

SOT-89-3L LDO High Input Voltage Three Terminal Regulator 低功耗高输入电压三端稳压 IC

■Features 特点

1.GND 2.Vi 3.Vo

Low Quiescent Current 低静态电流: 1 μ A

High Input Voltage 高输入电压: Up to 高达 18V

High Precision Output Voltage 高精度输出电压: $\pm 2\%$

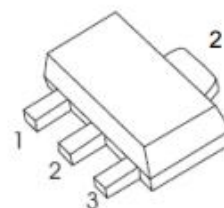
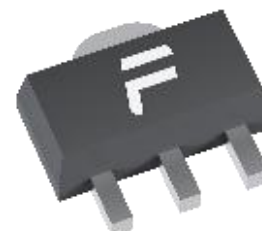
■Application 应用

Battery Power Supply Equipment 电池供电设备

Hand-Hold Equipment 手持设备

GPS Receivers 卫星导航接收器

Wireless LAN 无线网设备



■Absolute Maximum Ratings 最大额定值

(TA=25 $^{\circ}$ C unless otherwise noted 如无特殊说明, 温度为 25 $^{\circ}$ C)

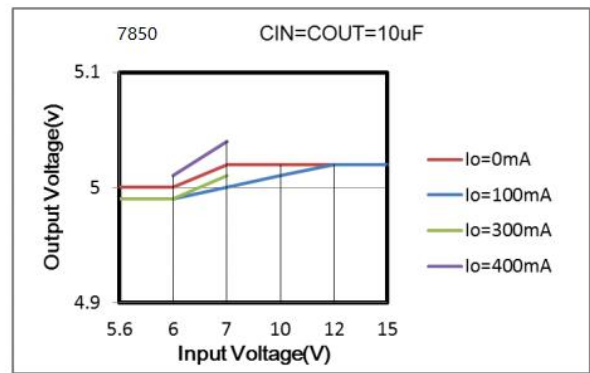
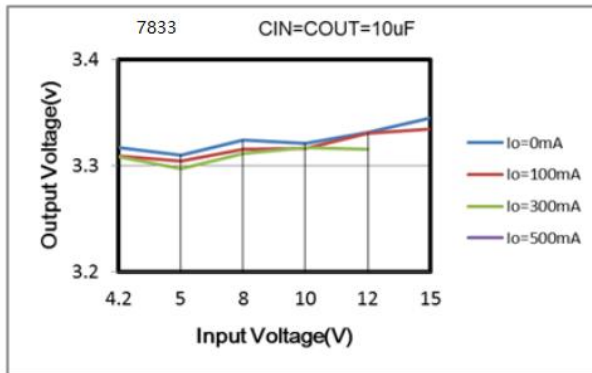
Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Input Voltage 输入电压	V _i	18	V
Operating Current 工作电流	I _o	500	mA
Power dissipation 耗散功率	P _D (SOT-89)	500	mW
Thermal Resistance Junction-Ambient 热阻	R _{θJA} (SOT-89)	250	$^{\circ}$ C/W
Solder Temperature/Time 焊接温度/时间	T _d	260/10	$^{\circ}$ C/S
Operating Ambient Temperature 工作温度	T _A	-40~+125	$^{\circ}$ C
Junction and Storage Temperature 结温和储藏温度	T _J , T _{stg}	-50to+150 $^{\circ}$ C	

■ Electrical Characteristics 电特性 (T_a=25°C)

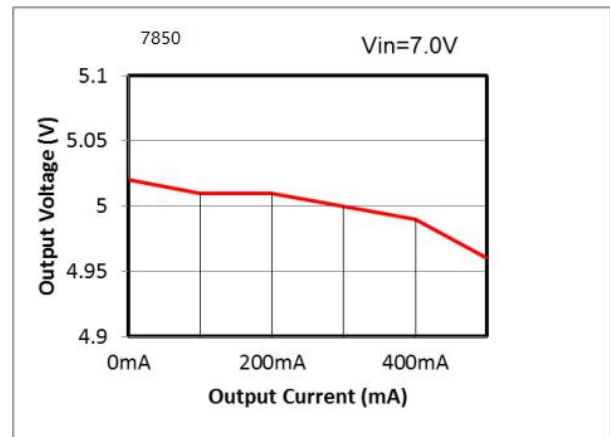
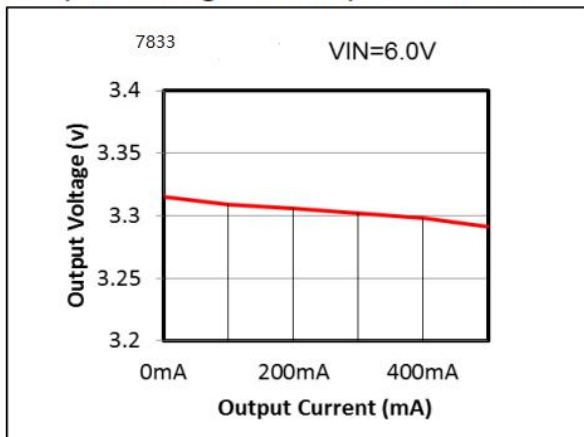
Characteristic 特性参数	Symbol 符号	Test Condition 测试条件	Min 最小值	Type 典型值	Max 最大值	Unit 单位
Output Voltage 输出电压	V _O	I _O =10mA V _I =V _O +1V	V _{out} X0.98	V _{out}	V _{out} X1.02	V
Output Current 输出电流	I _O	V _I -V _O =1.5V		500		mA
Dropout Voltage 落差电压	V _D	I _O =80mA 2.0V<V _O ≤2.8V		400	600	mV
		I _O =100mA 2.8V<V _O ≤4.0V		260	460	
		I _O =100mA 4.0V<V _O ≤5.0V		230	420	
		I _O =200mA 2.8V<V _O ≤4.0V		530	820	
		I _O =200mA 4.0V<V _O ≤5.0V		420	760	
		I _O =500mA 3V<V _O ≤4.0V		1500	1800	
		I _O =500mA 4.0V<V _O ≤5.0V		1200	1500	
Quiescent Current 静态电流	I _q	V _I =V _O +1V I _O =0		1	2	μA
Line Regulation 线性调整	ΔV _O /ΔV _I *V _O	I _O =100mA 4.3≤V _I ≤8		0.75	0.9	%/V
Load Regulation 负载调整	ΔV _O	1mA≤I _O ≤100mA V _I =V _O +1V		12	30	mV
Output Short Current 输出短路电流	I _{lim}	V _O =0V		500		mA
Ripple Rejection 纹波抑制	RR	V _I =V _O +1V f=1kHz		40		dB
Input Voltage 输入电压	V _I		3.5		15	V
Temperature Finger 温度系数	ΔV _O /ΔT _a *V _O	I _O =300mA 0°C≤T _a ≤70°C		±100		ppm/°C

■ Typical Characteristic Curve 典型特性曲线

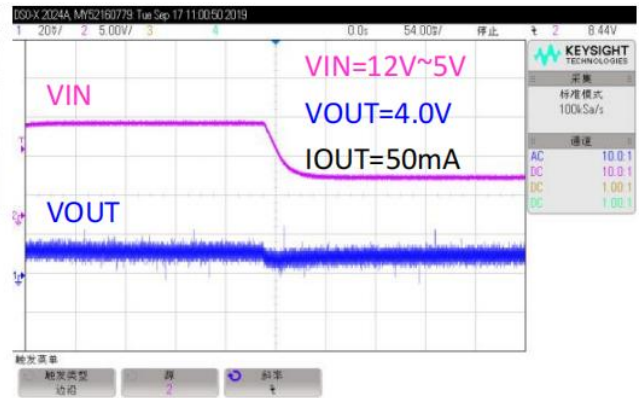
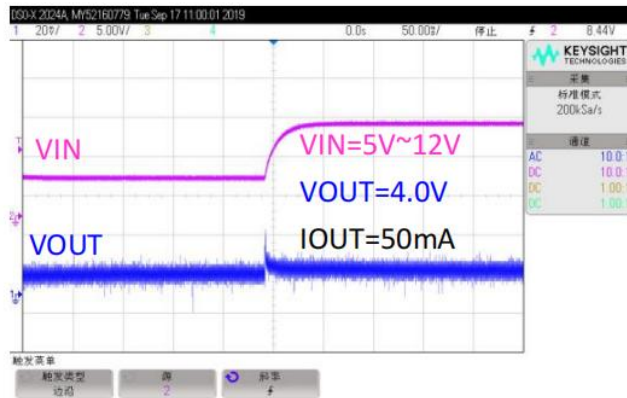
(1) Output Voltage vs Input voltage



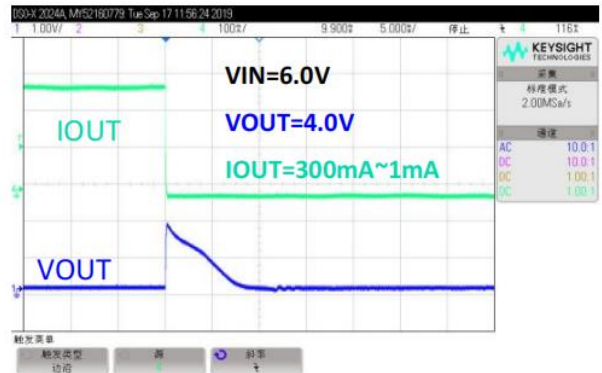
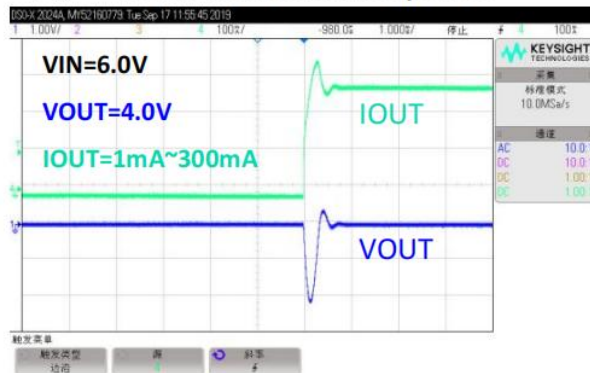
(2) Output Voltage vs. Output Current



(3) Input Transient Response

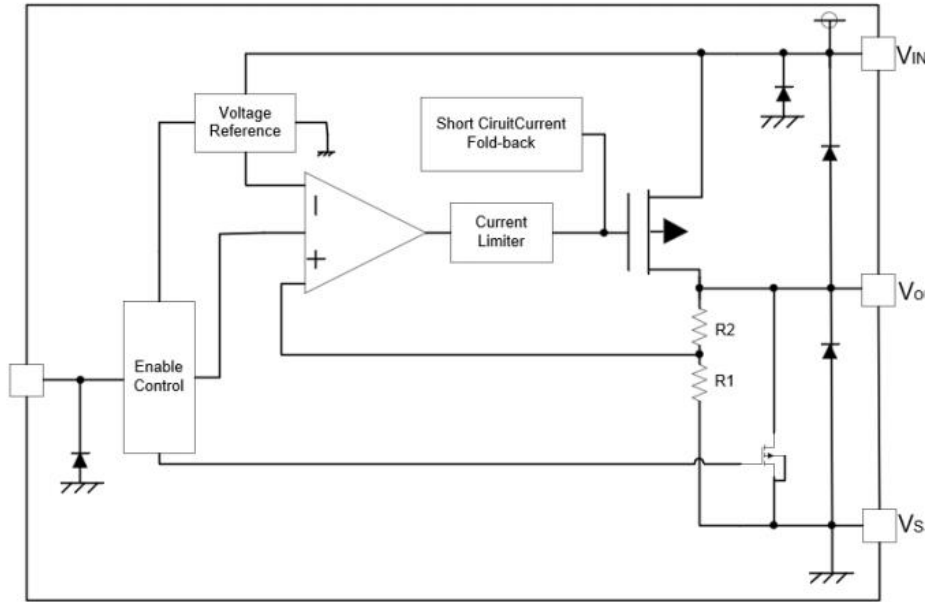


(4) Load Transient Response

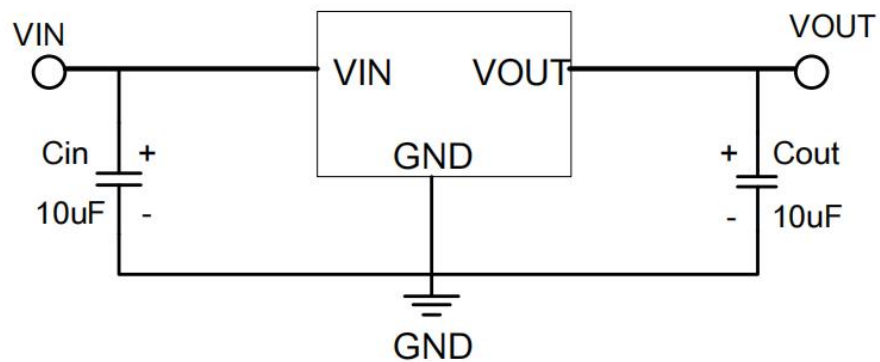


■ Application Circuit 应用电路

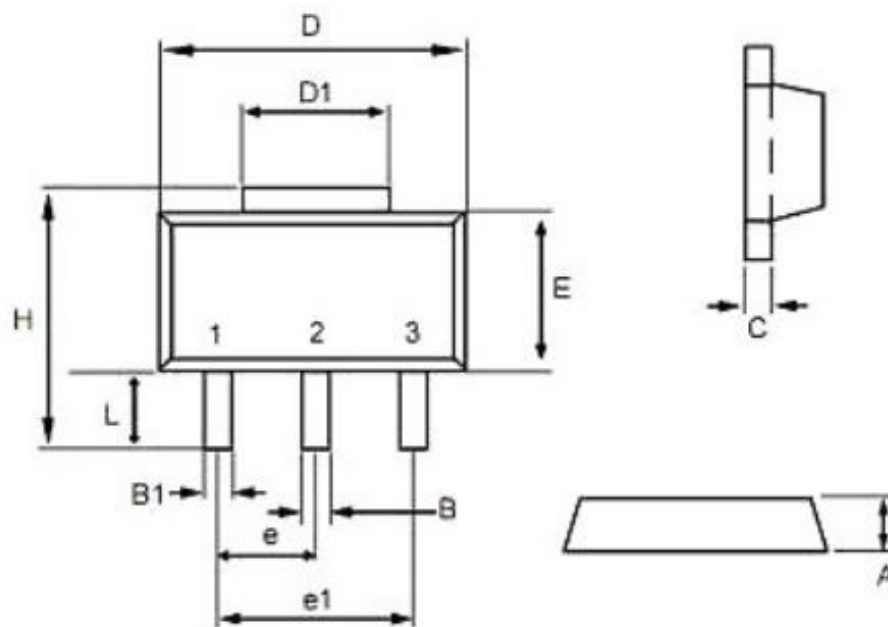
Block Circuit 电路框图



Basic Circuit 基本电路



■ SOT-89-3L Dimension 外形封装尺寸



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.40	1.60	0.055	0.063
B	0.40	0.56	0.016	0.022
B1	0.35	0.48	0.014	0.019
C	0.35	0.44	0.014	0.017
D	4.40	4.60	0.173	0.181
D1	1.35	1.83	0.053	0.072
e	1.45	1.55	0.057	0.061
e1	2.95	3.05	0.116	0.120
E	2.29	2.60	0.090	0.102
H	3.75	4.25	0.148	0.167
L	0.80	1.20	0.031	0.047