

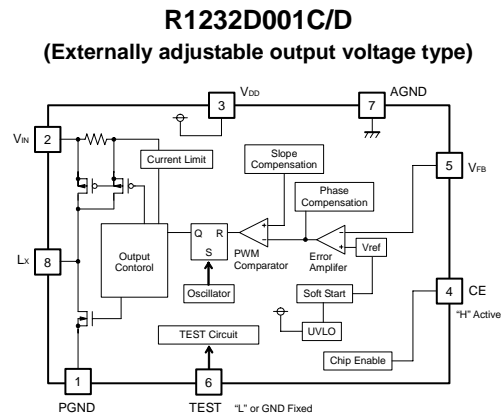
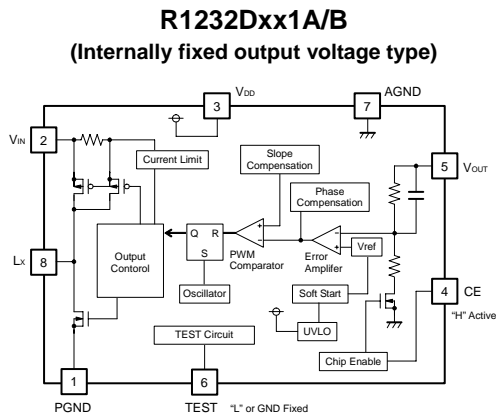
PWM Step-down DC/DC Converter with Synchronous Rectifier

The R1232D Series are low supply current CMOS-based PWM step-down DC/DC converters with synchronous rectifier. R1232D includes a soft start circuit, under-voltage lockout circuit (UVLO) and latch type protection circuit. By simply using an inductor, a capacitor, and (resistors) as external components, a high-efficiency step-down DC/DC converter can be easily configured. R1232D comes in two types: R1232Dxx1A/B with internally fixed output voltage and R1232D001C/D with adjustable output voltage with external resistors.

FEATURES

- Supply Current (I_{DD}) Typ. 140 μ A (1MHz), 240 μ A (2.25MHz) ($V_{IN}=V_{OUT}=5.5V$)
- Standby Current ($I_{standby}$) Max. 5 μ A
- Input Voltage Range (V_{IN}) 2.6V to 5.5V
- Output Voltage Range (V_{OUT}) 0.9V to 3.3V (internally fixed, R1232Dxx1A/B)
Externally adjustable (Feedback voltage : 0.8V, R1232D001C/D)
- Output Voltage Accuracy $\pm 2\%$
- Oscillator Frequency (f_{osc}) 1MHz, 2.25MHz
- UVLO Detect Voltage (V_{UVLO}) Typ. 2.25V
- Soft Start Time (t_{start}) Typ. 1ms (1MHz)
Typ. 0.4ms (2.25MHz)
- Coil-current Limit Circuit Current limit Typ. 1.4A
- Latch Type Protection Circuit Delay time for protection
Typ. 2ms
- Package SON-8
- Ceramic capacitors can be used. ... $C_{IN}=C_{OUT}=10\mu F$ or more

BLOCK DIAGRAMS

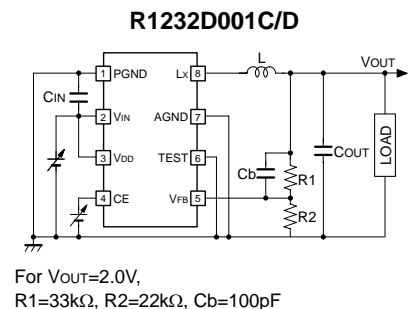
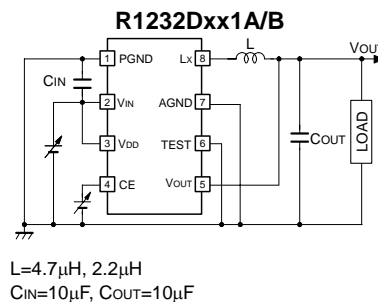


SELECTION GUIDE

Halogen Free	Package	Q'ty per Reel	Part No.
-	SON-8	3,000 pcs	R1232Dxx1*-TR-F
			R1232D001\$-TR-F

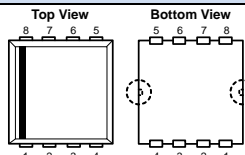
- xx : Specify the output voltage within the range of 0.9V (09) to 3.3V (33) in 0.1V steps.
For the externally adjustable output voltage type (00)
- * : Select the oscillator frequency and output voltage type from (A) 1MHz / fixed output type or (B) 2.25MHz / fixed output type.
- \$: Select the oscillator frequency and output voltage type from (C) 1MHz/adjustable output type or (D) 2.25MHz/adjustable output type.

TYPICAL APPLICATIONS



PACKAGE

SON-8

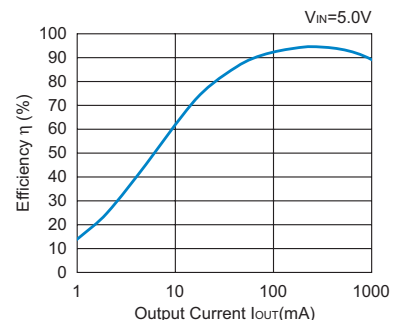


1	PGND	5	V_{OUT} or V_{FB}
2	V_{IN}	6	TEST
3	V_{DD}	7	AGND
4	CE	8	Lx

*) The tab suspension leads are substrate level (GND).

TYPICAL CHARACTERISTIC

R1232D331A Efficiency vs. Output Current



APPLICATIONS

- Power source for hand-held communication equipment, cameras, and VCRs
- Power source for battery-powered equipment
- Power source for home appliances



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Ricoch continually strives to promote customer satisfaction, and shares the achievements of its management quality improvement program with people and society.



■ Ricoh awarded ISO 14001 certification.

The Ricoh Group was awarded ISO 14001 certification, which is an international standard for environmental management systems, at both its domestic and overseas production facilities. Our current aim is to obtain ISO 14001 certification for all of our business offices.

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RICOH COMPANY, LTD. Electronic Devices Company

● Higashi-Shinagawa Office (International Sales)
3-32-3, Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-8655, Japan
Phone: +81-3-5479-2857 Fax: +81-3-5479-0502

RICOH EUROPE (NETHERLANDS) B.V.

● Semiconductor Support Centre
Prof. W.H.Keesomlaan 1, 1183 DL Amstelveen, The Netherlands
P.O.Box 114, 1180 AC Amstelveen
Phone: +31-20-5474-309 Fax: +31-20-5474-791

RICOH ELECTRONIC DEVICES KOREA Co., Ltd.

11 floor, Haesung 1 building, 942, Daechidong, Gangnamgu, Seoul, Korea
Phone: +82-2-2135-5700 Fax: +82-2-2135-5705

RICOH ELECTRONIC DEVICES SHANGHAI Co., Ltd.

Room403, No.2 Building, 690#Bi Bo Road, Pu Dong New district, Shanghai 201203,
People's Republic of China
Phone: +86-21-5027-3200 Fax: +86-21-5027-3299

RICOH COMPANY, LTD. Electronic Devices Company

● Taipei office
Room109, 10F-1, No.51, Hengyang Rd., Taipei City, Taiwan (R.O.C.)
Phone: +886-2-2313-1621/1622 Fax: +886-2-2313-1623



Ricoh completed the organization of the Lead-free production for all of our products. After Apr. 1, 2006, we will ship out the lead free products only. Thus, all products that will be shipped from now on comply with RoHS Directive.