

400mA 0.9V Input LDO with dual input pin

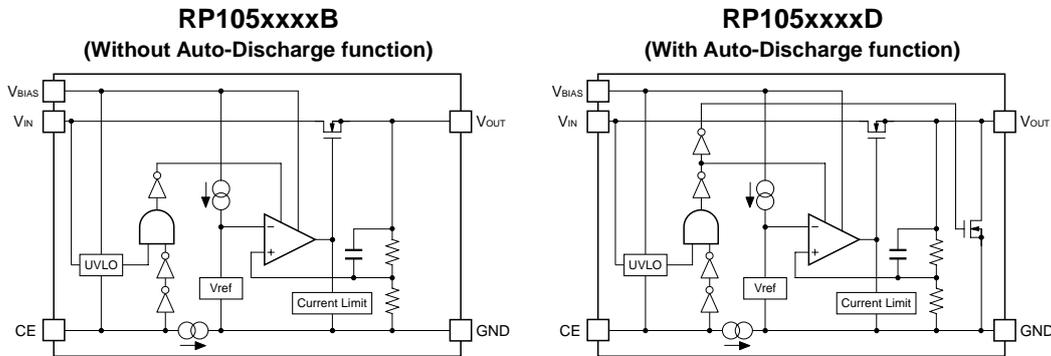
The RP105x Series are CMOS-based LDO regulators featuring 400mA output with dual input pin. The input voltage can correspond from 0.9V by the inputting voltage into V_{BIAS}. The UVLO function will lock out the internal circuit, if the input voltage is less than the UVLO voltage. Due to a built-in Nch. transistor with low on-resistance of 0.4Ω (at V_{OUT}=0.8V), RP105x provides a low dropout voltage. RP105x also has an excellent line transient response. In addition to SOT-23-5 and SC-88A packages, a 1.2mm square DFN(PLP)1212-6 package is also available.

FEATURES

- Supply Current (I_{SS}) Typ. 28μA (V_{IN}=SET V_{OUT}+0.5V)
- Standby Current (I_{standby}) Typ. 0.1μA (Same as above, CE="L")
- Dropout Voltage (V_{DIF}) Typ. 0.18V (I_{OUT}=400mA, V_{BIAS}=3.6V)
- Ripple Rejection (RR) Typ. 80dB (f=1kHz, V_{IN} Ripple)
- Input Voltage Range1 (V_{BIAS}) 2.4V to 5.25V*
- Input Voltage Range2 (V_{IN}) 0.9V to V_{BIAS}*
- Output Voltage Range (V_{OUT}) 0.6V to 1.5V (internally fixed)
- Output Voltage Accuracy ± 15mV
- Temp.coeff.of Output Voltage Typ. ± 50ppm/°C
- Line Regulation Typ. 0.02%/V
- Fold-back Protection Circuit Current limit Typ.120mA
- Auto-Discharge function D Version
- Packages DFN(PLP)1212-6, SC-88A, SOT-23-5
- Ceramic capacitors can be used. ... C_{BIAS}=C_{IN}=1μF or more, C_{OUT}=2.2μF or more

(The above shows specification at T_{opt}=25°C. Design assurance value at -40°C ≤ T_{opt} ≤ 85°C is also available.) *) For detail, please check our website.

BLOCK DIAGRAMS



SELECTION GUIDES

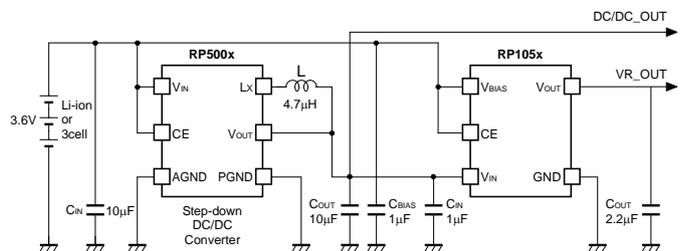
Package	Quantity per Reel	Part No.
DFN(PLP)1212-6	5,000 pcs	RP105Kxx1*-TR
SC-88A	3,000 pcs	RP105Qxx2*-TR-F
SOT-23-5	3,000 pcs	RP105Nxx1*-TR-F

- xx : Specify the output voltage within the range 0.6V (06) to 1.5V (15) in 0.1V steps.
- * : Select from (B) without auto-discharge function or (D) with auto-discharge function

PACKAGES

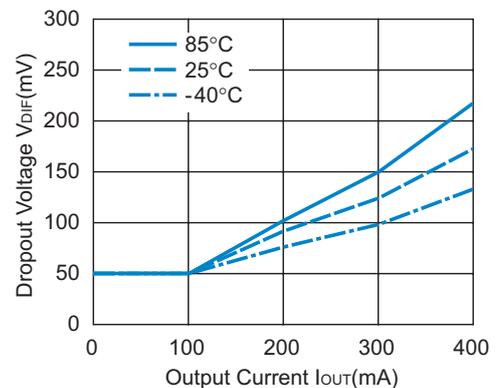
DFN(PLP)1212-6		SC-88A		SOT-23-5	
1	V _{BIAS}	1	V _{BIAS}	1	V _{IN}
2	GND	2	GND	2	GND
3	CE	3	V _{OUT}	3	CE
4	V _{IN}	4	V _{IN}	4	V _{BIAS}
5	NC	5	CE	5	V _{OUT}
6	V _{OUT}				

TYPICAL APPLICATION



TYPICAL CHARACTERISTIC

RP105x15xx Dropout Voltage vs. Output Current



APPLICATIONS

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

400mA Low Voltage LDO Regulator with dual input pin

WHAT ARE RP SERIES

The new Ricoh IC series perform better due to a newly applied manufactured process, compared to the current products.

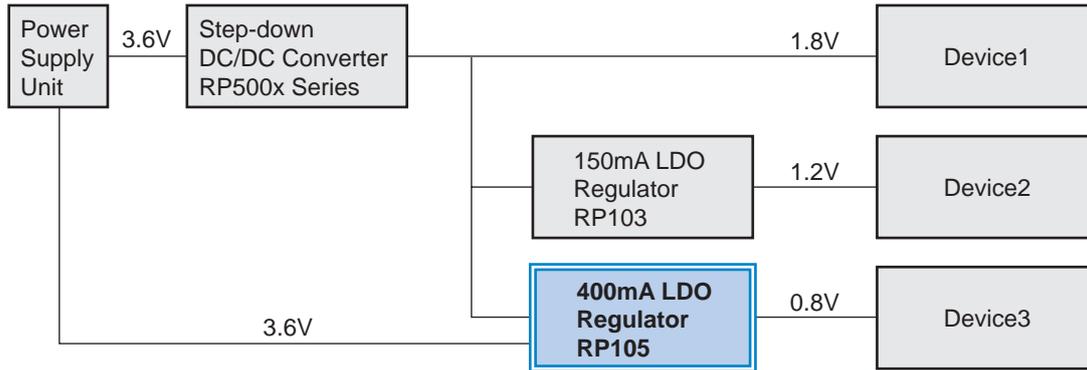
RP105x TYPICAL APPLICATION

Step down DC/DC converters have been selected many times recently, because of regulator's big energy loss by becoming lower voltage of mobile devices.

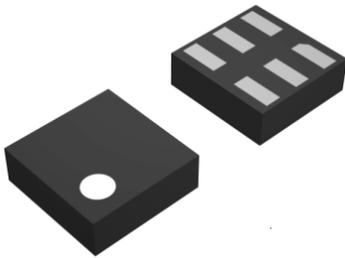
But DC/DC converters require many parts including inductors.

The combining of DC/DC with regulators can reduce energy loss, space, and noise, in case of plural power supply lines.

TYPICAL APPLICATION



WHAT IS DFN(PLP)1212-6



The DFN(PLP) package is a leadless package using an electroforming sheet in place of lead frame. This extremely compact package features increased power dissipation and conversion to thinner type. The name is representing by a combination of the body size and the number of pins, i.e., DFN(PLP)1212-6 stands for the body size of 1.2mm×1.2mm and 6pins. An environment-friendly, leadfree package with gold plated contacts complies with the RoHS Directive.

Ricoh Co.,LTD. Electronic Devices Company



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



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.

<http://www.ricoh.com/LSI/>

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