

The R1516x Series are CMOS-based voltage regulators featuring 150mA output current and 36V input voltage. In addition to a fold-back protection circuit built into conventional regulators, R1516x contains a thermal shutdown circuit. Besides the low supply current by CMOS, the operating temperature is -40°C to 105°C and the maximum input voltage is 36V, the R1516x series are very suitable for use in digital home appliances and automotive applications\*. Compared to the same 150mA output R1514x Series, R1516x offers an excellent load transient response.

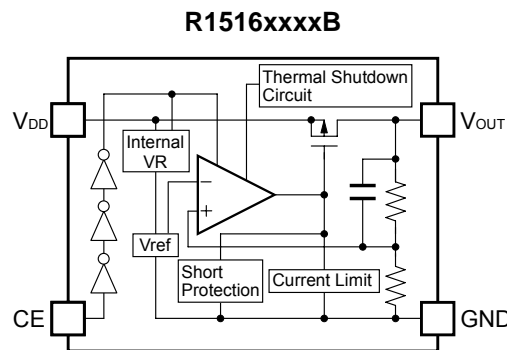
\* R1516x Series are suitable for automotive applications. For details, please refer to our "ELECTRONIC DEVICE PRODUCT CATALOG FOR AUTOMOTIVE" or contact us.

### FEATURES

- Supply Current ( $I_{SS}$ ) ..... Typ. 29 $\mu$ A ( $V_{IN}=V_{SET}+3.0V$ )
- Standby Current ( $I_{standby}$ ) ..... Typ. 0.1 $\mu$ A ( $V_{IN}=36V, CE="L"$ )
- Dropout Voltage ( $V_{DIF}$ ) ..... Max. 0.6V ( $I_{OUT}=20mA, V_{SET}=5.0V$ )
- Input Voltage Range ( $V_{IN}$ ) ..... 4.0V to 36.0V (Absolute maximum rating: 50.0V)
- Output Voltage Range ( $V_{OUT}$ ) ..... 1.8V to 6.2V (Internally fixed)
- Output Voltage Accuracy .....  $\pm 1\%$  ( $V_{SET}=5.0V$ )
- Temp. coeff. of Output Voltage ..... Typ.  $\pm 100ppm/^{\circ}C$
- Products for high temperature environment ..... -40 $^{\circ}C$  to 105 $^{\circ}C$  (Operating Temperature Range)
- Line Regulation ..... Typ. 0.1%/V
- Fold-back Protection Circuit ..... Current limit Typ. 50mA
- Thermal Shutdown Circuit ..... Stops at 160 $^{\circ}C$
- Packages ..... SOT-89-5, HSOP-6J
- Ceramic capacitors can be used. ... 0.1 $\mu$ F to 20 $\mu$ F or more

(The above shows specification at  $T_{opt}=25^{\circ}C$ . Design assurance value at  $-40^{\circ}C \leq T_{opt} \leq 105^{\circ}C$  is also available. For details, please refer to the datasheet.)

### BLOCK DIAGRAM



### SELECTION GUIDES

Halogen Free	Package	Q'ty per Reel	Part No.
H/F	SOT-89-5	1,000 pcs	R1516Hxxx B-T1-FE
H/F	HSOP-6J	1,000 pcs	R1516Sxxx B-E2-FE

xxx : Specify the output voltage within the range of 1.8V (018) to 6.2V (062) in 0.1V steps.

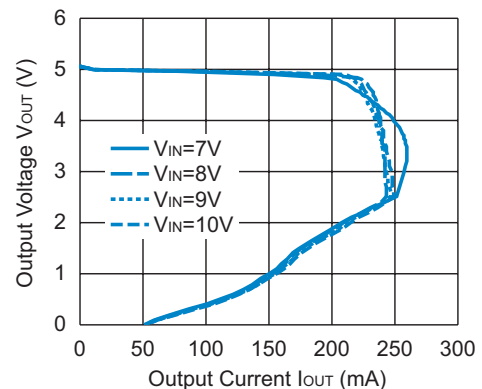
### PACKAGES (Top View)

SOT-89-5		HSOP-6J	
1	$V_{OUT}$	1	$V_{OUT}$
2	GND*	2	GND*
3	CE	3	CE
4	GND*	4	GND*
5	$V_{DD}$	5	GND*
		6	$V_{DD}$

\*) The GND pin must be wired together when it is mounted on board. R1516x is pin compatible with R1514x.

### TYPICAL CHARACTERISTIC

R1516x050B Output Voltage vs. Output Current



### APPLICATIONS

- Power source for home appliances such as refrigerators, rice cookers, electric water warmers.
- Power source for laptop personal computers, digital TVs, cordless phones, and private LAN systems for home.
- Power source for office equipment machines such as copiers, printers, facsimiles, scanners, projectors.



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