

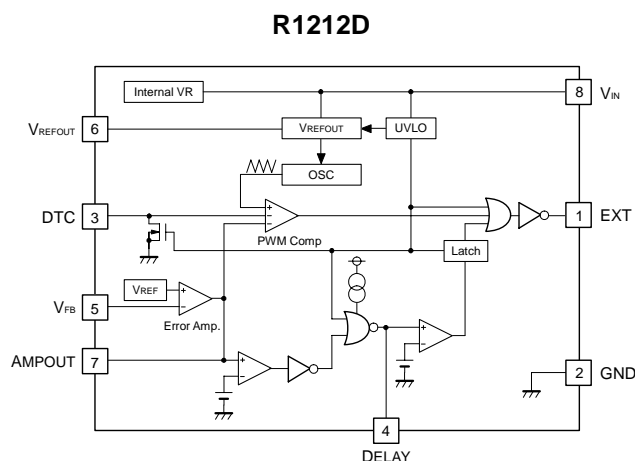
The R1212D Series are low supply current CMOS-based PWM step-up DC/DC controllers. R1212D does not include an internal output transistor. By simply using a power MOS, an inductor, a diode, resistors, and capacitors as external components, a high-efficiency step-up DC/DC converter can be easily configured. The oscillator maximum duty cycle and soft start time as well as phase compensation can be set with external resistors and capacitor (The oscillator maximum duty cycle can be selected from the type with/without internal limit.) The oscillator frequency can be selected from 300kHz, 700kHz, or 1.4MHz. The latch type protection circuit embedded into the device latches the external driver in the "OFF" state when the oscillator maximum duty cycle continues for a predetermined period of time setting by an external capacitor. R1212D also includes an under-voltage lockout circuit (UVLO).

FEATURES

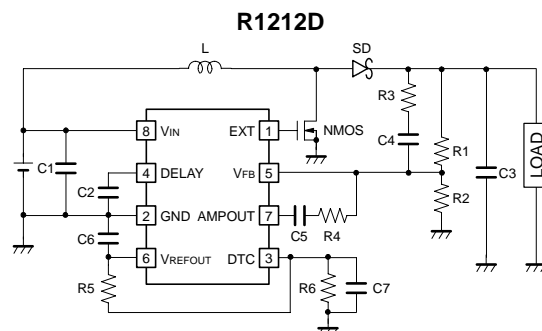
- Supply Current (I_{DD1}) Typ. 400 μ A (300kHz), Typ. 600 μ A (700kHz),
Typ. 900 μ A (1.4MHz) ($V_{IN}=5.5V$, $V_{DLY}=V_{FB}=0V$,
EXT at no load)
- Input Voltage Range (V_{IN}) 2.2V to 5.5V
- Output Voltage Range Externally adjustable (Feedback voltage : 1.0V)
- Feedback Voltage Accuracy $\pm 1.5\%$
- Temp. coeff. of Feedback Voltage $\pm 150ppm/^{\circ}C$
- Oscillator Frequency (f_{osc}) Select from 700kHz, 1.4MHz or 300kHz.
- Oscillator Maximum Duty Cycle (Maxduty)* Set with external resistors
- UVLO Detect Voltage (V_{UVLO})* Select from 1.9V, 2.1V or 2.8V.
- Soft Start Time (t_{start}) Set with an external resistor and capacitor
- Package SON-8

*) For information about combination of oscillator frequency, oscillator maximum duty cycle, and UVLO detect voltage, see SELECTION GUIDE.

BLOCK DIAGRAM



TYPICAL APPLICATION



NMOS : CPH6415, L : VLP5612T, 10 μ H (A), 4.7 μ H (B), 22 μ H (C), SD : CRS02,
C1 : 2.2 μ F, C2 : 1 μ F, C3 : 15 μ F, C4=C5 : 1000pF (A), 680pF (B), 1500pF (C),
C6 : 0.1 μ F, C7 : 0.1 μ F, R3 : 1k Ω , R4 : 4.7k Ω , R5 : 240k Ω , R6 : 300k Ω
Output voltage set value 5V...R1 : 120k Ω , R2 : 30k Ω , 10V...R1 : 180k Ω , R2 : 20k Ω ,
15V...R1 : 140k Ω , R2 : 10k Ω

SELECTION GUIDE

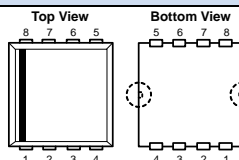
Halogen Free	Package	Q'ty per Reel	Part No.
-	SON-8	3,000 pcs	R1212D10*\$-TR-F

*\$: Specify a combination of the oscillator frequency, oscillator maximum duty cycle internal limit, and UVLO detect voltage.

- 0A : 700kHz, No internal limit, 1.9V
- 0B : 1.4MHz, No internal limit, 1.9V
- 1A : 700kHz, Internal limiting Typ. 90%, 2.1V
- 1C : 300kHz, Internal limiting Typ. 91.5%, 2.1V
- 2A : 700kHz, Internal limiting Typ. 90%, 2.8V
- 2C : 300kHz, Internal limiting Typ. 91.5%, 2.8V

PACKAGE

SON-8



1	EXT	5	V _{FB}
2	GND	6	V _{REFOUT}
3	DTC	7	AMPOUT
4	DELAY	8	V _{IN}

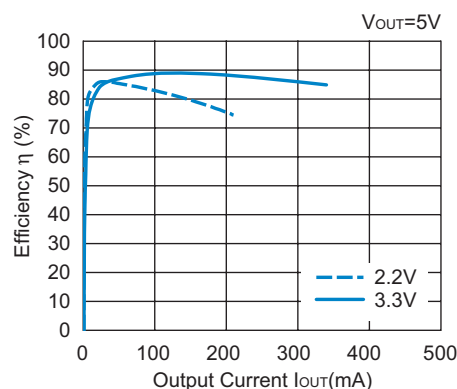
*) The tab suspension leads are substrate level (GND).

APPLICATIONS

- Power source for hand-held equipment
- Power source for LCD and CCD

TYPICAL CHARACTERISTIC

R1212D100A Efficiency vs. Output Current





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■ Ricoh presented with the Japan Management Quality Award for 1999.
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 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.