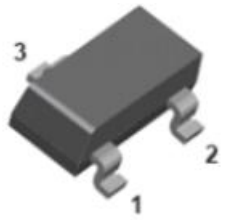
SOT-23 Three Terminal Regulator 三端稳压 IC

HF RoHS Pb

■Features 特点



Pin 脚位：1.Output 输出　2.Input 输入　3.Ground 地
Output Voltage 输出电压：5V
Output Current 输出电流：0.1A
Power dissipation 耗散功率: 0.25W

■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	30	V
Operating Current 工作电流	I_O	100	mA
Power dissipation 耗散功率	P_D	250	mW
Thermal Resistance Junction-Ambient 热阻	$R_{\Theta JA}$	500	℃/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	-40~+125	℃
Junction and Storage Temperature 结温和储藏温度	T_J,T_{stg}	-55to+150℃	

■Device Marking 产品字标

78L05M-6AF=L05

■**Electrical Characteristics 电特性**

(Vi=10V Io=40mA 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	1%	V_O	V_I=10V I_O=40mA	4.95	5	5.05	V
	4%			4.8	5	5.2	
Output Voltage 输出电压		V_O	7V≤V_I≤20V 1mA≤I_O≤40mA	4.75		5.25	V
Output Voltage 输出电压		V_O	7V≤V_I≤20V 1mA≤I_O≤100mA	4.75		5.25	V
Output Current 输出电流		I_O	V_I=10V		100		mA
Dropout Voltage 落差电压		V_D	I_O=40mA		1.7		V
Quiescent Current 静态电流		I_q	V_I=10V I_O=0		3.8	6	mA
Quiescent Current Change 静态电流变化		ΔI_q	8V≤V_I≤20V			1.5	mA
Quiescent Current Change 静态电流变化		ΔI_q	1mA≤I_O≤40mA			0.1	mA
Line Regulation 线性调整		ΔV_O	I_O=40mA 7V≤V_I≤20V		32	150	mV
Line Regulation 线性调整		ΔV_O	I_O=40mA 8V≤V_I≤20V		20	100	mV
Load Regulation 负载调整		ΔV_O	1mA≤I_O≤100mA V_I=10V		15	60	mV
Load Regulation 负载调整		ΔV_O	1mA≤I_O≤40mA V_I=10V		8	30	mV
Output Noise Voltage 噪声电压		V_N	10Hz≤f≤100kHz		42		μV
Ripple Rejection 纹波抑制		RR	8V≤V_I≤20V f=120Hz	41	49		dB

■Typical Characteristic Curve 典型特性曲线

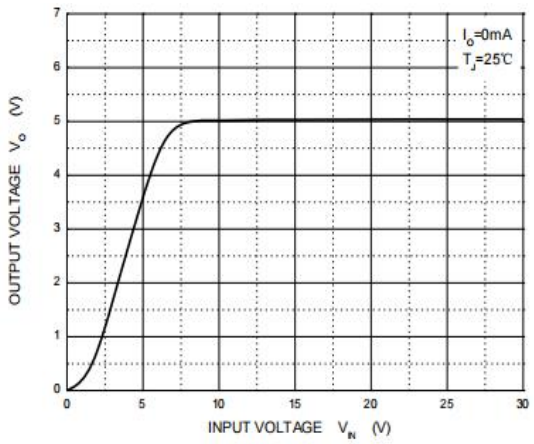


Figure 1: Transfer Characteristics

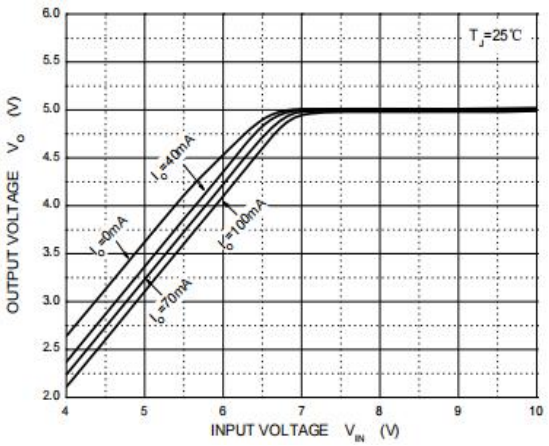


Figure 2: Dropout Characteristics

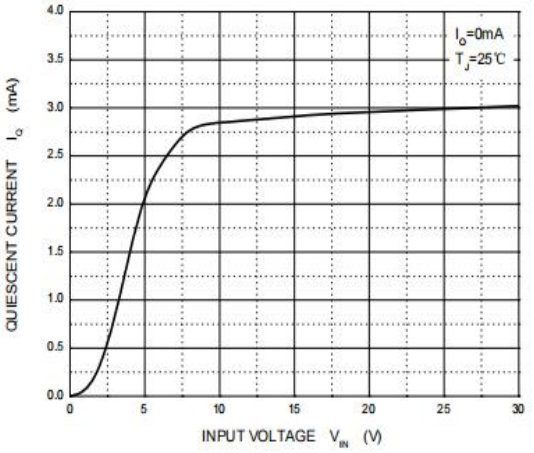


Figure 3: Quiescent Current Characteristics

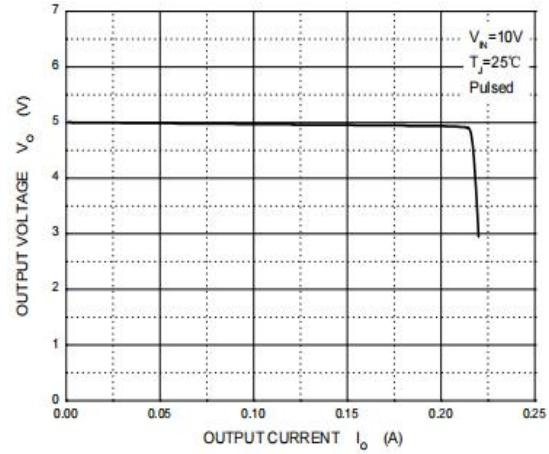


Figure 4: Output Characteristics

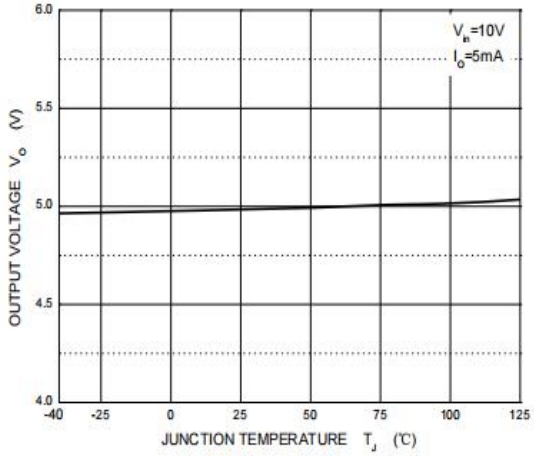


Figure 5: Temperature Characteristics

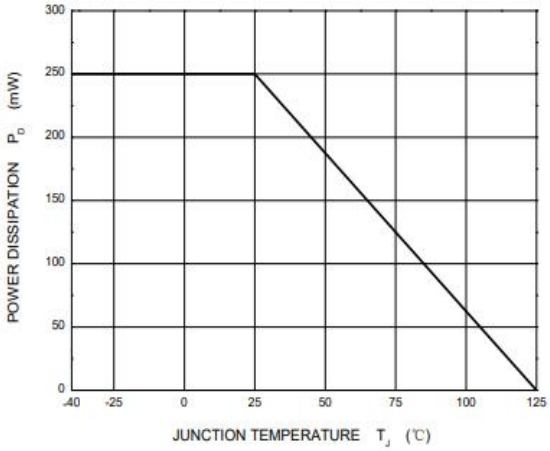
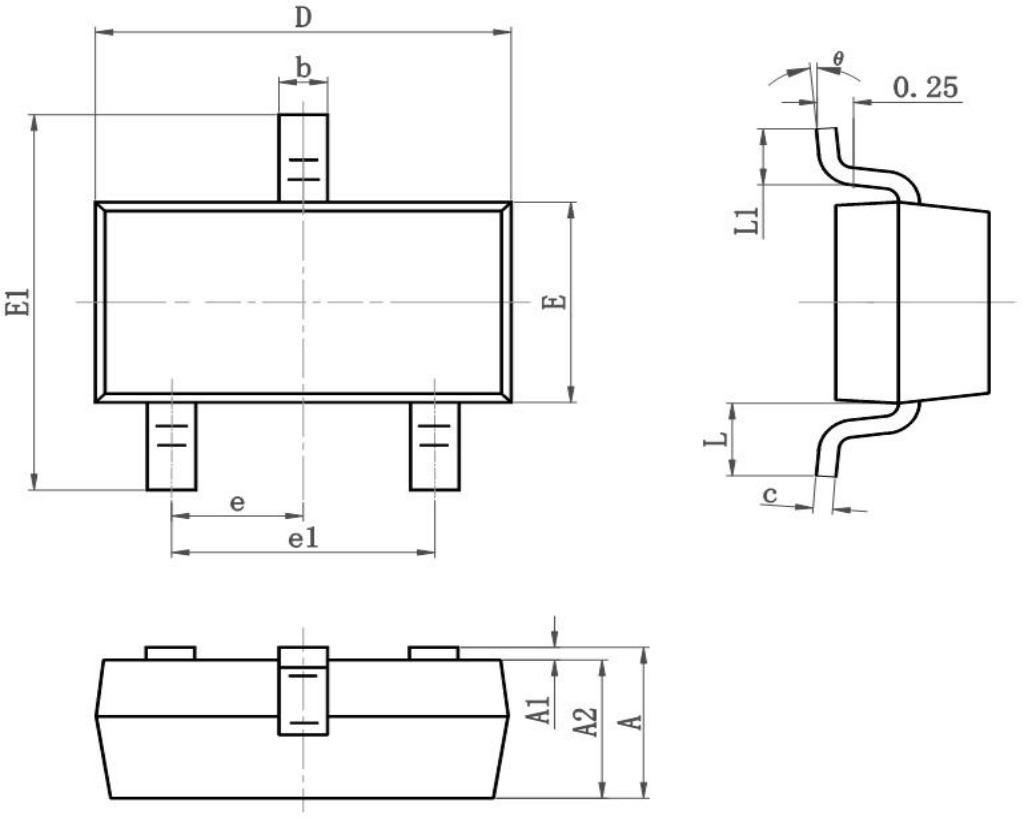


Figure 6: Power Characteristics

■**SOT-23 Dimension 外形封装尺寸**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.050	0.055
E1	2.250	2.550	0.089	0.100
e	0.900	1.00	0.035	0.039
e1	1.800	2.000	0.071	0.079
L	0.500	0.600	0.020	0.024
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°