

1A Adjustable & Fixed Voltage LDO Linear Regulator

Features

- Operating Voltage Range : +2.5V to +6.5V
- Output Voltages : +1.0V to +5.0V (0.1V Step) (Fixed), +1.25V to +5.0V (ADJ Type)
- Maximum Output Current : 1A
- Dropout Voltage : 700mV @ 1000mA (Fixed)
- Fast Response in Power-on (Fixed Voltage)
- Low Current Consumption : 60 μ A (Typ.)
- $\pm 2\%$ Output Voltage Accuracy, $V_{OUT} \geq 1.8V$
- Low ESR Capacitor Compatible
- High Ripple Rejection : 55 dB (Typ.)
- Output Current Limit Protection : 1.3A (Typ.)
- Short Circuit Protection : 600mA (Typ.)
- Thermal Overload Shutdown Protection
- SOT-223 and TO-252 Packages
- RoHS Compliant and 100% Lead (Pb)-Free and Green (Halogen Free with Commercial Standard)

Applications

- Active SCSI Terminators
- High Efficiency Linear Regulators
- Monitor Microprocessors
- Low Voltage Micro-Controllers
- Post Regulator for Switching Power

General Description

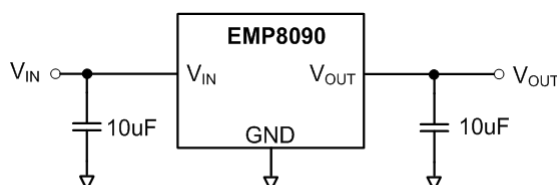
The EMP8090 series is a low-dropout linear regulator that operates in the input voltage range from +2.5V to +6.5V and delivers 1.0A output current.

The EMP8090 is available in two types, fixed output voltage type and adjustable output voltage type. The fixed output voltage type is preset at an internally trimmed voltage 1.8V, 2.5V, or 3.3V. Other options 1.2V, 1.5V, 2.85V, 3.0V and 3.6V are available by special order only. The output voltage range of the adjustable type is from 1.25V to 5V.

The EMP8090 (ADJ type) consists of a 1.25V bandgap reference, an error amplifier, and a P-channel pass transistor. Other features include short-circuit protection and thermal shutdown protection.

The EMP8090 (Fixed type) consists of a 0.95V bandgap reference, an error amplifier, and a P-channel pass transistor. Other features include short-circuit protection and thermal shutdown protection. The EMP8090 series devices are available in SOT-223 and TO-252 packages.

Simplified Application Circuit



Ordering Information

Package	Vout	Product ID.	Marking	Packing
SOT-223	1.0-5.0V	EMP8090-XXVEJ3NRR		Tape & Reel 2.5kpcs
SOT-223	1.0-5.0V	EMP8090-XXVEG3NRR		Tape & Reel 2.5kpcs
SOT-223	1.0-5.0V	EMP8090-XXVEX3NRR		Tape & Reel 2.5kpcs
TO-252	1.0-5.0V	EMP8090-XXTBP3NRR		Tape & Reel 3kpcs
TO-252	1.0-5.0V	EMP8090-XXTBR3NRR		Tape & Reel 3kpcs

Example

EMP8090-XXVEJ3NRR

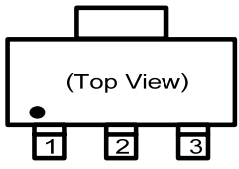
- XX Output voltage (Vout Range)
- VEJ3 SOT-223 Package (Package Code)
- NRR RoHS & Halogen free package
Commercial Grade Temperature
Rating: -40 to 85°C
Package in Tape & Reel

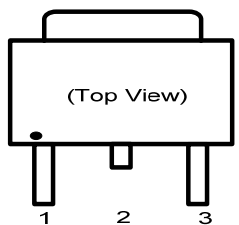
Vout Code :		
V_{OUT} Range : 1.0V~5.0V Exam. 12=1.2V, 25=2.5V, 50=5.0V		
Package Code :		
VEJ : SOT-223*	VEG : SOT-223*	VEX : SOT-223*
TBP : TO-252*	TBR : TO-252*	

Note :

* The difference between “J”, “G” & “X” type and “P” & “R” type, please refer to ”Pin Description”.

Pin Description

Part NO.	Pin			Symbol	Pin Description
	SOT-223 (J)	SOT-223 (G)	SOT-223 (X)		
 <p>(Top View) SOT-223</p>	3	1	3	V _{IN}	Regulator Input Pin.
	1	2	2	GND/ADJ	Ground Pin or ADJ Terminal Pin.
	2	3	1	V _{OUT}	Regulator Output Pin.

Part NO.	Pin		Symbol	Pin Description
	TO-252 (P)	TO-252 (R)		
 <p>(Top View) TO-252</p>	1	3	V _{IN}	Regulator Input Pin.
	2	1	GND/ADJ	Ground Pin.
	3	2	V _{OUT}	Regulator Output Pin.