3-TERMINAL POSITIVE VOLTAGE REGULATOR

LM7805XF3

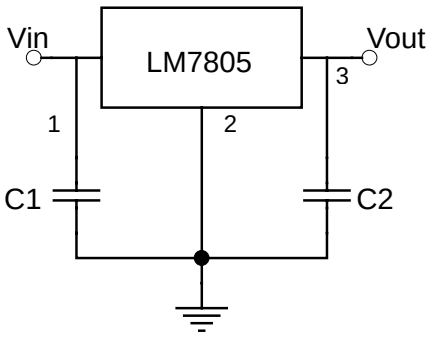
Description

The LM7805XF3 series of three-terminal positive regulators are available in the TO-263 package. These regulators can provide local on -card regulation, eliminating the distribution problems associated with single point regulation. Each employs internal current limiting, thermal shutdown 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.

Absolute Maximum Ratings

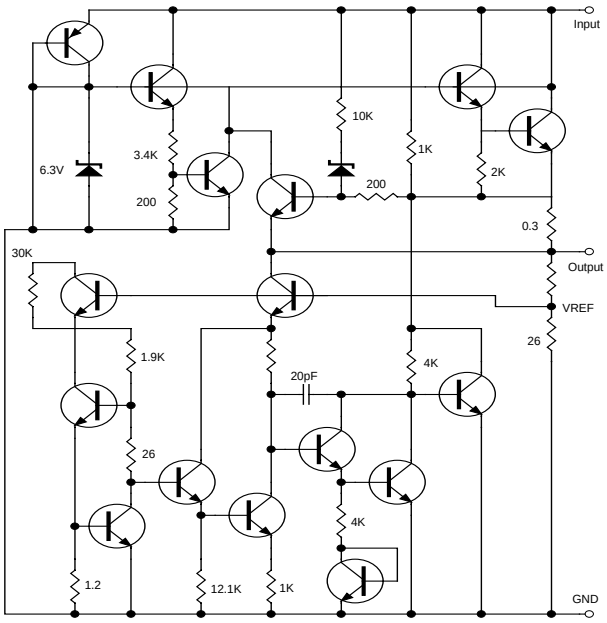
Symbol	Parameter	Maximum	Units
I_O	Output Current	1	A
V_{IN}	Input Voltage	35	V
T_{OPR}	Operating Junction Temperature Range	0 ~ +150	℃
T_{STG}	Storage Temperature	-55 ~ +150	℃
$R_{\theta JA}$	Thermal Resistance, Junction to Air	65	℃/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case	5	℃/W

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=10V, Io=500mA, Cin=0.33μF, Cout=0.1μF, 0°C≤Tj≤125°C (unless otherwise noted)

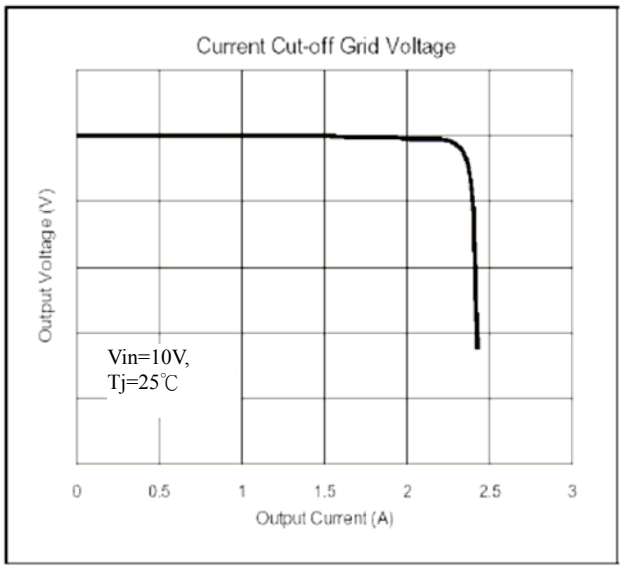
Symbol	Parameter	Conditions	LM7805AF3			Units
			Min	Typ	Max	
Vo	Output Voltage	Tj=25°C	4.85	5	5.15	V
		P_D≤15W, 5mA≤Io≤1A	4.85	5	5.15	
ΔVo	Line Regulation	Tj=25°C, 7V≤Vin≤25V	-	3	50	mV
		Tj=25°C, 8V≤Vin≤12V	-	1	25	
ΔVo	Load Regulation	Tj=25°C, 5mA≤Io≤1A	-	-	100	mV
		Tj=25°C, 250mA≤Io≤750mA	-	-	50	
I_Q	Quiescent Current	Tj=25°C	-	-	8	mA
ΔI_Q	Quiescent Current Change	5mA≤Io≤1A	-	-	0.5	mA
		7V≤Vin≤25V	-	-	1.3	
Vn	Output Noise Voltage	Ta=25°C, 10Hz≤f≤100KHz	-	40	-	μV
RR	Ripple Rejection	8V≤Vin≤18V, f=120Hz	-	80	-	dB
V_D	Dropout Voltage	Tj=25°C, Io=1A	-	2	-	V
Isc	Short Circuit Current	Tj=25°C	-	250	-	mA
Ipk	Peak Output Current	Tj=25°C	-	1.8	-	A
ΔVo / ΔT	Average Tc of Vout	0°C≤Tj≤+125°C, Io=5mA	-	-0.6	-	mV/°C

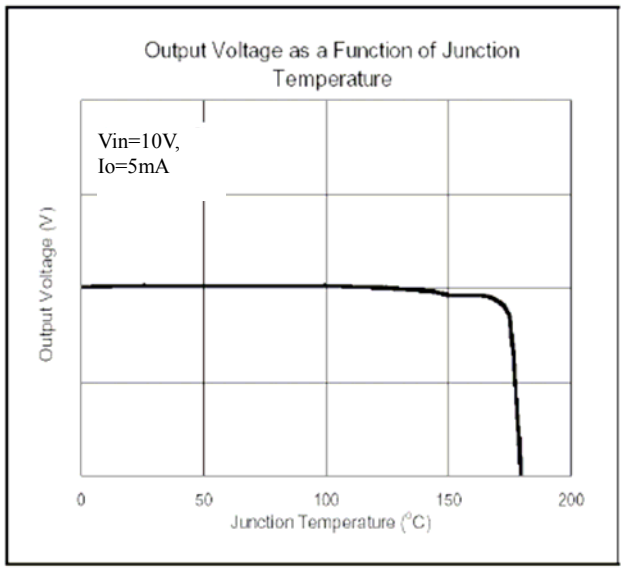
Symbol	Parameter	Conditions	LM7805BF3			Units
			Min	Typ	Max	
Vo	Output Voltage	Tj=25°C	4.75	5	5.25	V
		P_D≤15W, 5mA≤Io≤1A	4.75	5	5.25	
ΔVo	Line Regulation	Tj=25°C, 7V≤Vin≤25V	-	3	50	mV
		Tj=25°C, 8V≤Vin≤12V	-	1	25	
ΔVo	Load Regulation	Tj=25°C, 5mA≤Io≤1A	-	-	100	mV
		Tj=25°C, 250mA≤Io≤750mA	-	-	50	
I_Q	Quiescent Current	Tj=25°C	-	-	8	mA
ΔI_Q	Quiescent Current Change	5mA≤Io≤1A	-	-	0.5	mA
		7V≤Vin≤25V	-	-	1.3	
Vn	Output Noise Voltage	Ta=25°C, 10Hz≤f≤100KHz	-	40	-	μV
RR	Ripple Rejection	8V≤Vin≤18V, f=120Hz	-	80	-	dB
V_D	Dropout Voltage	Tj=25°C, Io=1A	-	2	-	V
Isc	Short Circuit Current	Tj=25°C	-	250	-	mA
Ipk	Peak Output Current	Tj=25°C	-	1.8	-	A
ΔVo / ΔT	Average Tc of Vout	0°C≤Tj≤+125°C, Io=5mA	-	-0.6	-	mV/°C

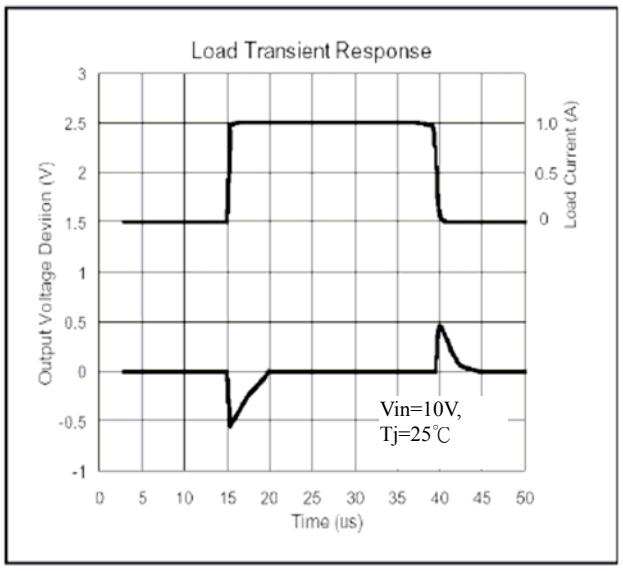
Ordering Information

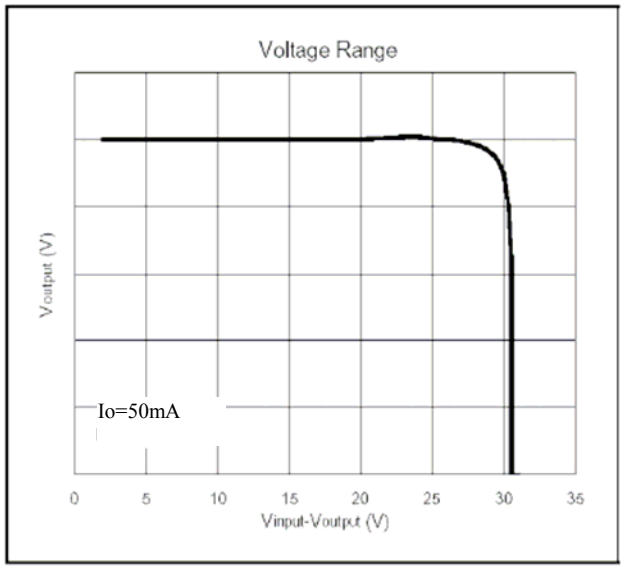
Device	Output Voltage Tolerance	Package	Shipping
LM7805AF3	3%	TO-263	Tape & Reel / 800 pcs
LM7805BF3	5%	TO-263	Tape & Reel / 800 pcs

Characteristic Curves

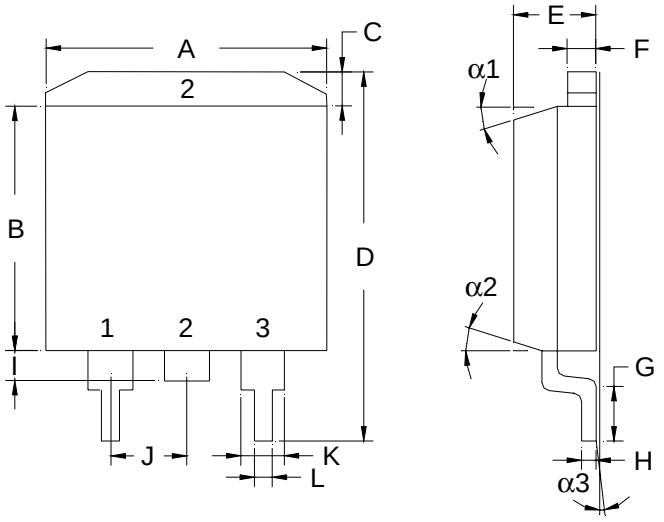




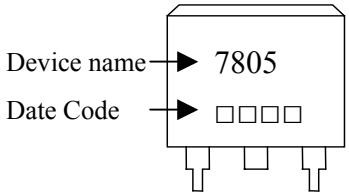




TO-263 Dimension



Marking :



Style : Pin 1.ADJ(GND) 2.Vout(TAB) 3.Vin

3-Lead Plastic Surface Mounted Package
CYStek Package Code : F3

*:Typical

DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.3800	0.4050	9.65	10.29	I	0.0500	0.0700	1.27	1.78
B	0.3300	0.3700	8.38	9.40	J	-	*0.1000	-	*2.54
C	-	0.0550	-	1.40	K	0.0450	0.0550	1.14	1.40
D	0.5750	0.6250	14.61	15.88	L	0.0200	0.0390	0.51	0.99
E	0.1600	0.1900	4.06	4.83	α1	-	-	6°	8°
F	0.0450	0.0550	1.14	1.40	α2	-	-	6°	8°
G	0.0900	0.1100	2.29	2.79	α3	-	-	0°	5°
H	0.0180	0.0290	0.46	0.74					

Notes : 1.Controlling dimension : millimeters.
2.Maximum lead thickness includes lead finish thickness, and minimum lead thickness is the minimum thickness of base material.
3.If there is any question with packing specification or packing method, please contact your local CYStek sales office.

Material :
• Mold Compound : Epoxy resin family, flammability solid burning class:UL94V-0

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