

250 mA Low Quiescent Current LDO Regulator

Features:

- 2.0 μA Quiescent Current (typical)
- Input Operating Voltage Range: 2.7V to 13.2V
- 250 mA Output Current for Output Voltages $\geq 2.5\text{V}$
- 200 mA Output Current for Output Voltages $< 2.5\text{V}$
- Low Dropout (LDO) Voltage
 - 625 mV typical @ 250 mA ($V_{\text{OUT}} = 2.8\text{V}$)
- 0.4% Typical Output Voltage Tolerance
- Standard Output Voltage Options:
 - 1.2V, 1.5V, 1.8V, 2.5V, 2.8V, 3.0V, 3.3V, 4.0V, 5.0V
- Output Voltage Range 1.2V to 5.5V in 0.1V Increments (50 mV increments available upon request)
- Stable with 1.0 μF to 22 μF Output Capacitor
- Short-Circuit Protection
- Overtemperature Protection

Applications:

- Battery-powered Devices
- Battery-powered Alarm Circuits
- Smoke Detectors
- CO^2 Detectors
- Pagers and Cellular Phones
- Smart Battery Packs
- Low Quiescent Current Voltage Reference
- PDAs
- Digital Cameras
- Microcontroller Power
- Solar-Powered Instruments
- Consumer Products
- Battery Powered Data Loggers

Related Literature:

- AN765, "Using Microchip's Micropower LDOs", DS00765, Microchip Technology Inc., 2002
- AN766, "Pin-Compatible CMOS Upgrades to Bipolar LDOs", DS00766, Microchip Technology Inc., 2002
- AN792, "A Method to Determine How Much Power a SOT-23 Can Dissipate in an Application", DS00792, Microchip Technology Inc., 2001

Description:

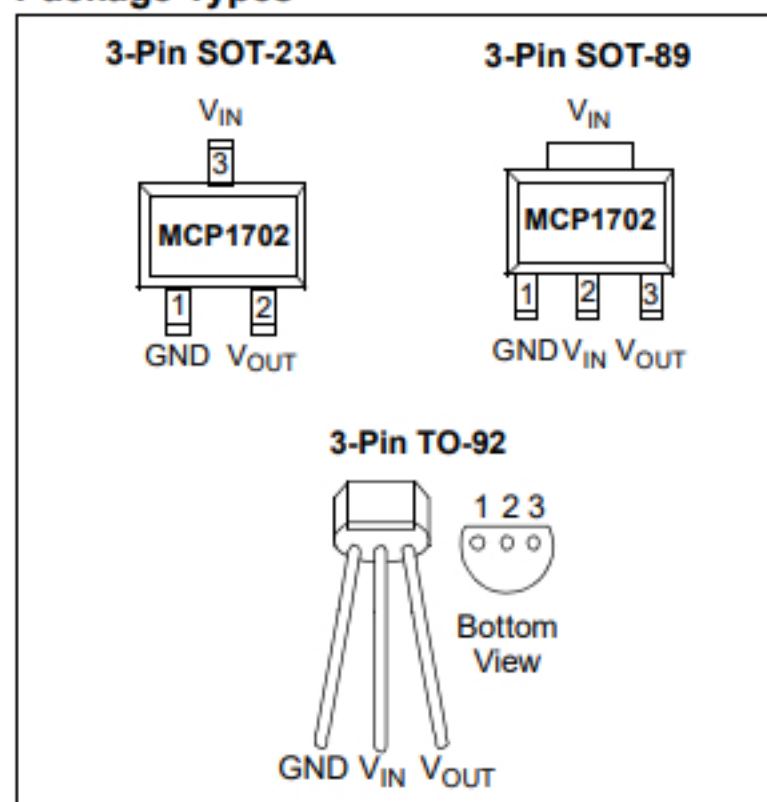
The MCP1702 is a family of CMOS low dropout (LDO) voltage regulators that can deliver up to 250 mA of current while consuming only 2.0 μA of quiescent current (typical). The input operating range is specified from 2.7V to 13.2V, making it an ideal choice for two to six primary cell battery-powered applications, 9V alkaline and one or two cell Li-Ion-powered applications.

The MCP1702 is capable of delivering 250 mA with only 625 mV (typical) of input to output voltage differential ($V_{\text{OUT}} = 2.8\text{V}$). The output voltage tolerance of the MCP1702 is typically $\pm 0.4\%$ at $+25^\circ\text{C}$ and $\pm 3\%$ maximum over the operating junction temperature range of -40°C to $+125^\circ\text{C}$. Line regulation is $\pm 0.1\%$ typical at $+25^\circ\text{C}$.

Output voltages available for the MCP1702 range from 1.2V to 5.0V. The LDO output is stable when using only 1 μF of output capacitance. Ceramic, tantalum or aluminum electrolytic capacitors can all be used for input and output. Overcurrent limit and overtemperature shutdown provide a robust solution for any application.

Package options include the SOT-23A, SOT-89-3, and TO-92.

Package Types



MCP1702

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

PRODUCT IDENTIFICATION SYSTEM

To order or obtain information, e.g., on pricing or delivery, refer to the factory or the listed sales office.

<u>PART NO.</u>	X-	XX	X	X	X/	XX
Device	Tape and Reel	Output Voltage	Feature Code	Tolerance	Temp.	Package
Examples:						
a) MCP1702T-1202E/CB:		1.2V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
b) MCP1702T-1802E/MB:		1.8V LDO Positive Voltage Regulator,				SOT-89-3 pkg.
c) MCP1702T-2502E/CB:		2.5V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
d) MCP1702T-3002E/CB:		3.0V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
e) MCP1702T-3002E/MB:		3.0V LDO Positive Voltage Regulator,				SOT-89-3 pkg.
f) MCP1702T-3302E/CB:		3.3V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
g) MCP1702T-3302E/MB:		3.3V LDO Positive Voltage Regulator,				SOT-89-3 pkg.
h) MCP1702T-4002E/CB:		4.0V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
i) MCP1702-5002E/TO:		5.0V LDO Positive Voltage Regulator,				TO-92 pkg.
j) MCP1702T-5002E/CB:		5.0V LDO Positive Voltage Regulator,				SOT-23A-3 pkg.
k) MCP1702T-5002E/MB:		5.0V LDO Positive Voltage Regulator,				SOT-89-3 pkg.
Device: MCP1702: 2 μ A Low Dropout Positive Voltage Regulator						
Tape and Reel: T = Tape and Reel						
Output Voltage *:						
	12	= 1.2V "Standard"				
	15	= 1.5V "Standard"				
	18	= 1.8V "Standard"				
	25	= 2.5V "Standard"				
	28	= 2.8V "Standard"				
	30	= 3.0V "Standard"				
	33	= 3.3V "Standard"				
	40	= 4.0V "Standard"				
	50	= 5.0V "Standard"				
*Contact factory for other output voltage options.						
Extra Feature Code: 0 = Fixed						
Tolerance:						
	2	= 2.0% (Standard)				
	1	= 1.0% (Custom)				
Temperature: E = -40°C to +125°C						
Package Type:						
	CB	= Plastic Small Outline Transistor (SOT-23A) (equivalent to EIAJ SC-59), 3-lead,				
	MB	= Plastic Small Outline Transistor Header, (SOT-89), 3-lead				
	TO	= Plastic Transistor Outline (TO-92), 3-lead				