

Partner Reference Designs

Monolithic Power Systems (MPS) offers an extensive portfolio of monolithic power solutions for a wide range of FPGAs using fully integrated power modules, making the design process faster and shortening time-to-market.

MPS has developed an innovative, proprietary process technology that delivers high efficiency, ultra-fast transient response, small size, and low cost. MPS's technology and technical support makes powering FPGAs easier than ever.

See all our partner reference designs



Isolated Power Modules

| $V_{ISO(DC)}$ / P_{OUT} | 0.25W | 0.4W | 0.6W | 1W |
|---------------------------|--|--|--|--|
| 5kV | | | | MIE1W0505BGY-5 3V – 5.5V V_{IN} 5V/3.3V V_{OUT} 5kV, Regulated SOICW-16 |
| 3kV | MID02W0303A-3 3V $_{IN}$ to 3V $_{OUT}$ Regulated SOICW-16 | MID04W0503A-3 5V $_{IN}$ to 3V $_{OUT}$ Regulated SOICW-16 | MIE05W0505BGE 3V – 5.5V V_{IN} 5V/3.3V V_{OUT} 3kV, Regulated SOICW-8 | MIE1W0505BGY-3 3V – 5.5V V_{IN} 5V/3.3V V_{OUT} 3kV, Regulated SOICW-16 |
| 1.5kV | MID02W0303A-2 3V $_{IN}$ to 3V $_{OUT}$ Regulated SOICW-16 | MID04W0503A-2 5V $_{IN}$ to 3V $_{OUT}$ Regulated SOICW-16 | MID06W0503/5A-2 3V $_{IN}$ to 3/5V $_{OUT}$ Semi-regulated SOICW-16 | MIE1W0505BGLVH 3V – 5.5V V_{IN} 5V/3.3V V_{OUT} 2.5kV, Regulated 4mm x 5mm LGA-12 |

Visit MonolithicPower.com for more information.

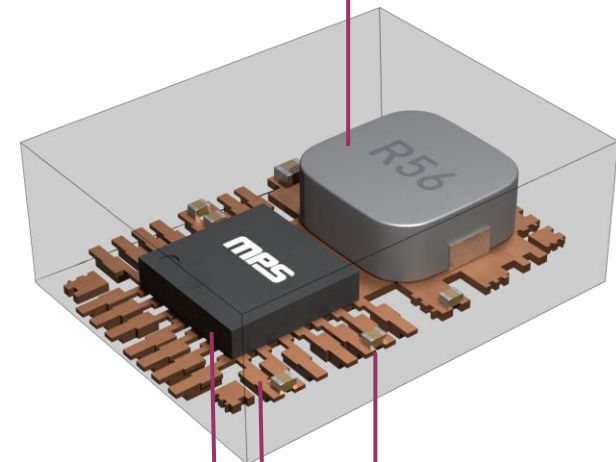
MPS

Power Module Family

MPS's power modules have a wide V_{IN} and I_{OUT} range with a variety of packages. Our extensive portfolio of DC/DC modules integrate inductors, FETs, compensation, and other passive components into a single package to simplify the design process. Choose what module works best for your design based on our beneficial features.

- ✓ Better EMI Performance
- ✓ Simplified Board Layout
- ✓ Faster Time-to-Market
- ✓ Simplified BOM
- ✓ Minimum External Components
- ✓ Smallest Solution Size
- ✓ Full Qualification as a Complete Power Supply

Customized, Soft Saturation Inductor



Monolithic Power Stage

Wide Temperature Range Passives

Mesh-Connect Packaging Technology

Visit MonolithicPower.com for more information.

Single-Output Step-Down Power Modules

| V _{IN} \ I _{OUT} | 0.6A | 1A | 2A | 3A | 4A | 6-8A |
|------------------------------------|---|---|--|--|--|--|
| >50V | | MPM3572 80V, 1A 6x6x2mm | | MPM3530 55V, 3A 10x12x4mm | | |
| <45V | | MPM3510A 36V, 1.2A 3x5x1.6mm | | MPM3593 36V, 3A 6x8x1.6mm | | |
| | MPM3506A 35V, 0.6A 3x5x1.6mm | MPM3515A <small>AEC</small> 36V, 1.5A 3x5x1.6mm | | MPM3551 <small>AEC</small> 36V, 3A 4x6x1.6mm | MPM3550E 36V, 5A 12x12x4mm | MPM3596 45V, 3A,3A/6A 10x10x4.4mm |
| <18V | MPM3606 21V, 0.6A 3x5x1.6mm | MPM3612 22V, 1A 3x3x2mm | MPM3620/A 24V, 2A 3x5x1.6mm | MPM3632S/C 18V, 3A 3x3x1.45mm | | MPM3650/C 17V, 6A 4x6x1.6mm |
| | | MPM3610/A 21V, 1A 3x5x1.6mm | | MPM3630 18V, 3A 3x5x1.6mm | | MPM3683-7 16V, 8A 7x6x4mm |
| <6V | MPM3809C 5.5V, 0.6A 1.5x2x1mm | MPM3816C 6V, 1A 2x2.2x1.2mm | MPM3826C 6V, 2A 2x2.2x1.2mm | MPM3836C 6V, 3A 2x2.2x1.2mm | MPM3846C 6V, 4A 2x2.2x1.2mm | MPM3864 7V, 6A 3x3x1.85mm |
| | MPM3804 5.5V, 0.6A 2x2x0.9mm | MPM3814C 6V, 1A 2.5x2.5x1.2mm | MPM3824C 6V, 2A 2.5x2.5x1.2mm | MPM3834C 6V, 3A 2.5x2.5x1.2mm | | |
| | MPM3805A <small>AEC</small> 6V, 0.6A 3x2.5x0.9mm | MPM3810A <small>AEC</small> 6V, 1.2A 3x2.5x0.9mm | MPM3820 6V, 2A 3x5x1.6mm | MPM3808/C <small>AEC</small> 5.5V, 1-3A 3x5x1.6mm | MPM3840 6V, 4A 3x5x1.6mm | MPM3860 6V, 6A 4x6x1.6mm |

| V _{IN} \ I _{OUT} | 10A | 20A | 30A | 50A | 100A | 100A+ |
|------------------------------------|--|--|--|---|---|---|
| <45V | MPM3519 36V, 10A Sync 7x7mm | | | | | |
| <18V | MPM3685 16V, 15A 5x5x2.9 | MPM3690-20B 16V, 26A 16x16x5.18 | MPM3690-30B 36A 16x16x5.18 | MPM3690-50B 50A 16x16x5.18 | MPM3695-100 16V, 100A 15x30x5.18 | MPM3698/99 Scalable 15x30x5.18 |
| | MPM3683-10 16V, 10A 7x7x4.4 | MPM3695-25 16V, 20A 10x12x4 | MPM3695-20 16V, 25A 5x6x4.4 | MPM3690-50D 50A 16x16x5.18 | | |
| | MPM3695-10 16V, 10A 8x8x2mm | MPM3690S-20 25A 5x6x4.4 | | | | |
| | | MPM3683-20 16V, 20A 7x7x4.4 | | | | |

Multiple-Output Step-Down Power Modules

| V _{IN} \ I _{OUT} | 1A | 2A | 3A | 5A | 10A+ | 25A+ |
|------------------------------------|---------------------------------------|--|--|---|--|---|
| <45V | | | MPM3596 3A, 3A 10x10x4.4mm | | MPM3599 12A, 12A 15x30x5.2mm | |
| <16V | | | MPM54304 2A, 2A, 3A, 3A 7x7x2mm | MPM54504 4 x 5A 9x15x5.2mm | MPM81204 12A,12A,5A,5A 9x15x5.2mm | MPM82504 4 x 25A 15x30x5.2mm |
| | | | MPM54313 3A, 3A, 3A 8x9x2.58mm | MPM54524 4 x 5A 8x8x2.9mm | MPM3690-20A 13A, 13A 16x16x5.2mm | MPM3690-50A 25A, 25A 16x16x5.2mm |
| | | | MPM54322 3A, 3A 5x5.5x1.86mm | MPM54532 6A, 6A 5x5.5x1.85mm | MPM3690-30A 18A, 18A 9x15x5.2mm | |
| | | | | MPM54522 6A, 6A 5x6.5x2.76mm | | |
| <6V | MPM38111 1A,1A 4x4x1.6mm | MPM38222 2A, 2A 4x4x1.6mm | | | | |

Unregulated Step-Down Power Modules

| V _{IN} \ P _{OUT} | 300W | 800W |
|------------------------------------|---|--|
| <60V | | mEZDA-80-048-012U 54V V _{IN} 5.4V V _{OUT} 23x17x9.1mm |
| | mEZDA-30-048-048U 54V V _{IN} 5.4V V _{OUT} 27x18x6.1mm | |
| | | mEZDA-80-048-024U 54V V _{IN} 27.5V V _{OUT} 24x18x9.1mm |

Buck-Boost Power Modules

| I _{OUT} \ V _{OUT} | <22V | <6V |
|-------------------------------------|--|---|
| 1A | MPM4730 Buck-Boost 3x3x1.85mm | MPM4710 Buck-Boost 2.5x2.5x1.2mm |

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for more information.

