Voltage Regulator 7805

1、Description

These voltage regulators are monolithic integrated circuits designed as fixed-voltage regulators for a wide variety of applications including local,on-card tegulation.These regulators employ intermal current limiting,thermal shutdown,and safe-area compensation.With adequate heatsink they can deliver output currents up to 1.0 ampere. Although designed primarily as a fixed voltage regulator,these devices can be used with external components to obtain adjustable voltages and currents.

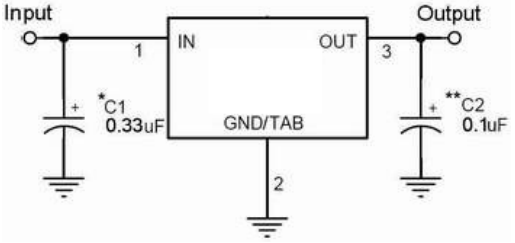
2、Applications

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.

3、Features

- MAX Output curren up to 1.0A
- No external components required
- Internal thermal overload protetion
- Internal short-circuit current limiting
- Output transisitor safe-area compensation
- Output voltage offered in 4% tolerance

4、Pinning information

PIN	Description	Simplified outline	Symbol
1	Input	TO-220	
2	Gnd/Tab		
3	Output		

5、Absolute Maximum Rating

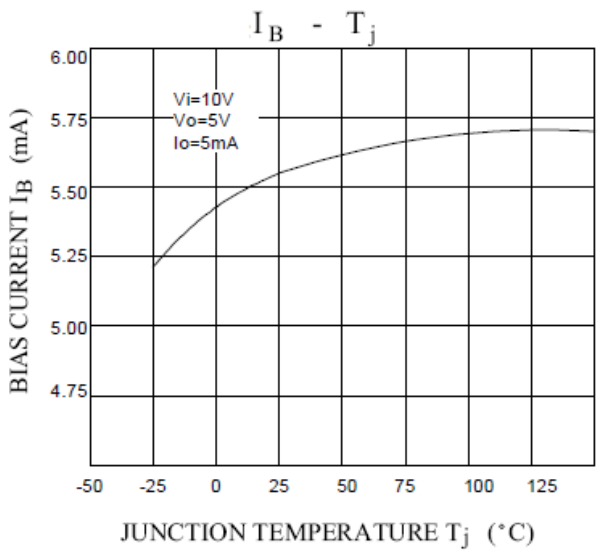
PARAMETER	SYMBOL	MAX	UNIT
Input Voltage	Vin	30	V
Thermal resistance junction-case	RthJC	5	°C/W
Thermal resistance junction-ambient	RthJA	50	°C/W
Operating Junction Temperature Range	Tj	0~+125	℃
Storage Temperature Range	Tstg	-65~+150	℃

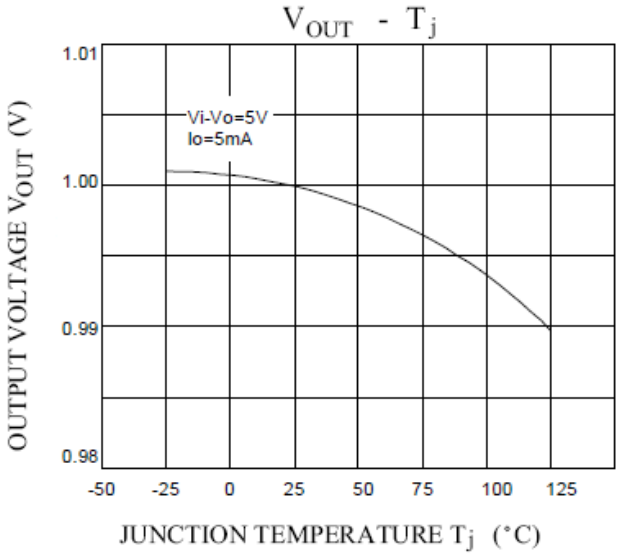
6、Eletrical Characteristics

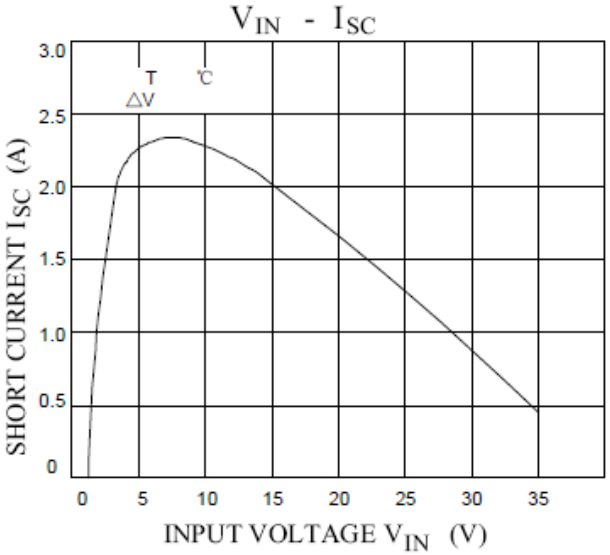
(Vin=10,Iout=500mA, 0℃<Tj<125℃, Cin=0.33uF, Cout=0.1uF, unless otherwise specified)

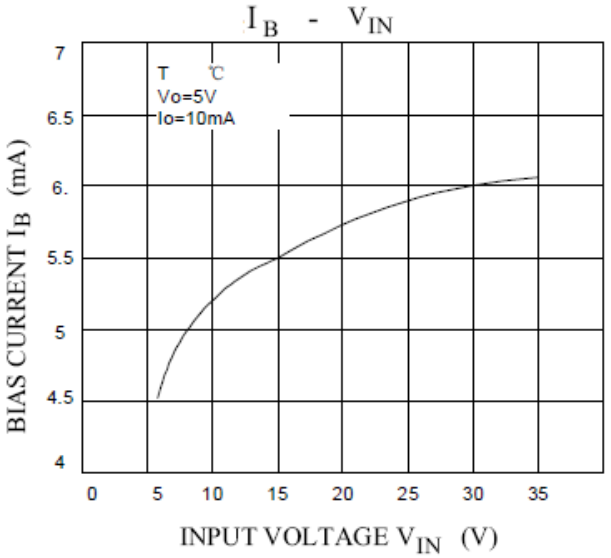
Parameter	Symbol	Test Conditions		MIN	TYPE	MAX	UNIT
Output voltage	Vout	Tj=25℃ PD<15W 7.5V<Vin<20V, 10mA <Iout<1.0A		4.75	5.0	5.25	V
Line Regulation	REGline	Tj=25℃	7.5V<Vin<25V,		4	100	mV
			8V<Vin<12V,		1.6	50	
Load Regulation	REGload	Tj=25℃	10mA <Iout<1.0A		9	100	mV
			250mA<Iout<750mA		4	50	
Quiescent Current	Iq	Iout=0, Tj=25℃			5	8	mA
Quiescent Current Change	ΔIq	7.5V<Vin<25V,				1.3	mA
		10mA <Iout<1.0A				0.5	
Output Noise Voltage	Vn	10HZ<f<100KHZ, Tj=25℃			42		uV
Ripple Rejection Ratio	RR	F=120HZ,8V<Vin<18V		62	73		dB
Voltage Drop	Vdrop	Iout=1.0A, Tj=25℃			2		V
Output Resistance	Rout	f=1KHZ			15		mΩ
Output Short Circui t Current	Ios	Tj=25℃			750		mA
Peak Output Current	Io peak	Tj=25℃			2.2		A
Temperature Coefficient of Output Voltage	ΔVout/ΔTj	Iout=10mA, 0℃<Tj<125℃			0.8		mV/℃

7、Electrical Characteristics Curve

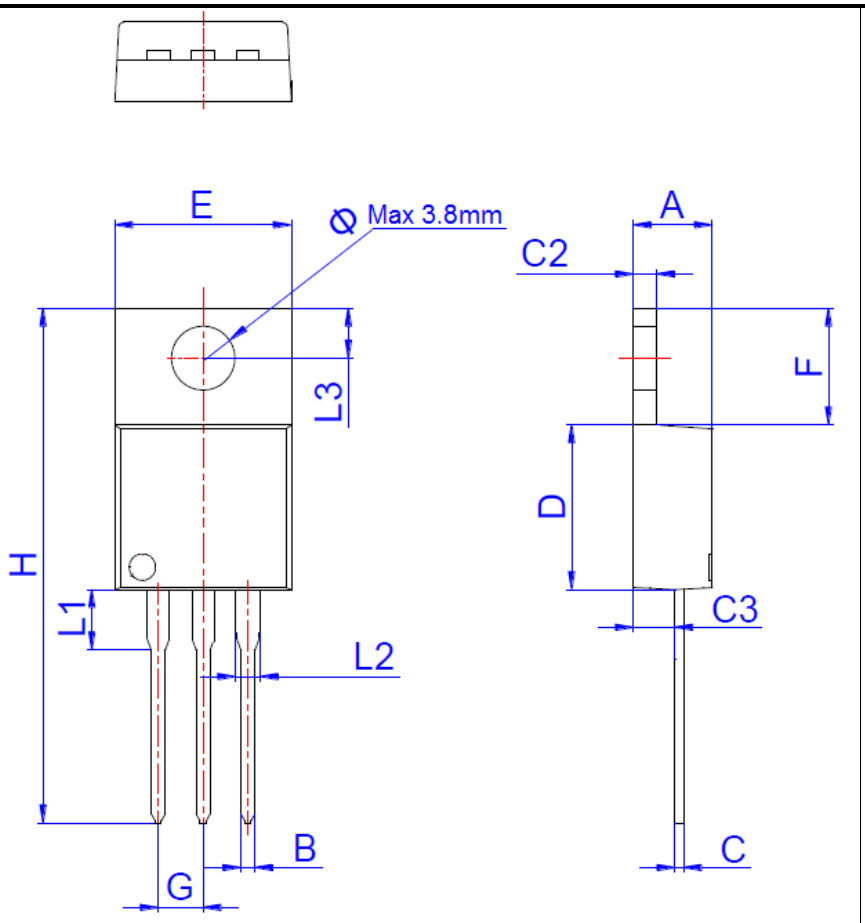




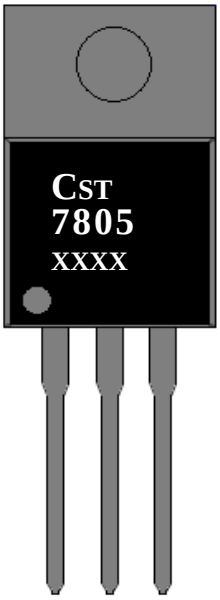




8、Package outline(TO-220)



Marking:



DIM	Milimeters			Inches		
	Min	Type	Max	Min	Type	Max
A	4.40	-	4.60	0.173	-	0.181
B	0.70	-	0.90	0.028	-	0.035
C	0.37	-	0.42	0.015	-	0.017
C2	1.23	-	1.32	0.048	-	0.052
C3	2.60	-	2.80	0.102	-	0.110
D	8.90	-	9.90	0.350	-	0.390
E	9.90	-	10.3	0.390	-	0.406
F	6.10	-	6.70	0.240	-	0.264
G		2.54			0.1	
H	28.0	-	29.8	1.102	-	1.173
L1		3.29			0.114	
L2	1.14	-	1.70	0.045	-	0.067
L3	2.65	-	2.95	0.104	-	0.116
Φ		3.80			0.150	