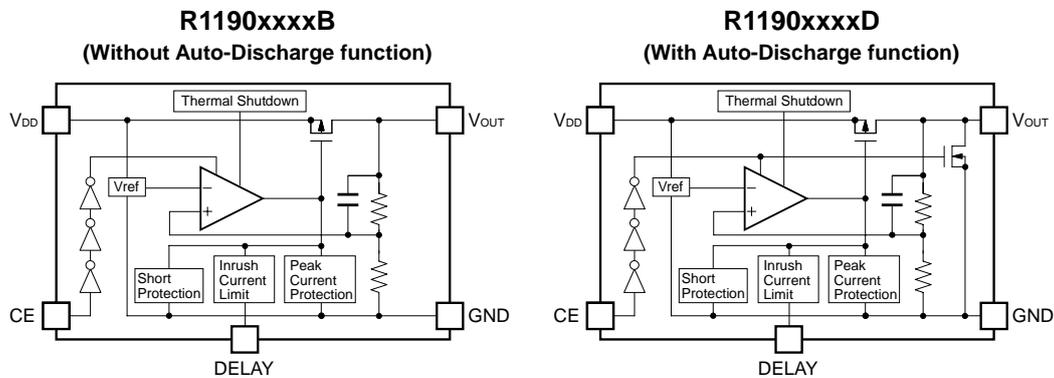


The R1190x Series are CMOS-based 16V input voltage regulators featuring 1A output. These are suitable for digital home appliances, in which only bipolar types could previously operate. So R1190x contributes to save energy. R1190x has an inrush current limit circuit that limits approximately 300mA when the voltage regulator turns on. It is also possible to set the inrush current limit time by connecting a capacitor with DELAY pin. In addition to TO-252-5-P2 and HSOP-6J packages, a SOT-89-5 package with high-density mounting is available.

FEATURES

- Supply Current (I_{SS}) Typ. 150 μ A ($V_{IN}=\text{SET } V_{OUT}+2.0\text{V}$)
- Standby Current ($I_{standby}$) Typ. 0.1 μ A ($V_{IN}=16.0\text{V}$, $CE="L"$)
- Dropout Voltage (V_{DIF}) Typ. 1.1V ($I_{OUT}=1\text{A}$, $V_{OUT}=5.0\text{V}$)
- Ripple Rejection (RR) Typ. 60dB ($f=1\text{kHz}$)
- Input Voltage Range (V_{IN}) 3.5V to 16.0V
- Output Voltage Range (V_{OUT}) 2.0V to 12.0V (internally fixed)
- Output Voltage Accuracy $\pm 1.5\%$
- Temp. coeff. of Output Voltage Typ. $\pm 100\text{ppm}/^\circ\text{C}$
- Line Regulation Typ. 0.02%/V
- Fold-back Protection Circuit Current limit Typ. 300mA
- Inrush Current Limit Circuit Typ. 300mA
(The inrush current limit time can be adjustable with external capacitors.)
- Thermal Shutdown Circuit Stops at 150°C
- Auto-Discharge function D Version
- Packages SOT-89-5, HSOP-6J, TO-252-5-P2
- Ceramic capacitors can be used. $C_{IN}=C_{OUT}=4.7\mu\text{F}$ or more

BLOCK DIAGRAMS



SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-89-5	1,000 pcs	R1190Hxxx*-T1-FE
H/F	HSOP-6J	1,000 pcs	R1190Sxxx*-E2-FE
H/F	TO-252-5-P2	3,000 pcs	R1190Jxxx*-T1-FE

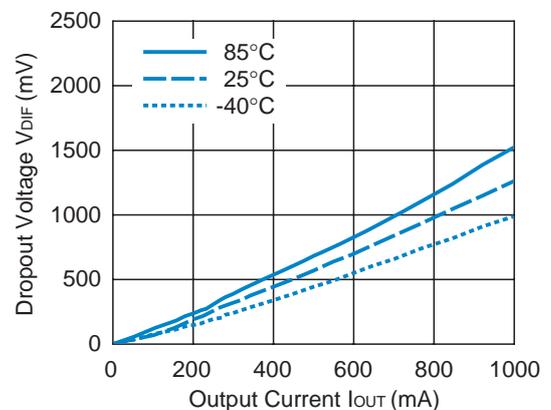
xxx : Specify the output voltage within the range of 2.0V (020) to 12.0V (120) in 0.1V steps.
 * : Select from (B) without auto-discharge function or (D) with auto-discharge function

PACKAGES (Top View)

SOT-89-5		HSOP-6J		TO-252-5-P2	
1	1	1	1	1	1
V_{OUT}	V_{OUT}	2	V_{OUT}	2	DELAY
2	2	2	GND	2	V_{DD}
GND	GND	3	CE	3	GND
3	3	4	DELAY	4	V_{OUT}
4	4	5	GND	5	CE
5	5	6	V_{DD}		
V_{DD}					

TYPICAL CHARACTERISTIC

R1190x050x Dropout Voltage vs. Output Current



APPLICATIONS

- Power source for digital home appliances
- Power source for audio visual equipment
- Power source for automotive application



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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.

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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.