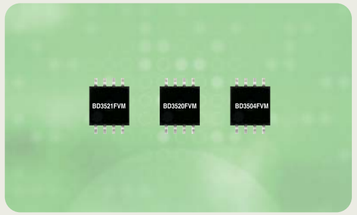


Ultra-low saturation and external FET enable high efficiency, large current drive with high speed response

Ultra-low Saturation Linear Power Supply Controllers for PCs

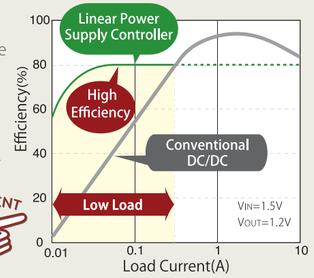
BD3521FVM / BD3520FVM / BD3504FVM

ROHM's ultra-low saturation linear power supply controllers are optimized to provide a high level of precision and excellent responsiveness for power supplies required by chipsets. The external FET allows customization of the output current as well as the difference between the input and output voltages. Replace the multiple excessive switching power supplies prevalent in today's inefficient PC systems with ROHM's supply controller.

Configure high efficiency power supplies comparable to switching systems

A 5V power supply that drives an external N-channel FET results in ultra-low saturation with a remarkably low input/output voltage difference of 300mA (max. when Io = 10A). Power loss is minimized by lowering the input voltage, making it ideal for lower voltage PC chipsets.

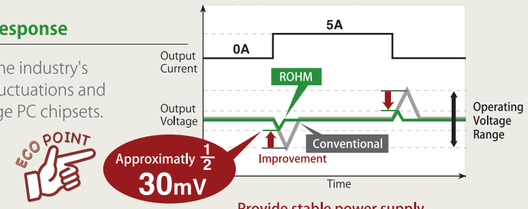
■High Efficiency Power Supply Configuration Example



Safe operation with high-speed load response

Original control technology is utilized for the industry's best responsiveness. Suppresses voltage fluctuations and provides stable power supply to low voltage PC chipsets.

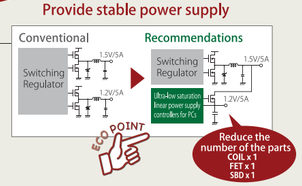
■High-Speed Load Response



Eliminate parts, beginning with switching power supplies

Conventional A Class power supplies often exhibit high saturated voltage and considerable heat generation during high current flow - reasons why switching power supplies are often used. However, ROHM offers a more efficient solution with its lineup of ultra-low saturation power supply controllers, featuring low heat generation (high efficiency) even during high current dray (several Amperes). Additional advantages include a reduction in the number of parts required along with mounting area.

Provide stable power supply



Features

- High-speed load response
- Timer latch protection circuit
- Soft start circuit
- Stable operation even with pulse loads
- High precision output voltage
- Built-in output discharge circuit
- 0μA standby current
- No input sequence required

Line up

Part No.	Input voltage (V)	Output voltage (V)	Voltage precision (%)	Output current (A)	Timer latch type	NRCS (soft start)	Thermal shut down	UVLO
BD3521FVM	4.5 to 5.5	1.5	±1	Depend on external FET	✓	Variable	Latch type	✓
BD3520FVM		1.2						
BD3504FVM		Variable (0.65 to 2.5)						

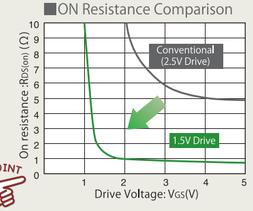
ON power consumption reduced by up to 85%

1.5V Drive MOSFETs

ECOMOS™ series

Original low voltage drive processes are used for stable operation at VGS = 1.5V.
ON-resistance is greatly reduced compared to conventional 2.5V drives – from 20% to 85%.

■ON Resistance Comparison



Line up

Pch MOSFET ※1:VGS=−1.5V

Part No.	Package	VDSS (V)	ID (A)	RDS(on)※1 (mΩ)
RZQ050P01	TSMT6	-12	-5	44
RZR040P01	TSMT3		-4	55
RZL035P01	TUMT6		-3.5	66
RZF030P01	TUMT3		-3	72

Nch MOSFET ※2:VGS=1.5V

Part No.	Package	VDSS (V)	ID (A)	RDS(on)※2 (mΩ)
RUQ050N02	TSMT6	20	5	40
RUR040N02	TSMT3		4	55
RUL035N02	TUMT6		3.5	66
RUF025N02	TUMT3		2.5	80

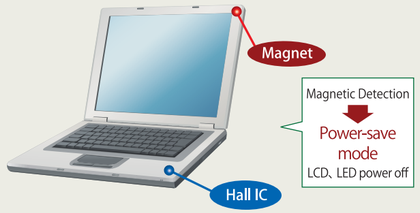
5μA (typ.) current consumption due to intermittent operation

Hall ICs

(For magnetic open/close switches)

BU520□□ series

Hall ICs enjoy widespread use due to their high sensitivity and low power consumption. ROHM utilizes Hall ICs not for constant sensing, but for detection within a fixed period, resulting in a current consumption of only 5μA (typ.). In addition, CMOS output minimizes power consumption during magnetic detection.

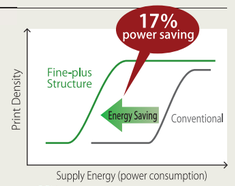


Powered with a single lithium ion battery cell (2.7V)

Thermal Printheads for mobile printers

B series for mobile printers

Mobile printers have stringent voltage and current limits.Cutting-edge LSI mounting technologies has enabled ROHM to develop more compact, lighter printheads featuring top-shelf energy savings and can be driven with a single lithium ion battery cell (2.7V).



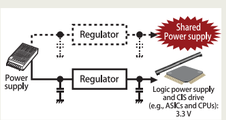
Line up

Part No.	Resolutions (dpi)	Print Width (mm)	Number of dot (dots)	Resistance Tolerance (W)	Resistance Variation (%)	Platen Diameter Max. (mm)	Print Speed (mm/s)	Logic Voltage (V)	Supply Voltage (V)	Connector Type	Heat Sink	Abrasion Life (km)	Pulse Life (pulses)
KA2002-BE10A	203	48	384	176	±4	8.0	25 to 100	2.7 to 5.25	3.13 to 8.5	21 (FFC)	None	50	50 million
KA2002-BE13A		48	384			14.0							
KA2003-BE51A		72	576			14.0				28 (FFC)			
KA2004-BE51A		104	832			14.0							

Compatible with 3.3V drive

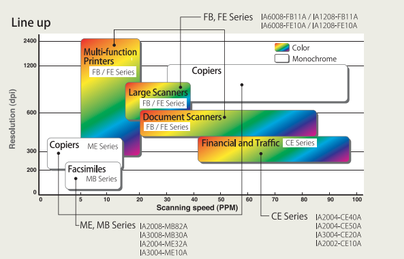
Image Sensor Heads

3.3V input interface allows direct drive from an ASIC, simplifying set design while enabling compatibility with common power supplies, contributing to increased energy savings.



ROHM's CIS is driven at low voltage, contributing to power savings in the end equipment.

Line up



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