AC/DC Converter IC Guidelines

These Application Notes introduce our AC/DC ICs according to power supply method, output power, function, and other main parameters. Please select the ideal model based on these factors.

<AC/DC IC Classifications>

ROHM AC/DC ICs are classified into the following 3 categories (See Fig. 1).

1) **PWM Method**
   - **1a) Control ICs**
   - **1b) Control ICs with Built-In MOSFET**
2) **Quasi-Resonant Control ICs**
3) **Complex PFC+Quasi-Resonant (QR) ICs**

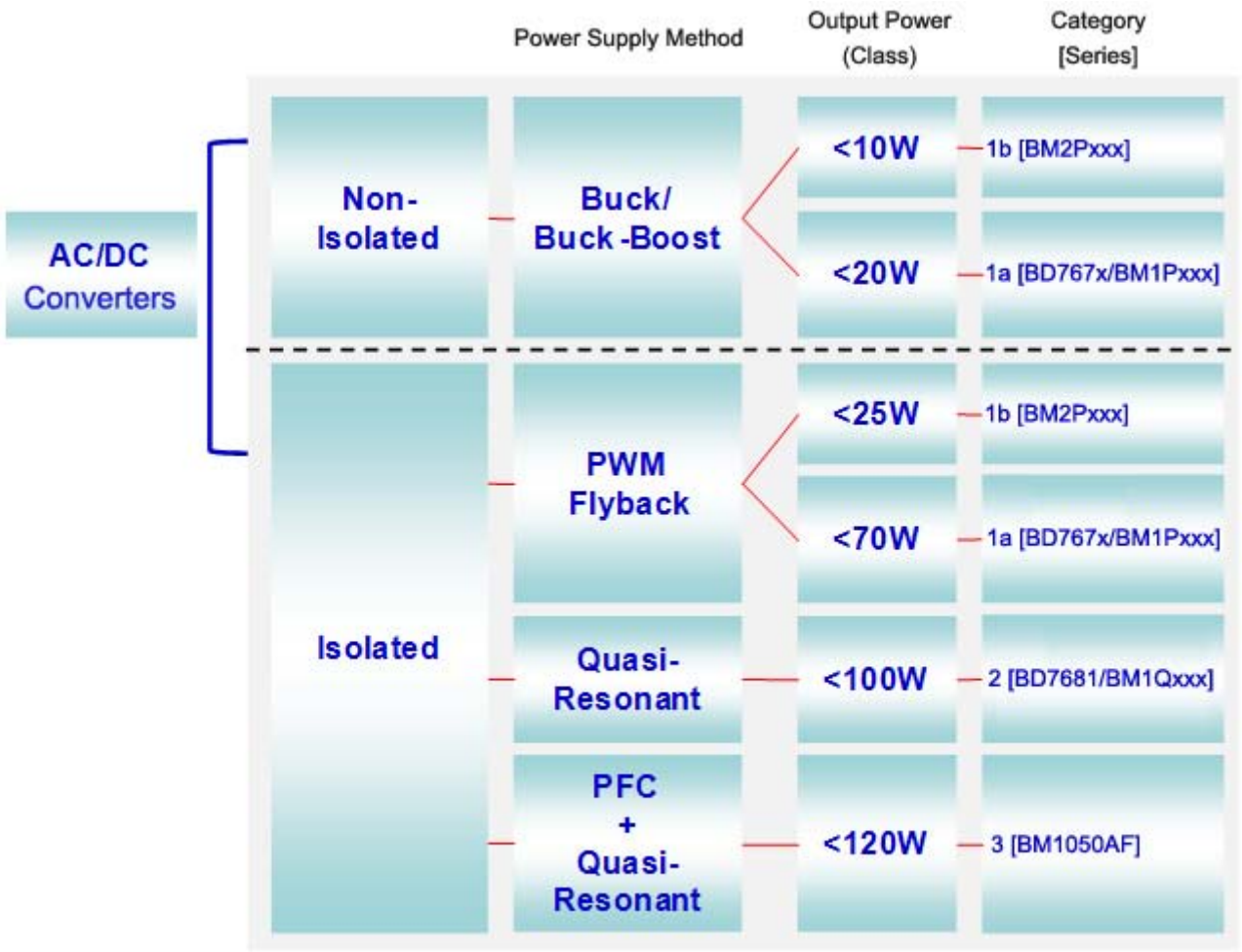
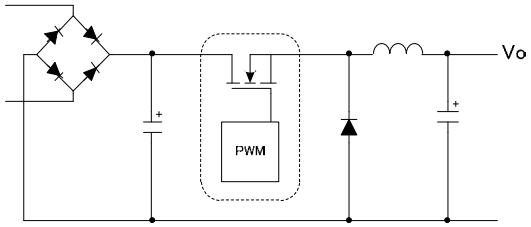


Figure 1. AC/DC Converter Classification Chart

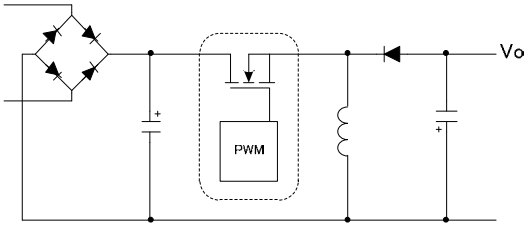
＜Application Circuit Diagrams＞

Non-Isolated Type

Buck Converter

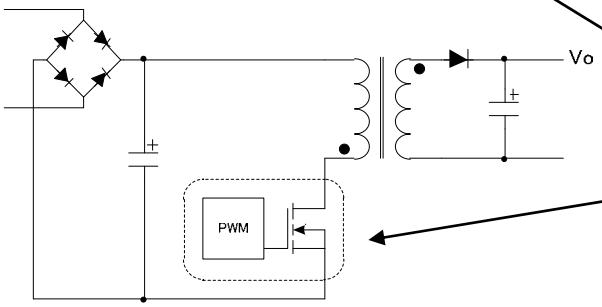


Buck-Boost Converter



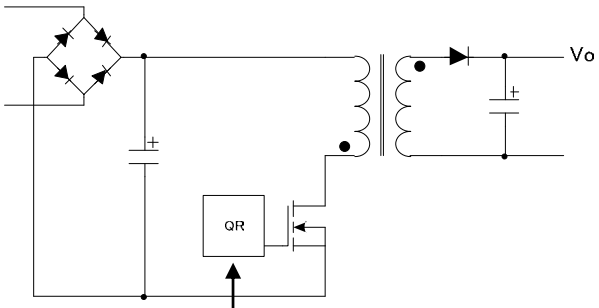
Isolated Type

PWM Flyback Converter



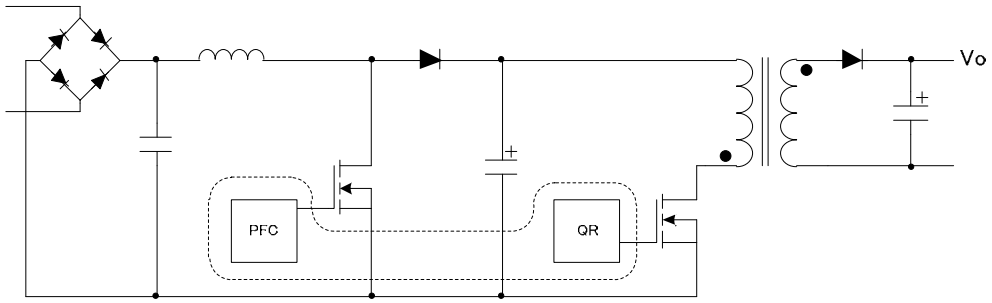
PWM Control IC
or
PWM Control IC with Built-In MOSFET

Quasi-Resonant Converter



QRControl IC

PFC+QR converter



PFC+QR Control IC

＜AC/DC ICLineup＞

1a) PWM Control ICs

Part No.	Supply Voltage (V)	Frequency (kHz)	Peak Output Current (A)	Startup Current (uA)	Functions							Package
					OLP	Vcc OVP	Brownout	MASK	Input Correction	External Stop	Gate Clamp	
BD7671FVM	9.5～22	65	±0.5	30	Auto-reset	Auto-reset	None	None	None	Included	None	MSOP8
BD7671FJ	9.5～22	65	±1	30	Auto-reset	Auto-reset	None	None	None	Included	None	SOP-J8
BD7672AG	8.5～25	65	±1	20	Auto-reset	Latch stop	None	None	None	Included	None	SSOP6
BD7673G	8.5～25	65	±1	20	Latch stop	Latch stop	None	None	None	Included	None	SSOP6
BD7677FJ	8.5～25.5	65	−0.5/+1	20	Auto-reset/ Latch stop	Latch stop	Included	Included	Included	None	None	SOP-J8
BM1P061FJ	8.9～26	65	±1	Startup circuit built in	Auto-reset	Auto-reset	Included	None	Included	None	12V	SOP-J8
BM1P062FJ	8.9～26	65	±1	Startup circuit built in	Auto-reset	Latch stop	Included	None	Included	None	12V	SOP-J8
BM1P101FJ	8.9～26	100	±1	Startup circuit built in	Auto-reset	Auto-reset	Included	None	Included	None	12V	SOP-J8
BM1P102FJ	8.9～26	100	±1	Startup circuit built in	Auto-reset	Latch stop	Included	None	Included	None	12V	SOP-J8

1b) PWM Control ICs with Built-In MOSFET

Part No.	Supply Voltage (V)	Frequency (kHz)	Startup Current (uA)	MOSFET		Max. Output Power	Functions					Package
				RDS(ON)(max)	IDP(max)	85-265 Vac(*1)	OLP	Vcc OVP	Brownout	Input Correction	External Stop	
BM2P051F	8.9～26	65	Startup circuit built in	5.5Ω	2.6A	8W	Auto-reset	Latch stop	Included	Included	None	SOP8
BM2P052F								Auto-reset				
BM2P053F								Latch stop	None			
BM2P054F								Auto-reset				
BM2P091F				12Ω	1.3A	5W		Latch stop	Included			
BM2P092F								Auto-reset				
BM2P093F								Latch stop	None			
BM2P094F								Auto-reset				
BM2P011				2.0Ω	1.04A	20W		Latch stop	Included			DIP7
BM2P012								Auto-reset				
BM2P013								Latch stop	None			
BM2P014								Auto-reset				
BM2P031				3.6Ω	5.4A	15W		Latch stop	Included			
BM2P032								Auto-reset				
BM2P033								Latch stop	None			
BM2P034								Auto-reset				
BM2P051				5.5Ω	2.6A	10W		Latch stop	Included			
BM2P052								Auto-reset				
BM2P053								Latch stop	None			
BM2P054								Auto-reset				
BM2P091				12Ω	1.3A	7W		Latch stop	Included			
BM2P092								Auto-reset				
BM2P093								Latch stop	None			
BM2P094								Auto-reset				

*1: These are the approximate values of an isolated circuit using a transformer. The output power must be limited based on circuit configuration and ambient temperature.

2) Quasi-Resonant Control ICs

Part No.	Supply Voltage (V)	Max. Frequency (kHz)	Peak Output Current (A)	Startup Current (uA)	Functions							Package
					OLP	Vcc OVP	Brownout	MASK	Input Correction	External Stop	Gate Clamp	
BD7681FJ	8.5～25.5	120	−0.5/+1	20	Auto-reset /Latch stop	Latch stop	Included	Included	Included	None	None	SOP-J8
BM1Q001FJ	8.9～26	120	−0.5/+1	Startup circuit built in	Auto-reset	Auto-reset	None	None	Included	None	12V	SOP-J8
BM1Q002FJ	8.9～26	120	−0.5/+1	Startup circuit built in	Auto-reset	Latch stop	None	None	Included	None	12V	SOP-J8

3) Complex PFC + Quasi-Resonant IC

Part No.	Supply Voltage (V)	Features	Package
BM1050AF	8.5～25.5	General: Built-in startup circuit, OVP auto-reset/latch stop switching, AC input detection signal output, external stop, PFC ON/OFF, brownout PFC Block: Peak current control, max. power correction, fixed 65kHz frequency, frequency hopping function, high-speed load response, Gate clamp, OLP droop mode QR Block: Max. 120kHz frequency, input correction, Gate clamp, OLP auto-reset	SOP24

Notes

1) The information contained herein is subject to change without notice.

2) Before you use our Products, please contact our sales representative and verify the latest specifications :

3) Although ROHM is continuously working to improve product reliability and quality, semiconductors can break down and malfunction due to various factors.
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4) Examples of application circuits, circuit constants and any other information contained herein are provided only to illustrate the standard usage and operations of the Products. The peripheral conditions must be taken into account when designing circuits for mass production.

5) The technical information specified herein is intended only to show the typical functions of and examples of application circuits for the Products. ROHM does not grant you, explicitly or implicitly, any license to use or exercise intellectual property or other rights held by ROHM or any other parties. ROHM shall have no responsibility whatsoever for any dispute arising out of the use of such technical information.

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7) The Products specified in this document are not designed to be radiation tolerant.

8) For use of our Products in applications requiring a high degree of reliability (as exemplified below), please contact and consult with a ROHM representative : transportation equipment (i.e. cars, ships, trains), primary communication equipment, traffic lights, fire/crime prevention, safety equipment, medical systems, servers, solar cells, and power transmission systems.

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