



Micrel's 1Q08 Quarterly Customer New Product Newsletter

Welcome to Micrel's quarterly customer product newsletter. Each quarter we will bring you a comprehensive listing of Micrel's new products. For additional information, please go to our web site at: <http://www.micrel.com>. Also, you can click on any link below to go directly to a product datasheet.

The following is a list of new Micrel products released in the first quarter of 2008.

1. **MIC2130/31:** High Voltage Synchronous Buck Control IC with Low EMI Option
2. **MIC2159:** SYNCHRONOUS-itty™ Step-Down Converter IC
3. **MIC22600 :** 1MHz 6A Integrated Switch Synchronous Buck Regulator
4. **MIC2230 :** Dual Synchronous 800mA/800mA Step-Down DC/DC Regulator
5. **MIC23250 :** 4MHz Dual 400mA Synchronous Buck Regulator with HYPER LIGHT LOAD™
6. **MIC2341/2:** Dual-Slot PCI Express Hot-Plug controller
7. **MIC2569:** CableCARD™ Power Switch
8. **MIC38300:** 3A SuperLNR™ Low Noise High Efficiency Regulator
9. **MIC47100:** 1A High Speed Low VIN LDO
10. **MIC5308/9:** Low V IN /V OUT 150mA High PSRR ULDO™ with Ultra-Low IQ
11. **MIC5331/2:** Micro-Power High Performance Dual 300mA ULDO™
12. **SY88216L:** 3.3V, 2.5Gbps Burst Mode Laser Driver
13. **SY88422L:** 4.25GHz Laser Driver with Integrated Bias

New Product Details

1. **MIC2130/31:** High Voltage Synchronous Buck Control IC with Low EMI Option

The MIC2130/1 is a high voltage input PWM synchronous buck IC. It is a voltage mode controller with a fast hysteretic control loop (FHyCL) employed during fast line and load transients. The internal gate drivers are designed to drive high current MOSFETs.

<http://www.micrel.com/page.do?page=/product-info/products/mic2130.jsp>

2. **MIC2159:** SYNCHRONOUS-itty™ Step-Down Converter IC

The MIC2159 is a high efficiency, simple to use synchronous buck controller ICs housed in a 10-pin MSOP ePAD package. The MIC2159 switches at 400kHz, allowing the smallest possible external components and is designed to drive loads up to 30A. The devices feature high output driver capability, combined with an all n-channel synchronous architecture.

<http://www.micrel.com/page.do?page=/product-info/products/mic2159.jsp>

3. **MIC22600 :** 1MHz 6A Integrated Switch Synchronous Buck Regulator

The Micrel MIC22600 is a high efficiency 6A Integrated synchronous buck (step-down) regulator. The MIC22600 is optimized for highest efficiency and achieves more than 90% efficiency, while still switching at 1MHz over a broad load range with only 1 μ H inductor and down to 47 μ F output capacitor. The ultra-high speed control loop keeps the output voltage within regulation even under extreme transient load swings commonly found in FPGAs and low voltage ASICs. The output voltage can be adjusted down to 0.7V to address all low voltage power needs. A full range of sequencing and tracking options is available with the MIC22600. The Enable/Delay pin combined with the Power Good/POR pin allows multiple outputs to be sequenced in any way during turn-on and turn-off. The RC (Ramp Control™) pin allows the device to be connected to another product in the MIC22xxx and/or MIC68xxx family, to keep the output voltages within a certain ΔV on start up.

<http://www.micrel.com/page.do?page=/product-info/products/mic22600.jsp>

4. **MIC2230 :** Dual Synchronous 800mA/800mA Step-Down DC/DC Regulator

The MIC2230 is a dual output, high-efficiency synchronous step-down DC/DC converter. The MIC2230 is ideally suited for portable systems which demand high power conversion efficiencies and fast transient performance, and is offered in a very small package. The MIC2230 features an ultra-low quiescent current in light load mode assuring minimum current draw from battery powered applications in standby modes. The MIC2230 was designed to only require miniature 2.2 μ H inductors and 10 μ F ceramic capacitors.

<http://www.micrel.com/page.do?page=/product-info/products/mic2230.jsp>

5. **MIC23250** : 4MHz Dual 400mA Synchronous Buck Regulator with HYPER LIGHT LOAD™

The MIC23250 is a high efficiency 4MHz dual 400mA synchronous buck regulator with Hyper Light Load™. Hyper Light Load™ provides all the advantages of standard light load modes, such as low quiescent current and high efficiency, but also allows the use of very small output capacitors to maintain low output ripple voltage throughout the entire load range. This benefit is not possible with other light load mode types as they trade off control speed for low standby currents. With Hyper Light Load™, the output capacitor can be reduced by up to a factor of 20 saving cost and valuable board space. The tiny package (2mm x 2mm Thin MLF ®) of the MIC23250 also saves crucial board space by using only six external components, while regulating two independent outputs up to 400mA each .

<http://www.micrel.com/page.do?page=/product-info/products/mic23250.jsp>

6. **MIC2341/2**: Dual-Slot PCI Express Hot-Plug controller

The MIC2341 is a dual-slot power controller supporting the power distribution requirements for Peripheral Component Interconnect Express (PCI Express) Hot-Plug compliant systems. The MIC2341 provides complete power control support for two PCI Express slots, including the 3.3VAUX defined by the PCI Express standards. Support for the 12V, 3.3V, and 3.3VAUX supplies includes programmable gate voltage slew-rate control, voltage supervision, programmable current limit, and circuit breaker functions. These features provide comprehensive system protection and fault isolation.

<http://www.micrel.com/page.do?page=/product-info/products/mic2341.jsp>

In addition to the features supplied by the MIC2341, in the event of an overcurrent fault on 3.3VAUX that “trips” the circuit breaker to cause the 3.3VAUX output to shut down, the MAIN outputs (3.3V and 12V) for the affected 3.3VAUX slot, A or B, will also be shut down on the MIC2342. The MIC2342 (?)controller provides truly independent output operation for MAIN and AUX.

<http://www.micrel.com/page.do?page=/product-info/products/mic2342.jsp>

7. **MIC2569**: CableCARD™ Power Switch

The MIC2569 is designed to supply power to OpenCable™ systems and CableCARD™ hosts. These CableCARDS are also known as Point of Distribution (POD) cards.

<http://www.micrel.com/page.do?page=/product-info/products/mic2569.jsp>

8. **MIC38300**: 3A SuperLNR™ Low Noise High Efficiency Regulator

The MIC38300 is a 3A step down converter and the first device in a new generation of SuperLNR™ devices providing the benefits of LDOs in respect to ease of use, fast transient performance, high PSRR and low noise, while offering the efficiency of a switching regulator.

<http://www.micrel.com/page.do?page=/product-info/products/mic38300.jsp>

9. **MIC47100:** 1A High Speed Low VIN LDO

The MIC47100 is a high speed, Low V_{IN} LDO capable of delivering up to 1A and designed to take advantage of point of load applications that use multiple supply rails to generate a low voltage, high current power supply. The MIC47100 is stable with only a 1μF ceramic output capacitor and is available in a thermally enhanced 2mm × 2mm MLF® package thus making it an optimal solution for board-constrained applications.

<http://www.micrel.com/page.do?page=/product-info/products/mic47100.jsp>

10. **MIC5308/9:** Low V_{IN} /V_{OUT} 150mA High PSRR ULDO™ with Ultra-Low IQ

The MIC5308 is a high performance, μCap low dropout regulator, offering ultra-low operating current, while maintaining very fast transient response. The MIC5308 can source up to 150mA of output current and can regulate down from a low input supply voltage to increase system efficiency.

<http://www.micrel.com/page.do?page=/product-info/products/mic5308.jsp>

The MIC5309 is a high performance, μCap low dropout regulator, offering ultra-low operating current while maintaining very fast transient response. The MIC5309 can source up to 300mA of output current and can regulate down from a low input supply voltage to increase system efficiency.

<http://www.micrel.com/page.do?page=/product-info/products/mic5309.jsp>

11. **MIC5331/2:** Micro-Power High Performance Dual 300mA ULDO™

The MIC5331 is a tiny dual, low-quiescent current LDO, ideal for applications that are power sensitive. The MIC5331 integrates two high performance, 300mA LDOs into a tiny 2mm x 2mm Thin MLF® package, which occupies less PC board area than a single SOT-23 package.

<http://www.micrel.com/page.do?page=/product-info/products/mic5331.jsp>

The MIC5332 is a tiny dual low quiescent current LDO ideal for applications that are power sensitive. The MIC5332 integrates two high performance 300mA LDOs, and a POR generator into a 2mm x 2mm Thin MLF® package. This solution occupies the same PC board area of a single SOT-23 package.

<http://www.micrel.com/page.do?page=/product-info/products/mic5332.jsp>

12. **SY88216L:** 3.3V, 2.5Gbps Burst Mode Laser Driver

The SY88216L is a single supply 3.3V burst mode laser driver for A-PON, B-PON, EPON, GE-PON, and G-PON applications with data rates from 155Mbps up to 2.5Gbps. The driver can deliver modulation current up to 85mA, and provides a high compliance voltage that makes it suitable for high-current operation with the laser DC-coupled to it.

<http://www.micrel.com/page.do?page=/product-info/products/sy88216l.jsp>

13. **SY88422L:** 4.25GHz Laser Driver with Integrated Bias

The SY88422L is a single 3.3V supply, small form factor laser driver for telecom/datacom applications up to 4.25Gbps. The driver can deliver modulation current up to 90mA and a bias current up to 100mA.

<http://www.micrel.com/page.do?page=/product-info/products/sy88422l.jsp>