



MH7250

1A Low Power LDO

Features

- Low voltage drop: 0.06V@100mA
- High input voltage: 10V
- Low temperature coefficient
- Low Quiescent Current: 2uA at 5.0V
- Output voltage accuracy: tolerance $\pm 1\%$

Applications

- Battery-powered equipment
- Hand-Hold Equipment
- GRS Receivers
- Wireless LAN

General Description

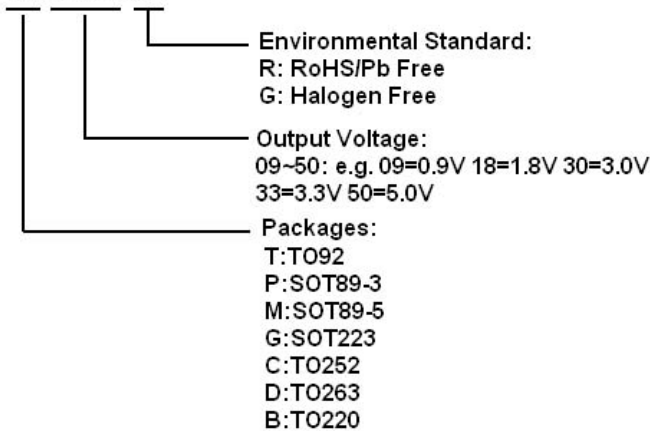
The MH7250 series is a group of positive voltage output, three-pin regulators, that provide a high current even when the input/output voltage differential is small. Low power consumption and high accuracy is achieved through CMOS and laser trimming technologies.

The MH7250 consists of a high-precision voltage reference, an error amplification circuit, and a current limited output driver. Transient response to load variations have improved in comparison to the existing series.

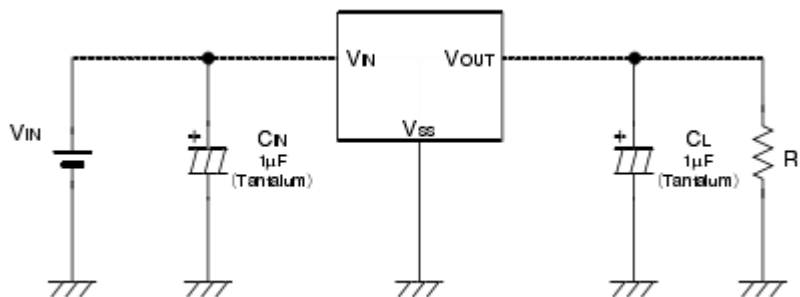
SOT89-3 SOT89-5 TO92 SOT223 TO252 TO263 and TO220 packages are available.

Order Information

MH7250 ①②③④



Typical Application



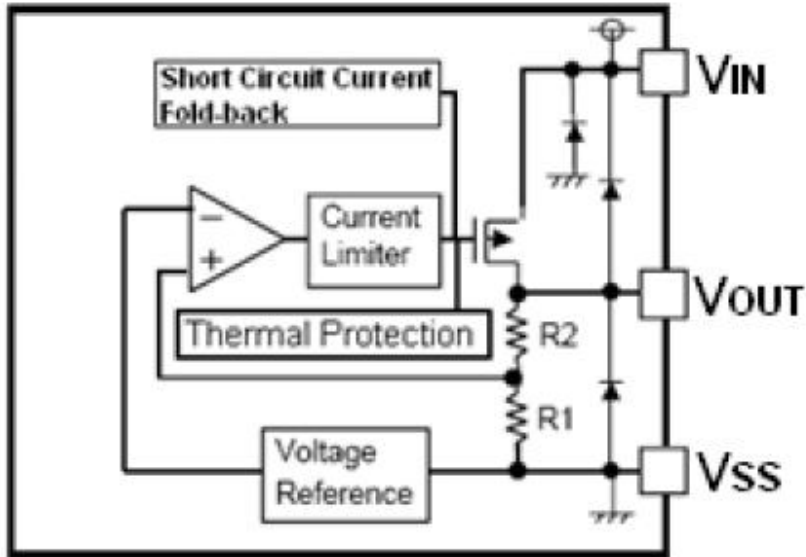
Note1: Input capacitor $C_{IN}=1\mu F$.

Note2: Output capacitor $C_{OUT}=1\mu F/6.8\mu F$ (1 μF Tantalum capacitor or 6.8 μF ceramic capacitor is recommended).

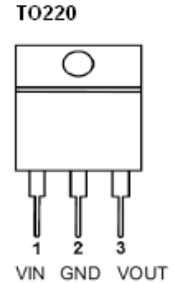
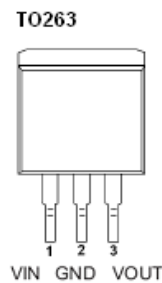
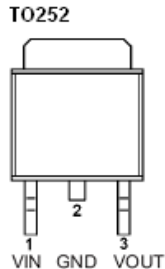
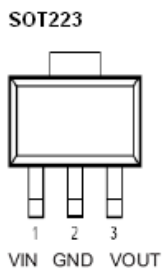
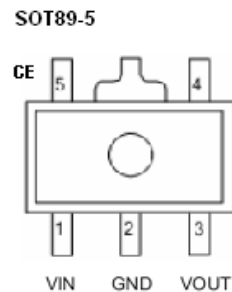
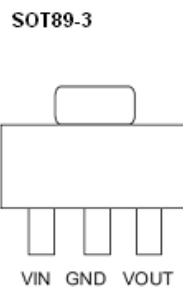
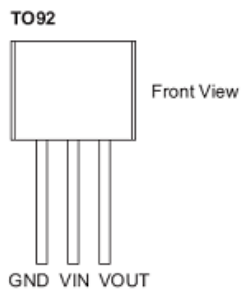


MH7250 1A Low Power LDO

Block Diagram



Pin Assignment





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Absolute Maximum Ratings

Supply Voltage-0.3V to 12V Operating Temperature-40°C to 85°C
 Output Current.....1.5A Storage Temperature-40°C to 125°C

Note: These are stress ratings only. Stresses exceeding the range specified under “Absolute Maximum Ratings” may cause substantial damage to the device. Functional operation of this device at other conditions beyond those listed in the specification is not implied and prolonged exposure to extreme conditions may affect device reliability.

Electrical Characteristics

MH7250 for any output voltage

(Ta=25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Output Voltage	Vout	Vin=Vout+1V 1.0mA≤Iout≤30mA	Vout×0.99	--	Vout×1.01	V
Output Current*1	Iout	Vin-Vout=1V	1000	--	--	mA
Low dropout*2	Vdrop	Refer to the next table				
Line Regulation	$\Delta V_{out1}/(V_{in}-V_{out})$	1.6V≤Vin≤8V Iout=100mA	--	0.05	0.2	%/V
Load Regulation	$\Delta V_{out} / \Delta I_{out}$	Vin= Vout+1V 1.0mA≤Iout≤100mA	--	12	30	mV
Output voltage Temperature Coefficient	$\Delta V_{out}/(T_a \cdot V_{out})$	Iout=30mA 0°C≤Ta≤70°C	--	±100	--	Ppm/°C
Supply Current	Iss1	--	--	1.5	5	uA
Input Voltage	Vin	--	--	--	10	V

Electrical Characteristics by Output Voltage:

Output Voltage Vout(V)	Dropout Voltage Vdif (V)		
	Conditions	Typ.	Max.
Vout ≤ 2.0V	Iout=60 mA	0.05	0.08
2.0 < Vout ≤ 3.0	Iout=80 mA	0.05	0.08
3.0 < Vout ≤ 4.0	Iout=100 mA	0.06	0.08
4.0 < Vout ≤ 5.0		0.05	0.08
3.0 < Vout ≤ 4.0	Iout=200 mA	0.13	0.16
4.0 < Vout ≤ 5.0		0.12	0.16
3.0 < Vout ≤ 4.0	Iout=1000 mA	0.65	0.8
4.0 < Vout ≤ 5.0		0.6	0.8