

描述 / Descriptions

SOT-89 塑封封装电压调整器。Voltage Regulator in a SOT-89 Plastic Package.

特征 / Features

三端稳压调整器，输出电流高达 100mA,内设过热保护和短路限制，符合 AEC-Q100 标准高可靠性要求，无卤产品。

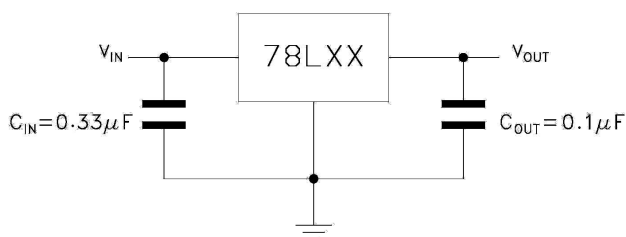
3-Terminal regulators ,output current up to 100 mA, internal thermal overload protection and short-circuit limiting,Qualified to AEC-Q100 Standards for High Reliability, HF Product.

用途 / Applications

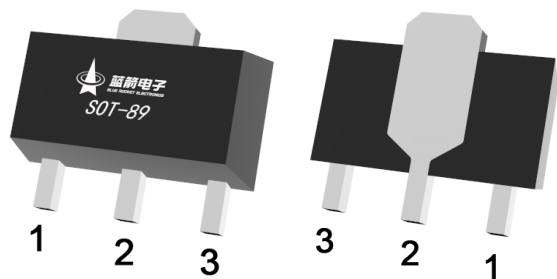
电压调整器，满足汽车应用的严格要求。

Voltage Regulator, Meet the stringent requirements of automotive applications.

内部等效电路 /应用电路 / Equivalent Circuit or Application Circuit



引脚排列 / Pinning



PIN1 : OUT PIN 2 : GND PIN 3 : IN

印章代码 / Marking

Marking	QL05 * *
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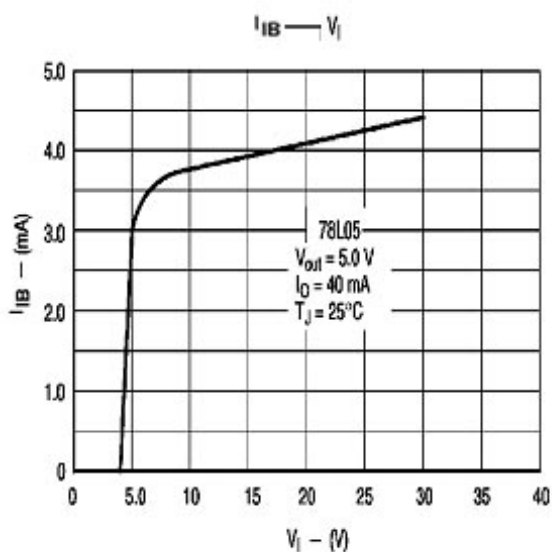
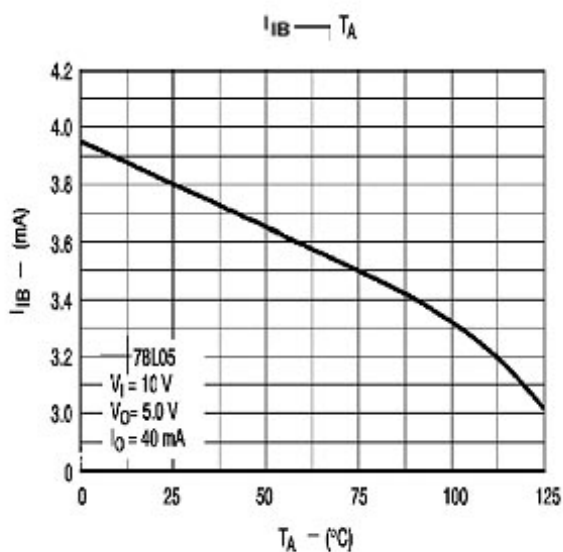
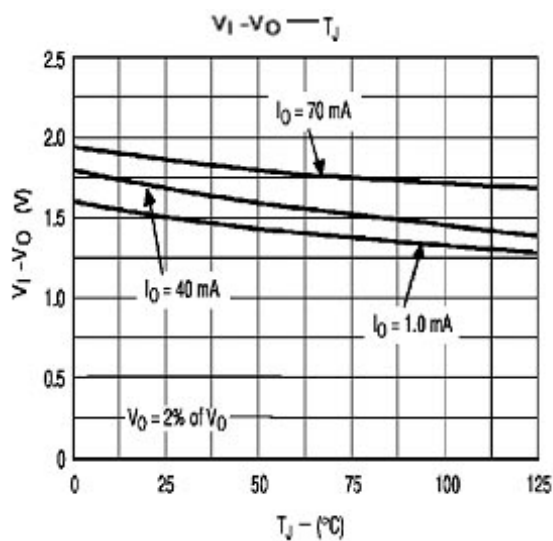
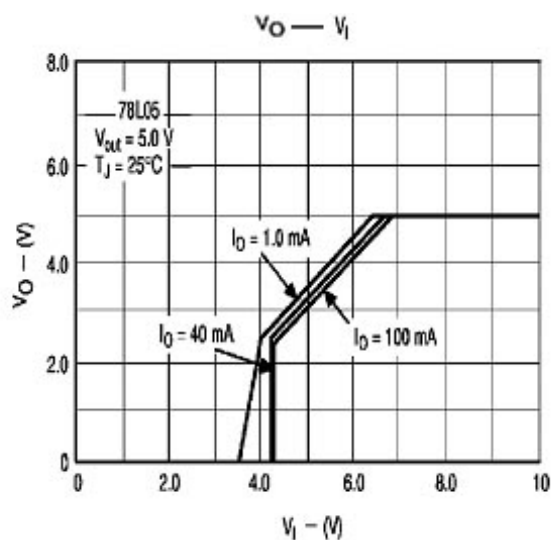
极限参数 / Absolute Maximum Ratings(Ta=25°C)

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Input voltage	V _I	30	V
Output current	I _O	100	mA
Operating virtual Junction temperature	T _J	0~125	°C
Power Dissipation	P _D	500	mW
Storage temperature range	T _{stg}	-65~150	°C

电性能参数 / Electrical Characteristics(Ta=25°C , V_I=10V,I_O=40mA , unless otherwise specified)

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Output voltage	V _O	I _O =40mA T _J =25°C	4.80	5.0	5.2	V
		I _O =1mA to 40mA V _I =7V to 20V	4.75	5.0	5.25	V
		I _O =1mA to 70mA V _I =10V	4.75	5.0	5.25	V
Input regulation	ΔV _O	V _I =7V to 20V T _J =25°C		32	150	mV
		V _I =8V to 20V T _J =25°C		26	100	mV
Output regulation	ΔV _O	I _O =1mA to 100mA T _J =25°C		15	60	mV
		I _O =1mA to 40 mA T _J =25°C		8	30	mV
Ripple rejection	RR	V _I =8V to 18V f=120Hz T _J =25°C	41	49		dB
Output noise voltage	V _N	f=10Hz~100KHz T _J =25°C		42		μV
Dropout voltage	V _D	T _J =25°C		1.7		V
Bias current	I _Q	T _J =25°C		3.8	6	mA
		T _J =125°C			5.5	mA
Bias current change	ΔI _Q	V _I =8V to 20V			1.5	mA
		I _O =1mA to 40mA			0.1	mA

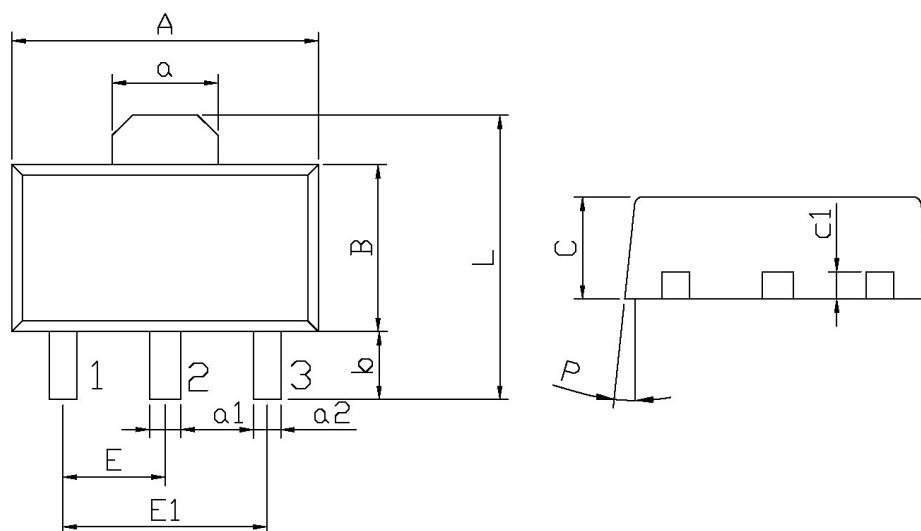
电参数曲线图 / Electrical Characteristic Curve



外形尺寸图 / Package Dimensions

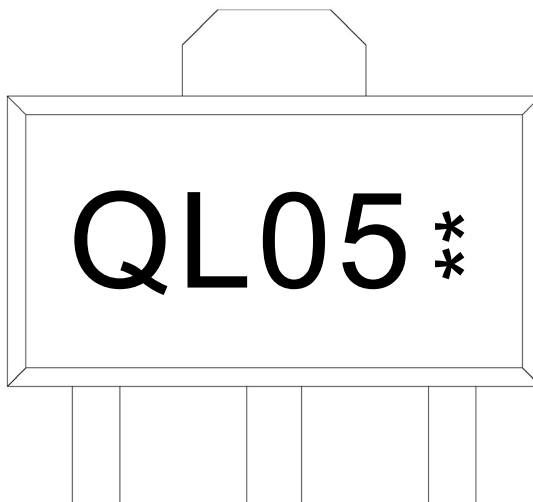
SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
b	0.80	1.20			

印章说明 / Marking Instructions



说明：

Q： 为汽车无卤产品标识

L05： 为型号代码

**： 为生产批号代码，随生产批号变化

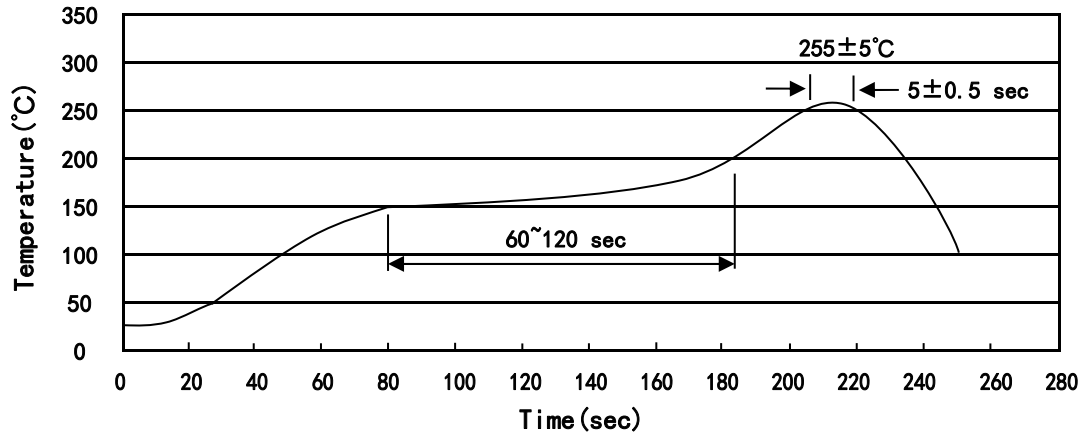
Note:

Q: Automobile halogen-free product Code

L05: Product Type Code

**: Lot No. Code, code change with Lot No

回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)



说明：

Note:

- 1、预热温度 150 ~ 200°C，时间 60 ~ 120sec;
- 2、峰值温度 255±5°C，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

- 1.Preheating:150~200°C, Time:60~120sec.
- 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions

温度：260±5°C 时间：10±1 sec. Temp:260±5°C Time:10±1 sec

包装规格 / Packaging SPEC.

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
SOT-89	1,000	7	7,000	6	42,000	7" ×12	180×120×180	390×385×205

使用说明 / Notices