

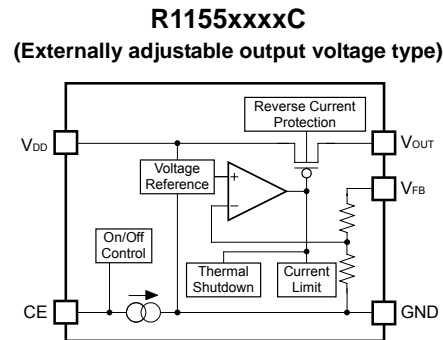
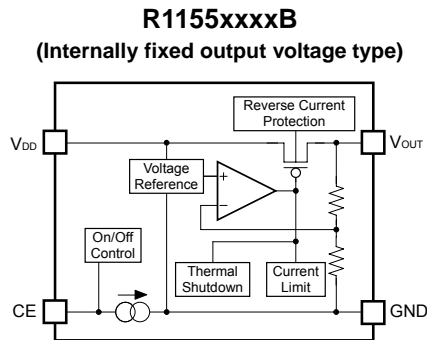
The R1155x Series are CMOS-based Automatic Mode shift 24V input voltage regulators featuring 150mA output. In addition to B version with the internally fixed output voltage, C version with adjustable output voltage with an external resistor is also available. The transient response of R1155x is good characteristic in not only a fast response mode but also a low power mode. In addition to a fold-back protection circuit and a thermal shutdown circuit built into conventional regulators, R1155x contains a reverse current protection circuit. R1155x features high input voltage of Max. 24V and wide operating range -40°C to 105°C, making it suitable for use in digital home appliances.

### FEATURES

- Supply Current (I<sub>SS</sub>) ..... Typ. 7.5μA (Low power mode, V<sub>IN</sub>=V<sub>SET</sub>+3.0V)
- Standby Current (I<sub>standby</sub>) ..... Typ. 0.1μA
- Dropout Voltage (V<sub>DIF</sub>) ..... Typ. 0.2V (I<sub>OUT</sub>=20mA, V<sub>SET</sub>=2.8V)
- Ripple Rejection (RR) ..... Typ. 60dB (f=1kHz, Fast mode)
- Input Voltage Range (V<sub>IN</sub>) ..... Max. 24.0V (Absolute maximum rating: 26.0V)
- Output Voltage Range (V<sub>OUT</sub>) ..... 2.5V to 12.0V (Internally fixed, B Version)  
2.5V to 23.0V with external resistors (Feedback voltage : 2.5V, C Version)
- Output Voltage Accuracy ..... ± 2%
- Products for high temperature environment (Operating Temperature Range) ..... 40°C to 105°C
- Temp. coeff. of Output Voltage ..... Typ. ± 100ppm/°C
- Line Regulation ..... Typ. 0.01%/V (Low power mode)  
Typ. 0.05%/V (Fast mode)
- Fold-back Protection Circuit ..... Current limit Typ.30mA
- Reverse Current Protection Circuit
- Thermal Shutdown Circuit ..... Stops at 145°C
- Ceramic capacitors can be used. ... C<sub>OUT</sub>=4.7μF or more
- Packages ..... SOT-23-5, SOT-89-5

(The above shows specification at Ta=25°C. Design assurance value at -40°C ≤ Ta ≤ 105°C is also available. For details, please refer to the datasheet.)

### BLOCK DIAGRAMS



### SELECTION GUIDES

| Halogen Free | Package  | Q'ty per Reel | Part No.         |
|--------------|----------|---------------|------------------|
| H/F          | SOT-23-5 | 3,000 pcs     | R1155Nxxx*-TR-FE |
| H/F          | SOT-89-5 | 1,000 pcs     | R1155Hxxx*-T1-FE |

xxx : Specify the output voltage within the range of 2.5V (025) to 12.0V (120) in 0.1V steps.  
For C Version, fixed at (001).

\* : Select from (B) internally fixed output voltage type or (C) externally adjustable output voltage type.

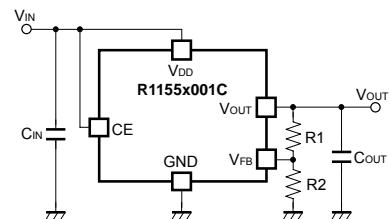
### PACKAGES (Top View)

| SOT-23-5 |                        | SOT-89-5 |                        |
|----------|------------------------|----------|------------------------|
|          |                        |          |                        |
| 1        | V <sub>OUT</sub>       | 1        | V <sub>OUT</sub>       |
| 2        | GND                    | 2        | GND                    |
| 3        | V <sub>DD</sub>        | 3        | CE                     |
| 4        | TP* or V <sub>FB</sub> | 4        | TP* or V <sub>FB</sub> |
| 5        | CE                     | 5        | V <sub>DD</sub>        |

\*) The TP pin must be connected to the GND level.

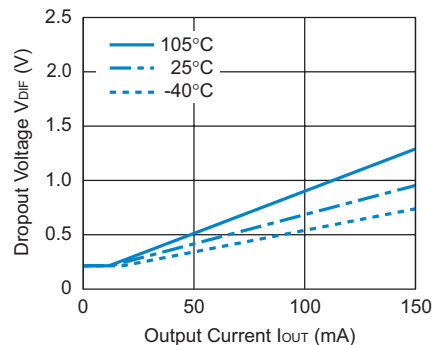
### TYPICAL APPLICATION

#### Externally Adjustable of Output Voltage Type



### TYPICAL CHARACTERISTIC

#### R1155x050B Dropout Voltage vs. Output Current (C<sub>IN</sub>=0.1μF, C<sub>OUT</sub>=4.7μF)



### APPLICATIONS

- Power source for home appliances (refrigerators, rice cookers, electric water warmers, etc.)
- Power source for laptop personal computers, digital TVs, cordless phones, and private LAN systems for home
- Power source for copiers, printers, facsimiles, scanners



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Ricoh has been providing RoHS compliant products since April 1, 2006 and Halogen-free products since April 1, 2012.

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#### Sales & Support Offices

##### **RICOH ELECTRONIC DEVICES CO., LTD.**

**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 DJ Amstelveen, The Netherlands  
Phone: +31-20-5474-309

##### **RICOH ELECTRONIC DEVICES KOREA CO., LTD.**

3F, Haesung Bldg. 504, Teheran-ro, Gangnam-gu, Seoul, 135-725, Korea  
Phone: +82-2-2135-5700 Fax: +82-2-2051-5713

##### **RICOH ELECTRONIC DEVICES SHANGHAI CO., LTD.**

Room 403, No.2 Building, No.690 Bilbo Road, Pu Dong New District, Shanghai 201203, People's Republic of China  
Phone: +86-21-5027-3200 Fax: +86-21-5027-3299

##### **RICOH ELECTRONIC DEVICES CO., LTD.**

**Taipei office**  
Room 109, 10F-1, No.51, Hengyang Rd., Taipei City, Taiwan (R.O.C.)  
Phone: +886-2-2313-1621/1622 Fax: +886-2-2313-1623