High-Precision Three-Pin Regulator
Monolithic IC MM1257

Outline

This IC is a high-precision high-voltage stabilized power supply device which stands out from ordinary low-saturation three-pin regulators.
It can be used at a wide range of output voltages, from 3V to 12V, delivering output currents up to 100mA. It is one of a series of devices available at lower prices than previous regulators.

Features

1. Input current	27V max.
2. Output noise voltage	200μVrms typ.
3. Maximum output current	100mA max.
4. No-load input current	500μA typ.
5. Thermal shutdown circuit provided	
6. Output voltage ranks	A : 12V±2% E : 6V±2% B : 10V±2% F : 5V±2% C : 9V±2% G : 3V±2% D : 8V±2%

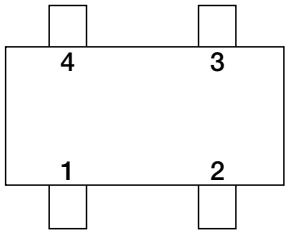
Package

TO-92A (MM1257□T)
MMP-4A (MM1257□M)
*The output voltage rank appears in the boxes.

Applications

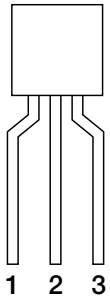
1. Handheld computers
2. Portable transceivers
3. Cordless phones

Pin Assignment



1	NC
2	V_{IN}
3	V_{OUT}
4	GND

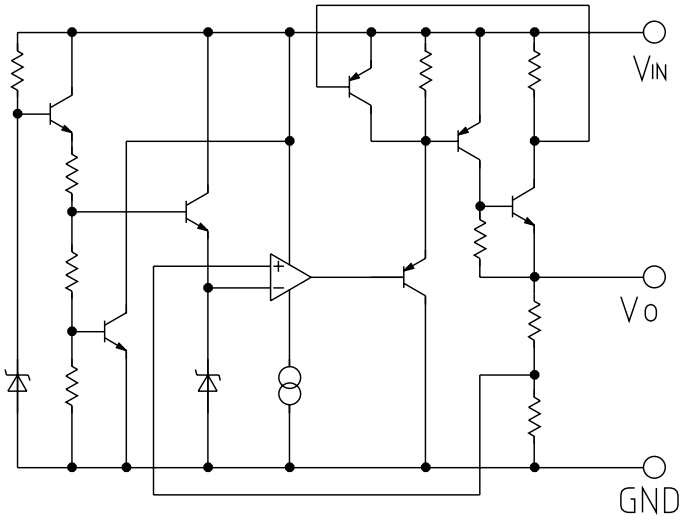
MMP-4A
(TOP VIEW)



1	V_{OUT}
2	GND
3	V_{IN}

TO-92A

Equivalent Circuit Diagram



Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Ratings	Units
Storage temperature	TSTG	–40~+125	°C
Operating temperature	TOPR	–20~+75	°C
Power supply current	VCC max.	27	V
Output current	IOUT	100	mA
Maximum Ratings	Pd	200 (MMP-4A), 300 (TO-92A)	mW

Recommended Operating Conditions

Item	Symbol	Ratings	Units
Input voltage	VIN	7~27	V
Output current	Io	1~100	mA

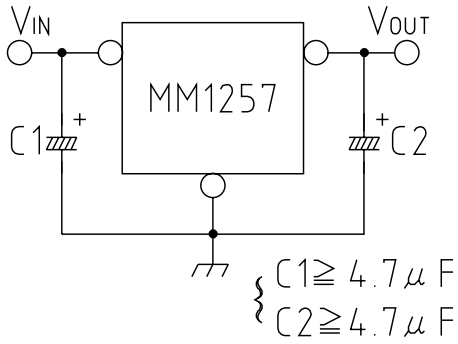
Pin Description

Pin no.	Pin name	Function
1	N.C	N.C
2	VIN	Power supply input pin
3	VOUT	Regulator output pin
4	GND	GND

Electrical Characteristics (Vo=5V)

Item	Symbol	Measurement circuit	Measurement conditions		Min.	Typ.	Max.	Units
Output voltage	Vo	1	VIN=Vo+3V, Io=40mA	A	11.76	12.0	12.24	V
				B	9.80	10.0	10.20	
				C	8.82	9.0	9.18	
				D	7.84	8.0	8.16	
				E	5.88	6.0	6.12	
				F	4.90	5.0	5.10	
			VIN=7V, Io=40mA	G	2.94	3.0	3.06	
No-load input current	Iccq	1	VIN=Vo+4V, Io=40mA			0.50	1.50	mA
Input fluctuation rate	⊿V1	1	VIN=14.5V~25V, Io=40mA	A		120	250	mV
			VIN=12.5V~24V, Io=40mA	B		110	250	
			VIN=11.5V~22V, Io=40mA	C		100	250	
			VIN=10.5V~22V, Io=40mA	D		90	250	
			VIN=8.5V~20V, Io=40mA	E		60	200	
			VIN=7V~20V, Io=40mA	F		50	150	
			VIN=7V~18V, Io=40mA	G		25	150	
Load fluctuation rate	⊿V2	1	VIN=15V, Io=1~100mA	A		80	160	mV
			VIN=13V, Io=1~100mA	B		70	140	
			VIN=12V, Io=1~100mA	C		65	130	
			VIN=11V, Io=1~100mA	D		60	120	
			VIN=9V, Io=1~100mA	E		40	80	
			VIN=8V, Io=1~100mA	F		20	60	
			VIN=8V, Io=1~100mA	G		20	60	

Measuring Circuit



Application Circuits