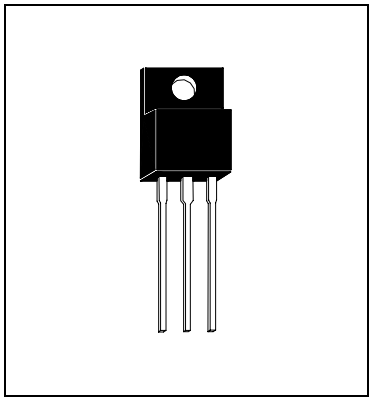
H7806AF
H7806BF

3-TERMINAL POSITIVE VOLTAGE REGULATOR



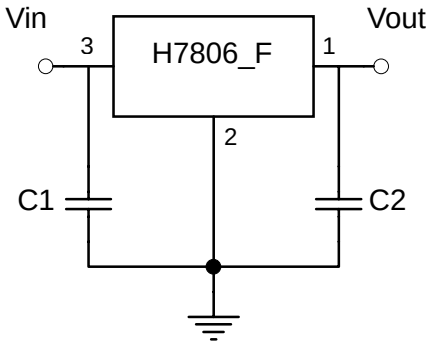
Description

The H7806_F series of three-terminal positive regulators are available in the TO-220FP package and with several fixed output voltages, making it useful in a wide range of applications. These regulators can provide local on-card regulation, eliminating the distribution problems associated with single point regulation. Each type employs internal current limiting, thermal shut-down and safe operating area protection, making it essentially indestructible. If adequate heat sinking is provided, they can deliver over 1A output current. Although designed primarily as fixed voltage regulators, these devices can be used with external components to obtain adjustable voltages and currents. H7806_F is characterized for operation from 0°C to +125°C, and if operating temperature will always hi, please refer the power dissipation curve.

Absolute Maximum Ratings (Ta=25°C)

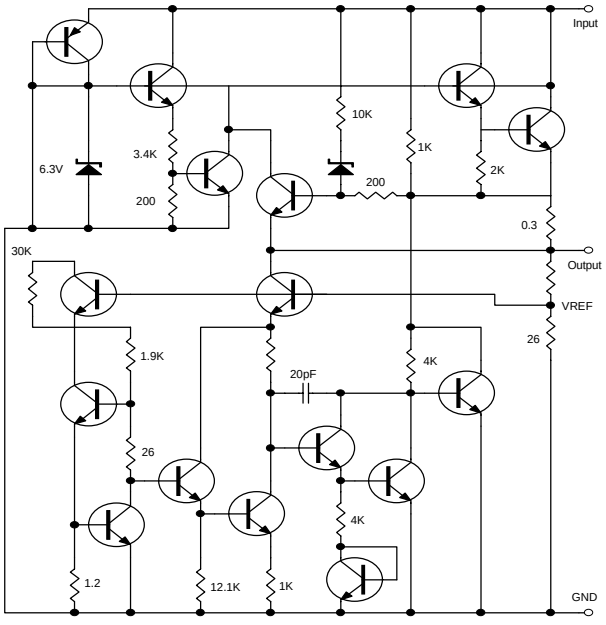
- Input Voltage.....35V(5V Through 9V), 40V(24V)
- Total Power Dissipation .....Internal limit
- Operating Temperature Range .....0°C to +70°C
- Maximum Junction Temperature.....125°C
- Storage Temperature Range .....-55°C to +150°C
- Lead Temperature (Soldering 10S).....230°C

Typical Application



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



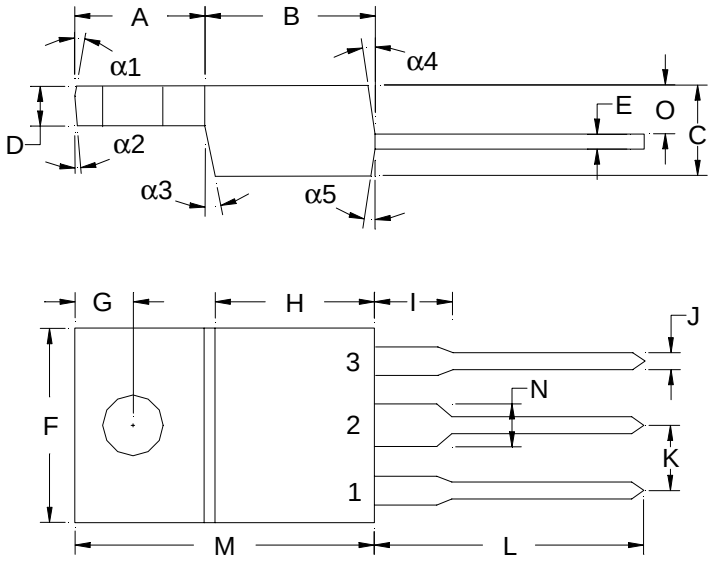
Electrical Characteristics

Vin=11V, Io=500mA, 0°C≤Tj≤125°C (unless otherwise noted)

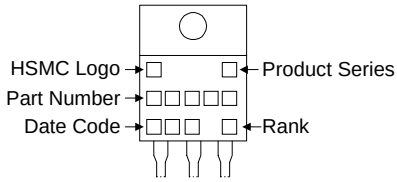
Symbol	Parameter	Conditions	H7806AF			Units
			Min	Typ	Max	
Vo	Output Voltage	Tj=25°C	5.82	6	6.18	V
		PD≤15W, 5mA≤Io≤1A	5.82	6	6.18	
ΔVo	Line Regulation	Tj=25°C, 8V≤Vin≤21V	-	4	60	mV
		Tj=25°C, 9V≤Vin≤21V	-	1.6	25	
ΔVo	Load Regulation	5mA≤Io≤1.5A	-	-	100	mV
		250mA≤Io≤750mA	-	-	50	
IQ	Quiescent Current	Io≤1A, Tj=25°C	-	5.5	8	mA
ΔIQ	Quiescent Current Change	5mA≤Io≤1A	-	-	0.5	mA
		9V≤Vin≤25V	-	-	1.3	
Vn	Output Noise Voltage	Ta=25°C, 10Hz≤f≤100KHz	-	-	200	uV
RR	Ripple Rejection	9V≤Vin≤19V, f=120Hz	-	68	-	dB
VD	Dropout Voltage	Tj=25°C, Io=1A	-	2	-	V
Isc	Short Circuit Current	Tj=25°C	-	1.5	-	A
Ipk	Peak Output Current	Tj=25°C	1.7	-	-	A
ΔVo / ΔT	Average Tc of Vout	0°C≤Tj≤+125°C, Io=5mA	-	-0.8	-	mV/°C

Symbol	Parameter	Conditions	H7806BF			Units
			Min	Typ	Max	
Vo	Output Voltage	Tj=25°C	5.75	6	6.25	V
		PD≤15W, 5mA≤Io≤1A	5.75	6	6.25	
ΔVo	Line Regulation	Tj=25°C, 8V≤Vin≤21V	-	5	120	mV
		Tj=25°C, 9V≤Vin≤21V	-	2	60	
ΔVo	Load Regulation	5mA≤Io≤1.5A	-	-	120	mV
		250mA≤Io≤750mA	-	-	60	
IQ	Quiescent Current	Io≤1A, Tj=25°C	-	5.5	8	mA
ΔIQ	Quiescent Current Change	5mA≤Io≤1A	-	-	0.5	mA
		9V≤Vin≤25V	-	-	1.3	
Vn	Output Noise Voltage	Ta=25°C, 10Hz≤f≤100KHz	-	-	300	uV
RR	Ripple Rejection	9V≤Vin≤19V, f=120Hz	62	73	-	dB
VD	Dropout Voltage	Tj=25°C, Io=1A	-	2.5	-	V
Isc	Short Circuit Current	Tj=25°C	-	1.5	-	A
Ipk	Peak Output Current	Tj=25°C	1.7	-	-	A
ΔVo / ΔT	Average Tc of Vout	0°C≤Tj≤+125°C, Io=5mA	-	-0.8	-	mV/°C

TO-220FP Dimension



Marking :



Style : Pin 1.Vin 2.Ground 3.Vout

3-Lead TO-220FP Plastic Package
HSMC Package Code : F

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.2480	0.2520	6.30	6.40	K	-	*0.1004	-	*2.55
B	0.3386	0.3425	8.60	8.70	L	0.5118	0.5906	13.00	15.00
C	0.1673	0.1870	4.25	4.75	M	0.5886	0.5925	14.95	15.05
D	0.1043	0.1083	2.65	2.75	N	-	*0.0669	-	*1.70
E	0.0230	0.0242	0.58	0.61	O	0.1098	0.1114	2.79	2.83
F	0.3980	0.4039	10.11	10.26	1	-	-2°	-	*2°
G	0.1083	0.1122	2.75	2.85	2	-	*5°	-	*5°
H	0.3386	0.3425	8.60	8.70	3	-	*15°	-	*15°
I	-	*0.1496	-	*3.80	4	-	*5°	-	*5°
J	-	*0.0236	-	*0.60	5	-	*5°	-	*5°

Notes : 1.Dimension and tolerance based on our Spec. dated Sep. 07,1997.
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

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