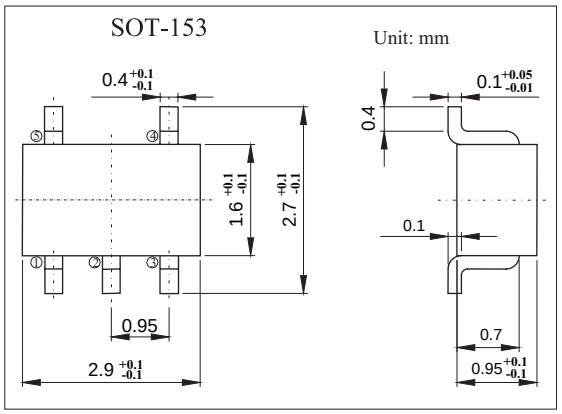
PFM Step-Up DC/DC Converter

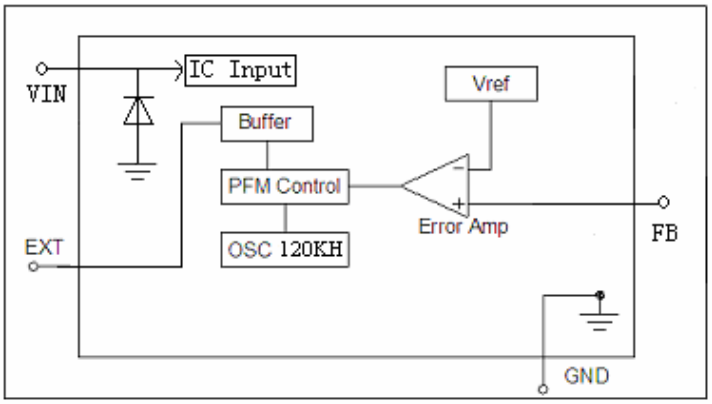
RCR2562

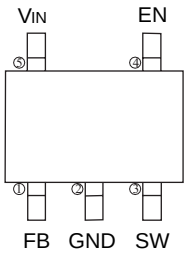
■ Features

- Low Start-up Voltage, 1.1V at 1mA
- Minimal Number of External Components (Only an Inductor, a Diode, a MOSFET and two Capacitors)
- Adjustable version (V_{REF} = 1.25V V_{REF} = 2.7V or V_{REF} = 3.3V)
- Ultra Low Input Current (12μA at Switch Off)
- ±2% High Output Voltage Accuracy
- Low Ripple and Low Noise
- 75% Efficiency with Low Cost Inductor



■ Functional Block Diagram





■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Output Voltage	V_{OUT}	-0.3 to +10	V
EXT Pin Voltage	V_{EXT}	-0.3 to +10	V
EXT Pin Current	I_{EXT}	±30	mA
Power Dissipation @ T_A = 25℃	P_D	250	mW
Operating Temperature Range	T_{OPR}	-40 to +150	℃
Storage Temperature Range	T_{stg}	-65 to +150	℃

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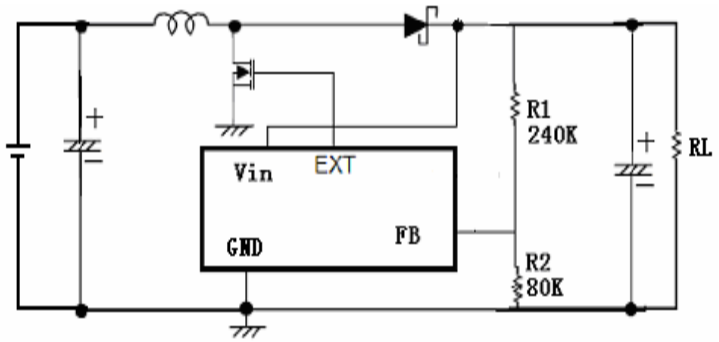
■ Electrical Characteristics (Ta = 25℃,unless otherwise specified)

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Output Voltage Accuracy	ΔVOUT		-2		+2	%
Input Voltage	VIN				10	V
FB Pin Voltage	VFB	RCR2562 - 125SK	1.22	1.25	1.28	V
		RCR2562 - 270SK	2.65	2.70	2.75	V
		RCR2562 - 330SK	3.24	3.30	3.36	V
Start-up Voltage	VST	IOUT = 1mA, VIN : 0 to 2V		1.0	1.1	V
Efficiency	EFFI	VOUT ⩽ 3.5V		75		%
		VOUT > 3.5V		85		
Input Current1 VOUT ⩽ 3.5V	ISS	To be measured at VIN at no load		30	40	μA
Input Current1 VOUT > 3.5V				50	60	
Input Current2 VOUT ⩽ 3.5V	ISWITCHING	To be measured at VOUT in switch off condition		6	12	μA
Input Current2 VOUT > 3.5V						
Input Current1 VOUT ⩽ 3.5V	ISS	To be measured at VIN at no load		30	40	μA
Input Current1 VOUT > 3.5V				50	60	
EXT"H"Output Current VOUT ⩽ 3.5V	ISH	VEXT = VOUT - 0.4V	-1.5			mA
EXT"H"Output Current VOUT > 3.5V			-2			
EXT"L"Output Current VOUT ⩽ 3.5V	ISL	VEXT = 0.4V	1.5			mA
EXT"L"Output Current VOUT > 3.5V			2			
Maximum Oscillator	FMAX		80	120	160	KHz
Oscillator Duty Cycle	DOSC	On (VLX "L") side	70	78	85	%

■ Marking

Marking	RCR2562

■ **Typical Application Circuit (V_{OUT} = 5V)**



Components :

Inductor : 47uH, Diode : 1N5818,

Input Capacitor : 1uF/10V (Tantalum) Output Capacitor : 47uF/16V (Tantalum)

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■ Typical Application Circuit

1、 RCR2562 (When V_{OUT} = 5V) :

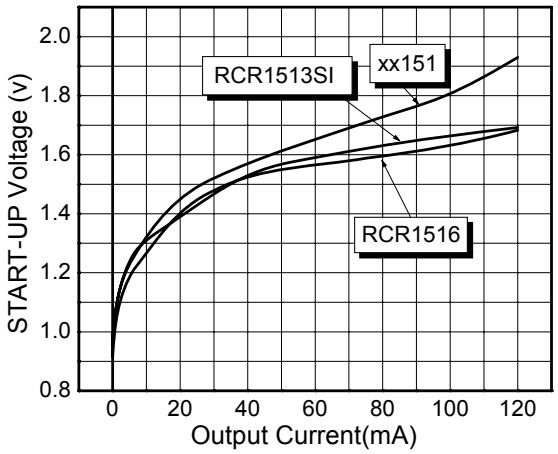

Figure1.Start-up Voltage VS Output Current

2、 RCR2562-125、RCR2562-27 (V_{OUT} = 3.0V) :

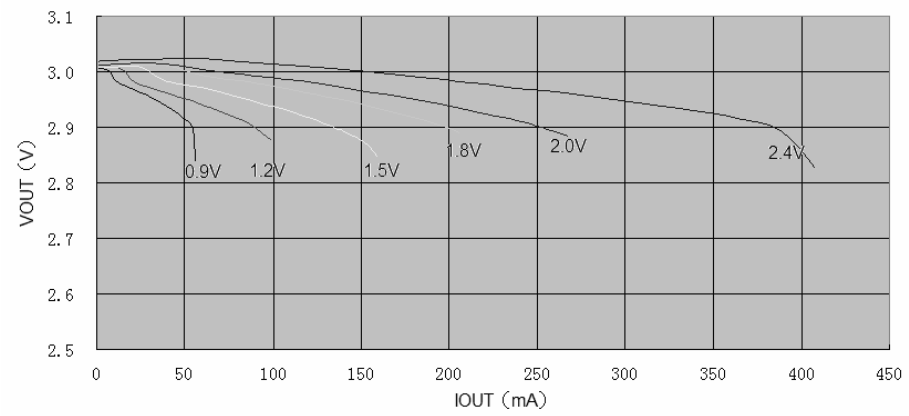

Figure2. Output Voltage VS Output Current

3、 RCR2562 (V_{OUT} = 3.3V) ：

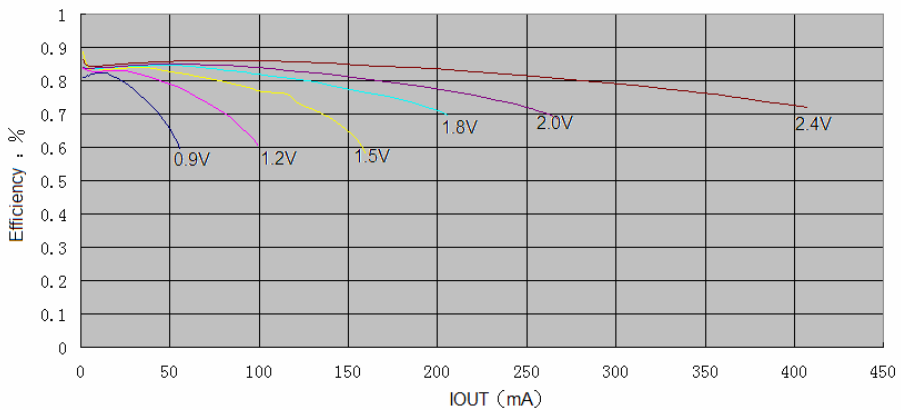

Figure3. Efficiency VS Output current

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■ Typical Application Circuit

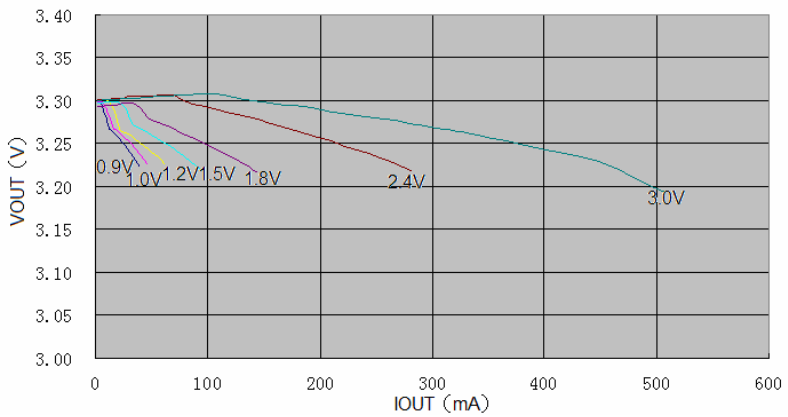

Figure4. Output Voltage VS Output current

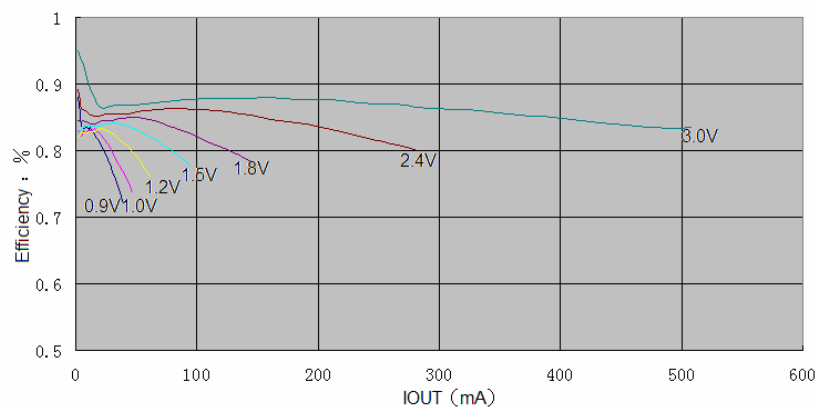

Figure5. Efficiency VS Output current

4、 RCR2562 (V_{OUT} = 5.0V) ：

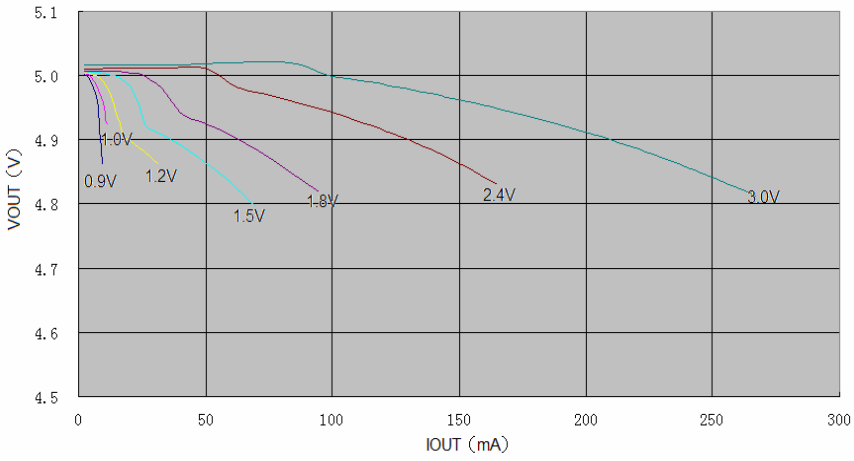

Figure6. Output Voltage VS Output current

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■ Typical Application Circuit

5、Efficiency VS. Output Current:

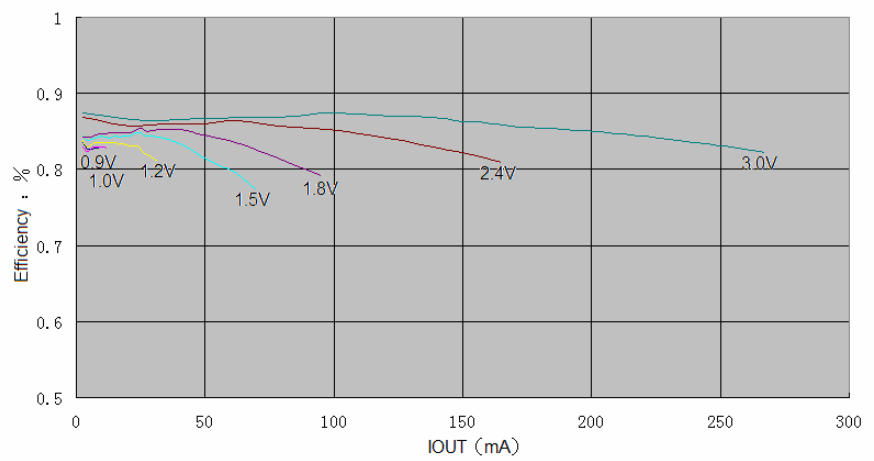

Figure7. Efficiency VS Output current