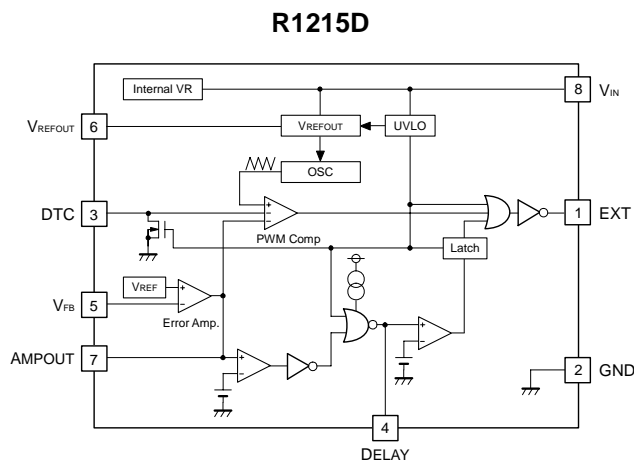


The R1215D Series are low supply current CMOS PWM step-up DC/DC controllers. R1215D does not include an internal output transistor. By simply using a power MOS, an inductor, a diode, resistors, and capacitors as external components, a high-efficiency step-up DC/DC converter can be easily configured. The oscillator maximum duty cycle and soft start time as well as phase compensation can be set with external resistor and capacitor. (The oscillator maximum duty cycle does not include internal limit.) The oscillator frequency can be selected from 700kHz or 1.4MHz. The input voltage of R1215D is lower than the R1212D. The voltage range is 1.8V (2.0V) to 5.5V. 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. R1215D also includes an under-voltage lockout circuit (UVLO).

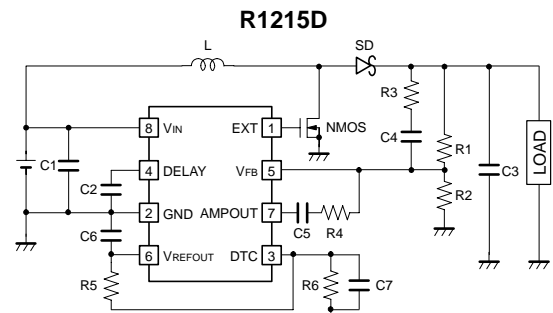
FEATURES

- Supply Current (I_{DD1}) Typ. 600 μ A (700kHz), Typ. 900 μ A (1.4MHz) (No switching)
- Input Voltage Range (V_{IN}) 2.0V to 5.5V (A/B Version, Absolute maximum rating : 6.5V) 1.8V to 5.5V (E/F Version, Absolute maximum rating : 6.5V)
- Output Voltage Range Externally adjustable (Feedback voltage : 1.0V)
- Feedback Voltage Accuracy ± 15 mV
- Temp. coeff. of Feedback Voltage ± 150 ppm/ $^{\circ}$ C
- Oscillator Frequency (f_{osc}) 700kHz, 1.4MHz
- Oscillator Maximum Duty Cycle (Maxduty) Set with external resistor up to 100%.
- UVLO Detect Voltage (V_{UVLO}) 1.79V, 1.60V
- Soft Start Time (t_{start}) Set with an external resistor and capacitor.
- Package SON-8

BLOCK DIAGRAM



TYPICAL APPLICATION



NMOS : CPH6415, L : VLP5612T (10 μ H), SD : CRS02, C1 : 1 μ F, C2 : 1 μ F, C3 : 15 μ F, C4 : 1000pF, C5 : 2200pF, C6 : 0.1 μ F, C7 : 0.1 μ F, R3 : 1k Ω , R4 : 4.7k Ω , R5 : 68k Ω , R6 : 240k Ω
Output voltage set value 9V...R1 : 160k Ω , R2 : 20k Ω

SELECTION GUIDE

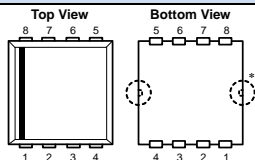
| Halogen Free | Package | Q'ty per Reel | Part No. |
|--------------|---------|---------------|-------------------|
| H/F | SON-8 | 3,000 pcs | R1215D002\$-TR-FE |

\$: Specify a combination of the oscillator frequency and UVLO detect voltage.

- A : 700kHz, 1.79V, B : 1.4MHz, 1.79V
- E : 700kHz, 1.60V, F : 1.4MHz, 1.60V

PACKAGE

SON-8

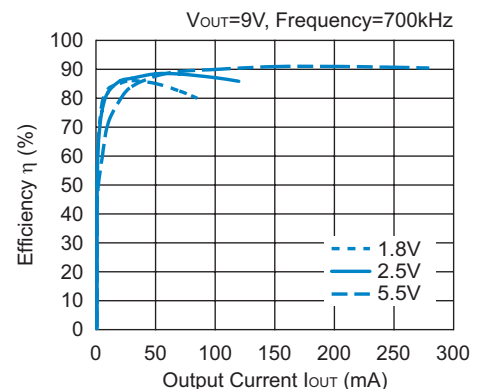


| | | | |
|---|-------|---|---------------------|
| 1 | EXT | 5 | V _{FB} |
| 2 | GND | 6 | V _{REFOUT} |
| 3 | DTC | 7 | AMPOUT |
| 4 | DELAY | 8 | V _{IN} |

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

TYPICAL CHARACTERISTIC

R1215D002E Efficiency vs. Output Current



APPLICATIONS

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



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