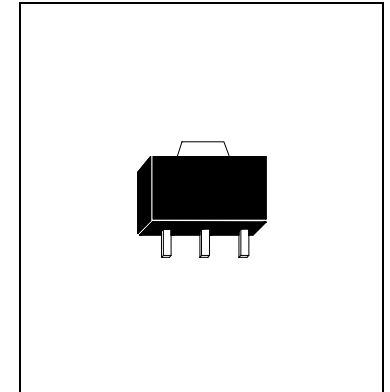




H7805AM

H7805BM

Low Current Positive Voltage Regulator Of Surface Mount Device



Description

The H7805_M series of surface mount device regulators are easy-to-use devices suitable for multitude of applications that require a regulated supply of up to 100mA. These regulators feature internal current limiting and thermal shutdown making them remarkably rugged. No external components are required with the 780-5_M devices in many applications.

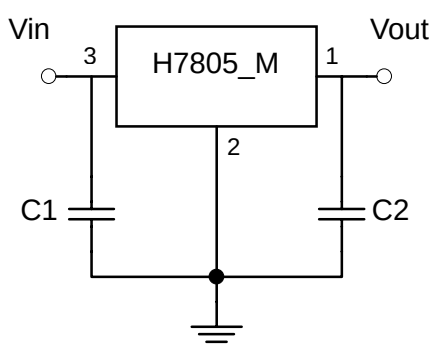
These devices offer a substantial performance advantage over the traditional zener diode resistor combination, as output impedance and quiescent current are substantially reduced.

- Wide Range Of Available, Fixed Output Voltages
- Internal Short-Circuit Current Limiting
- Internal Thermal Overload Protection
- No External Components Required

Absolute Maximum Ratings (Ta=25°C)

- Input Voltage..... 30 V (5V Through 9V), 35 V (12V Through 18V)
- Total Power Dissipation Internal limit
- Operating Temperature Range 0 °C to +70 °C
- Maximum Junction Temperature..... 125 °C
- Storage Temperature Range -55 °C to +150 °C
- Lead Temperature (Soldering 10S)..... 260 °C

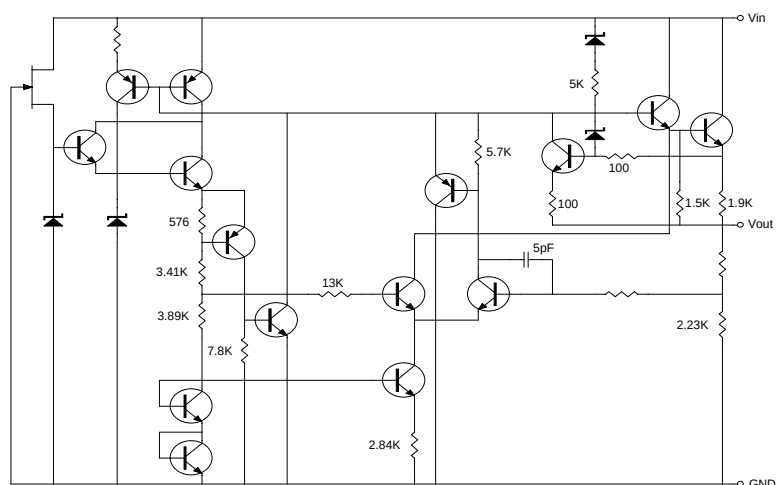
Typical Application



A common ground is required between the input and the output voltages. The input voltage must remain typically 2.0V above the output voltage even during the low point on the input ripple voltage.

Note : C1 and C2 are required if regulator is located far from power supply filter and load, or oscillation may induced on the loop.

Schematic Diagram





Electrical Characteristics

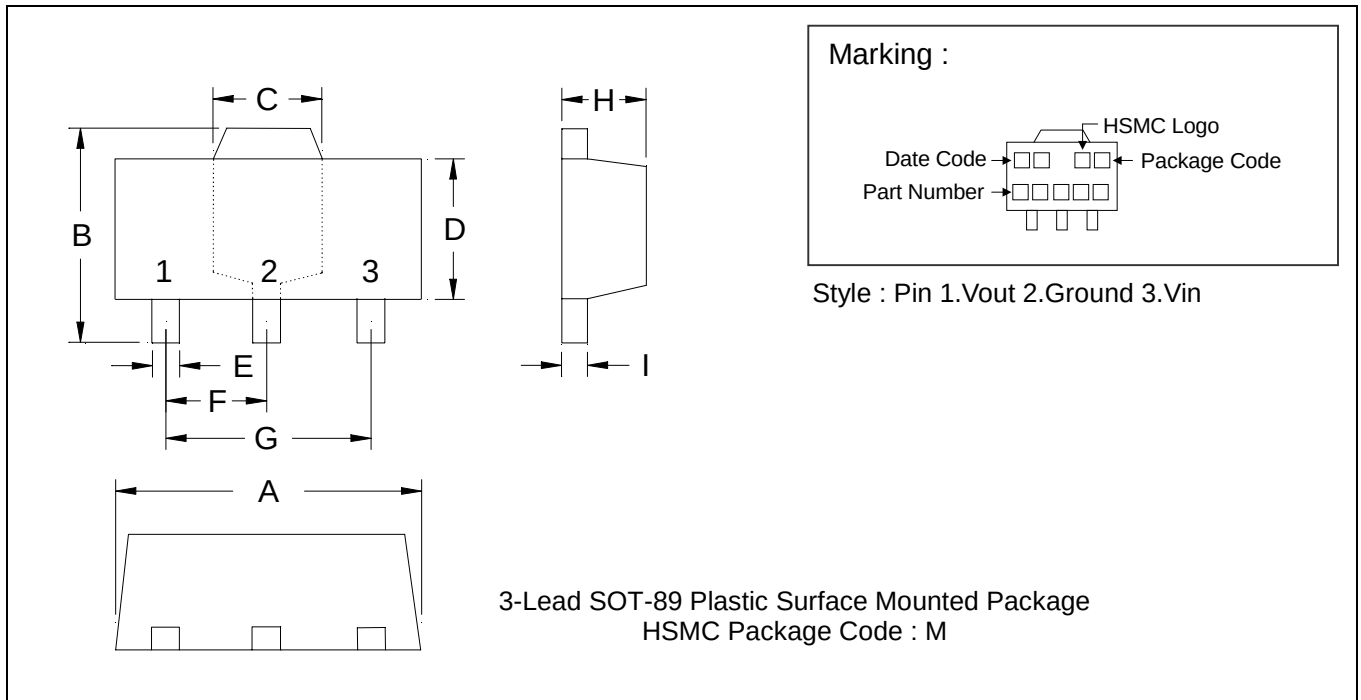
$V_{in}=10V$, $I_o=40mA$, $T_j=25^{\circ}C$, $C_{in}=0.33\mu F$, $C_{out}=0.1\mu F$ (unless otherwise noted)

Symbol	Parameter	Conditions	H7805AM			Units
			Min	Typ	Max	
V_o	Output Voltage	$T_j=25^{\circ}C$	4.85	5	5.15	V
		$7V \leq V_{in} \leq 25V$, $1mA \leq I_o \leq 40mA$	4.75	5	5.25	
		$1mA \leq I_o \leq 70mA$	4.75	5	5.25	
ΔV_o	Line Regulation	$7V \leq V_{in} \leq 20V$	-	-	150	mV
		$8V \leq V_{in} \leq 20V$	-	-	100	
ΔV_o	Load Regulation	$1mA \leq I_o \leq 100mA$	-	-	60	mV
		$1mA \leq I_o \leq 40mA$	-	-	30	
I_Q	Quiescent Current	$T_a=25^{\circ}C$	-	-	5	mA
ΔI_Q	Quiescent Current Change	$8V \leq V_{in} \leq 20V$	-	-	1	mA
		$1mA \leq I_o \leq 40mA$	-	-	0.1	
V_n	Output Noise Voltage	$10Hz \leq f \leq 100KHz$	-	40	-	μV
$\Delta V_{in} / \Delta V_{out}$	Ripple Rejection	$8V \leq V_{in} \leq 16V$, $f=120Hz$	47	62	-	dB
I_{pk}	Peak Output Current	$T_a=25^{\circ}C$	-	140	-	mA
V_D	Dropout Voltage	$T_a=25^{\circ}C$	-	1.7	-	V

Symbol	Parameter	Conditions	H7805BM			Units
			Min	Typ	Max	
V_o	Output Voltage	$T_j=25^{\circ}C$	4.75	5	5.25	V
		$7V \leq V_{in} \leq 25V$, $1mA \leq I_o \leq 40mA$	4.75	5	5.25	
		$1mA \leq I_o \leq 70mA$	4.75	5	5.25	
ΔV_o	Line Regulation	$7V \leq V_{in} \leq 20V$	-	-	150	mV
		$8V \leq V_{in} \leq 20V$	-	-	100	
ΔV_o	Load Regulation	$1mA \leq I_o \leq 100mA$	-	-	60	mV
		$1mA \leq I_o \leq 40mA$	-	-	30	
I_Q	Quiescent Current	$T_a=25^{\circ}C$	-	-	5	mA
ΔI_Q	Quiescent Current Change	$8V \leq V_{in} \leq 20V$	-	-	1	mA
		$1mA \leq I_o \leq 40mA$	-	-	0.1	
V_n	Output Noise Voltage	$10Hz \leq f \leq 100KHz$	-	40	-	μV
$\Delta V_{in} / \Delta V_{out}$	Ripple Rejection	$8V \leq V_{in} \leq 16V$, $f=120Hz$	47	62	-	dB
I_{pk}	Peak Output Current	$T_a=25^{\circ}C$	-	140	-	mA
V_D	Dropout Voltage	$T_a=25^{\circ}C$	-	1.7	-	V



SOT-89 Dimension



*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.1732	0.1811	4.40	4.60	F	0.0583	0.0598	1.48	1.52
B	0.1594	0.1673	4.05	4.25	G	0.1165	0.1197	2.96	3.04
C	0.0591	0.0663	1.50	1.70	H	0.0551	0.0630	1.40	1.60
D	0.0945	0.1024	2.40	2.60	I	0.0138	0.0161	0.35	0.41
E	0.0141	0.0201	0.36	0.51					

Notes : 1.Dimension and tolerance based on our Spec. dated May. 05,1996.
2.Controlling dimension : millimeters.
3.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
4.If there is any question with packing specification or packing method, please contact your local HSMC sales office.

Material :

- Lead : 42 Alloy ; solder plating
- Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of HSMC.
- HSMC reserves the right to make changes to its products without notice.
- **HSMC semiconductor products are not warranted to be suitable for use in Life-Support Applications, or systems.**
- HSMC assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

Head Office And Factory :

- **Head Office** (Hi-Sincerity Microelectronics Corp.) : 10F.,No. 61, Sec. 2, Chung-Shan N. Rd. Taipei Taiwan R.O.C.
Tel : 886-2-25212056 Fax : 886-2-25632712, 25368454
- **Factory 1** : No. 38, Kuang Fu S. Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
Tel : 886-3-5983621~5 Fax : 886-3-5982931
- **Factory 2** : No. 17-1, Ta-Tung Rd., Fu-Kou Hsin-Chu Industrial Park Hsin-Chu Taiwan. R.O.C
Tel : 886-3-5977061 Fax : 886-3-5979220