calculated MTBF | MIL-HDBK-217F | 4185x10 ³ hrs |

NOTE: All electrical characteristics are tested under 25°C ambient temperature, $V_{IN}=12V$ unless otherwise noted.

DO-IT-YOURSELF SCHEMATIC



POWER DERATING

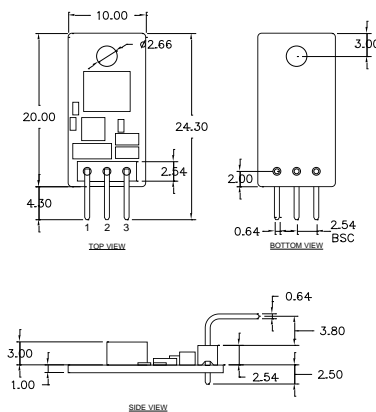


BILL OF MATERIALS

| Item | Qty | RefDes | Value | Description | Package | Manufacturer | Manufacturer P/N |
|------|-----|--------|---------------|-----------------------------------|-------------|--------------|---|
| 1 | 1 | C1 | 0.22 μ F | Ceramic Cap., 16V, X5R | 0402 | muRata | GRM155R61C224KA12D |
| 2 | 1 | C2 | 4.7 μ F | Ceramic Cap., 50V, X7R | 1206 | muRata | GRM31CR71H475KA12L |
| 3 | 2 | C3, C4 | 22 μ F | Ceramic Cap., 10V, X7T/X5R | 0805 | muRata | GRM21BD71A226ME44L/ GRM21BR61A226ME51L |
| 4 | 1 | C5 | 1 μ F | Ceramic Cap., 10V, X5R | 0402 | muRata | GRM155R61A105KE01D |
| 5 | 1 | L1* | 3.3 μ H | Indc 4.1A, DCR 27.3m Ω | 5.5x5x3mm | Panasonics | ETQP3M3R3KVP |
| 6 | 1 | R1 | 499k Ω | Film Res., 1% | 0402 | Yageo | RC0402FR-07499KL |
| 7 | 1 | P1 | 3-pin | 3-pin male connector, right angle | Bulk | MYIC | MPS010SRRA-3 |
| 8 | 1 | U1 | | Synchronous Step-Down Converter | FCQFN3x3-16 | MPS | DIY71202-AX** |

* Or equivalent. ** -X Output voltage options (A: 1.0V, B: 1.2V, C: 1.5V, D: 1.8V, E: 2.5V, F: 3.3V, G: 5.0V)

PRODUCT PACKAGE AND DIMENSIONS



| Pin | Designation | Function |
|-----|-------------|----------------|
| 1 | VIN | Input Voltage |
| 2 | GND | Power Ground |
| 3 | VOUT | Output Voltage |

NOTE:
Contact factory for different sizes of the boards (Quantity>2k).

For more information, Gerber files, and PCB layout, please contact mEZsupport@monolithicpower.com