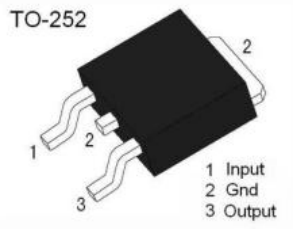
FS78M12

TO-252 Three Terminal Regulator 三端稳压 IC



■Features 特点

Pin 脚位：1.Input 输入　2.Ground 地　3.Output 输出
Output Voltage 输出电压：12V
Output Current 输出电流：1A
Power dissipation 耗散功率: 1.25W

■Absolute Maximum Ratings 最大额定值

(T_A=25℃ unless otherwise noted 如无特殊说明，温度为 25℃**)**

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Input Voltage 输入电压	V_i	35	V
Operating Current 工作电流	I_O	1	A
Power dissipation 耗散功率	P_D	1.25	W
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	80	℃/W
Solder Temperature 焊接温度/时间	Td	260	℃
Solder Temperature/Time 焊接时间	Td	10	S
Operating Ambient Temperature 工作温度	T_A	0~125	℃
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	-55to+150℃	

■Device Marking 产品字标

FS78M12=78M12

■Electrical Characteristics 电特性

(Vi=19V Io=500mA Ci=0.33uF Co=0.1uF T_A=25℃ unless otherwise noted 如无特殊说明)

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	V_I=19V I_O=500mA	11.5	12	12.5	V
Output Voltage 输出电压	V_O	14.5V≤V_I≤27V 5mA≤I_O≤1000mA	11.4	12	12.6	V
Dropout Voltage 落差电压	V_D	I_O=500mA		2		V
Quiescent Current 静态电流	I_q	I_O=0			8	mA
Quiescent Current Change 静态电流变化	ΔI_q	14.5V≤V_I≤30V			1	mA
Quiescent Current Change 静态电流变化	ΔI_q	5mA≤I_O≤1000mA			0.5	mA
Line Regulation 线性调整	ΔV_O	I_O=500mA 14.5V≤V_I≤30V			240	mV
Line Regulation 线性调整	ΔV_O	I_O=500mA 14V≤V_I≤24V			120	mV
Load Regulation 负载调整	ΔV_O	5mA≤I_O≤1000mA V_I=19V			240	mV
Load Regulation 负载调整	ΔV_O	250mA≤I_O≤750mA V_I=19V			120	mV
Short Current Current 短路电流	I_{SC}	V_I=35V		230		mA
Peak Output Current 峰值电流	I_{PK}			1.6		A
Output Voltage Drift 电压温漂	$\Delta V/\Delta T$	I_O=5mA		-1.0		mV/℃
Output Noise Voltage 噪声电压	V_N	10Hz≤f≤100kHz		76		μV/V_O
Ripple Rejection 纹波抑制	RR	15V≤V_I≤25V I_O=300mA,f=120Hz	55	71		dB

■Typical Characteristic Curve 典型特性曲线

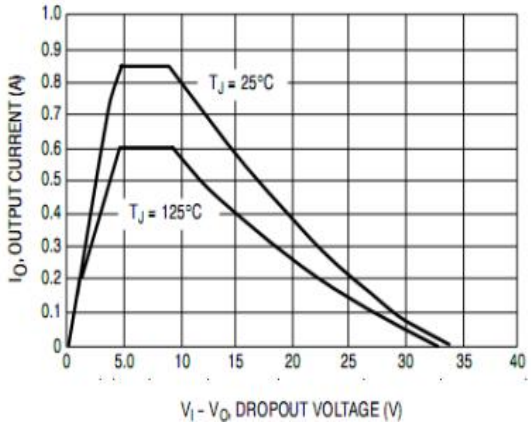


Figure 1: **Peak Output Current vs Dropout Voltage**

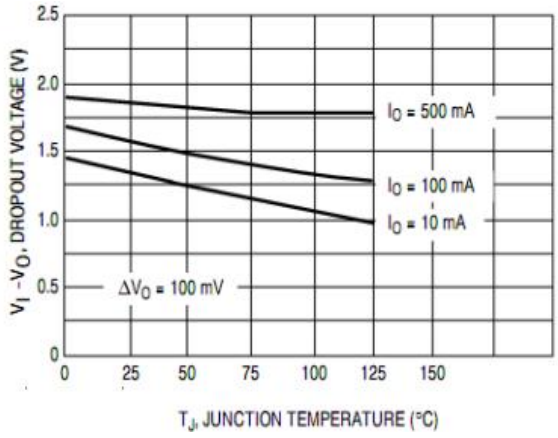


Figure 2: **Dropout Voltage vs Junction Temperature**

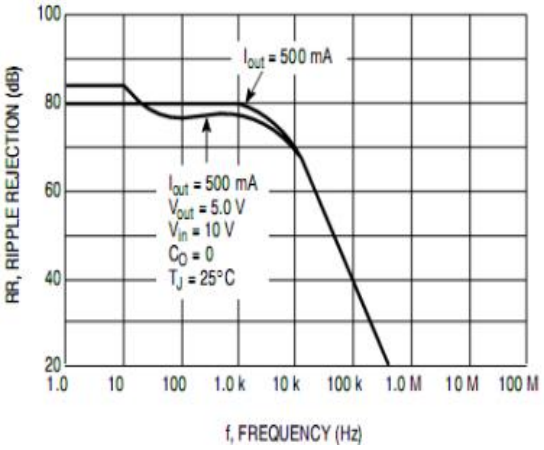


Figure 3: **Ripple Rejection vs Frequency**

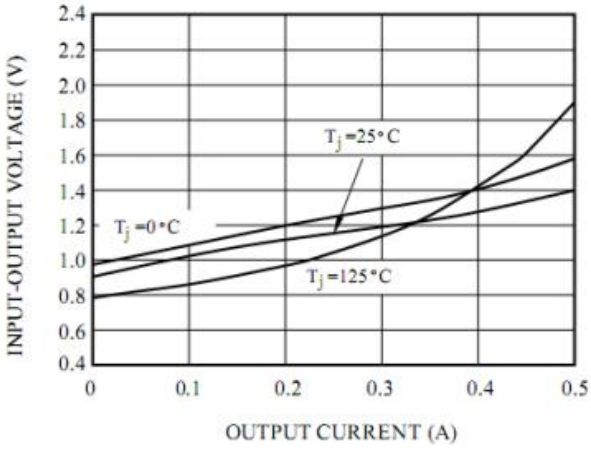


Figure 4: **Ripple Rejection vs Output Current**

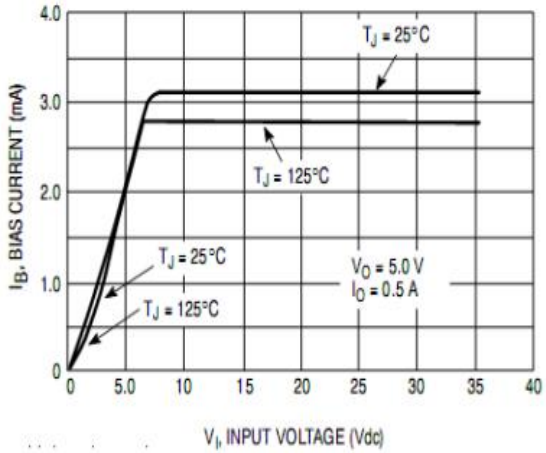


Figure 5: **Bias Current vs Input Voltage**

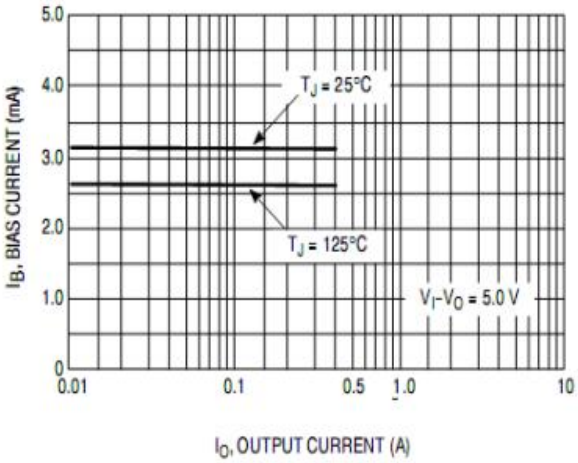
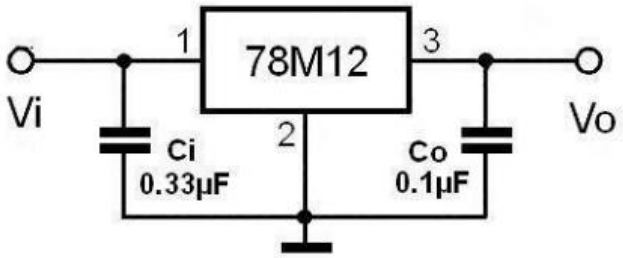
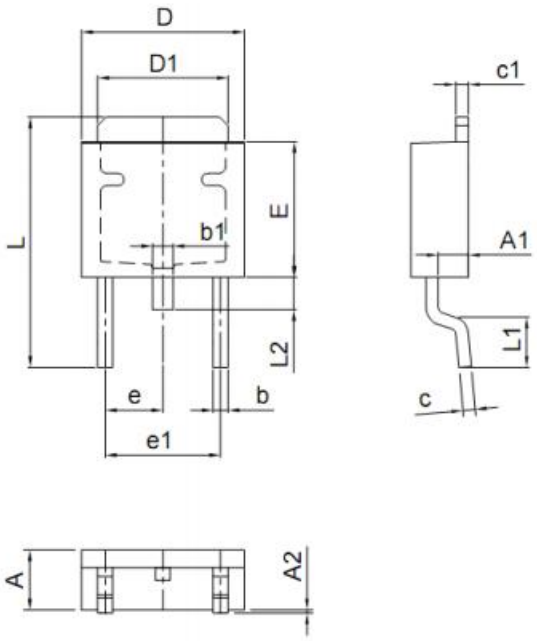


Figure 6: **. Bias Current vs Output Current**

■Typical Application 典型应用



■Dimension 外形封装尺寸



Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.094
A1	1.00	1.40	0.039	0.055
A2	0.00	0.15	0.000	0.006
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.20	6.70	0.244	0.264
D1	5.10	5.50	0.201	0.217
E	5.50	6.00	0.217	0.236
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	9.70	10.40	0.382	0.409
L1	1.40	1.70	0.055	0.063
L2	0.60	1.20	0.024	0.047