

BR78L05MAQ

Rev.A Dec.-2023



蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

SOT-23

Voltage Regulator in a SOT-23 Plastic Package.

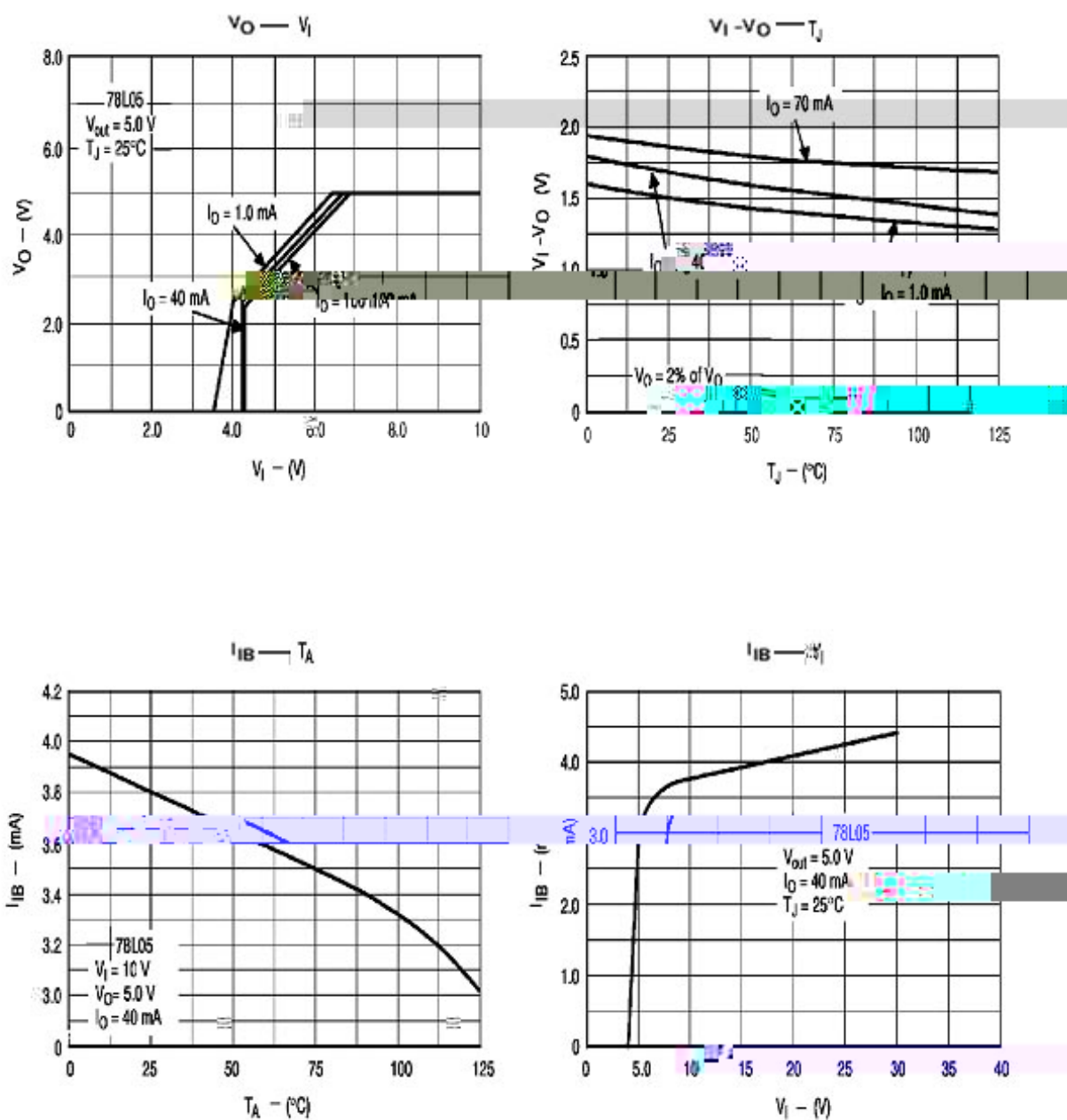
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input voltage	V_I	30	V
Output current	I_O	100	mA
Operating virtual Junction temperature	T_J	-40 125	
Power Dissipation	P_D	350	mW
Storage temperature range	T_{stg}	-65 150	

/ Electrical Characteristics($T_a=25^\circ\text{C}$ $V_I=10\text{V}, I_O=40\text{mA}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output voltage	V_O	$I_O=40\text{mA}$ $T_J=25^\circ\text{C}$	4.80	5.0	5.2	V
		$I_O=1\text{mA to }40\text{mA}$ $V_I=7\text{V to }20\text{V}$	4.75	5.0	5.25	V
		$I_O=1\text{mA to }70\text{mA}$ $V_I=10\text{V}$	4.75	5.0	5.25	V
Input regulation	V_O	$V_I=7\text{V to }20\text{V}$ $T_J=25^\circ\text{C}$		32	150	mV
		$V_I=8\text{V to }20\text{V}$ $T_J=25^\circ\text{C}$		26	100	mV
Output regulation	V_O	$I_O=1\text{mA to }100\text{mA}$ $T_J=25^\circ\text{C}$		15	60	mV
		$I_O=1\text{mA to }40\text{mA}$ $T_J=25^\circ\text{C}$		8	30	mV
Ripple rejection	RR	$V_I=8\text{V to }18\text{V}$ $f=120\text{Hz}$ $T_J=25^\circ\text{C}$	41	49		dB
Output noise voltage	V_N	$f=10\text{Hz}\sim 100\text{KHz}$ $T_J=25^\circ\text{C}$		42		V
Dropout voltage	V_D	$T_J=25^\circ\text{C}$		1.7		V
Bias current	I_Q	$T_J=25^\circ\text{C}$		3.8	6	mA
		$T_J=125^\circ\text{C}$			5.5	mA
Bias current change	I_Q	$V_I=8\text{V to }20\text{V}$			1.5	mA
		$I_O=1\text{mA to }40\text{mA}$			0.1	mA

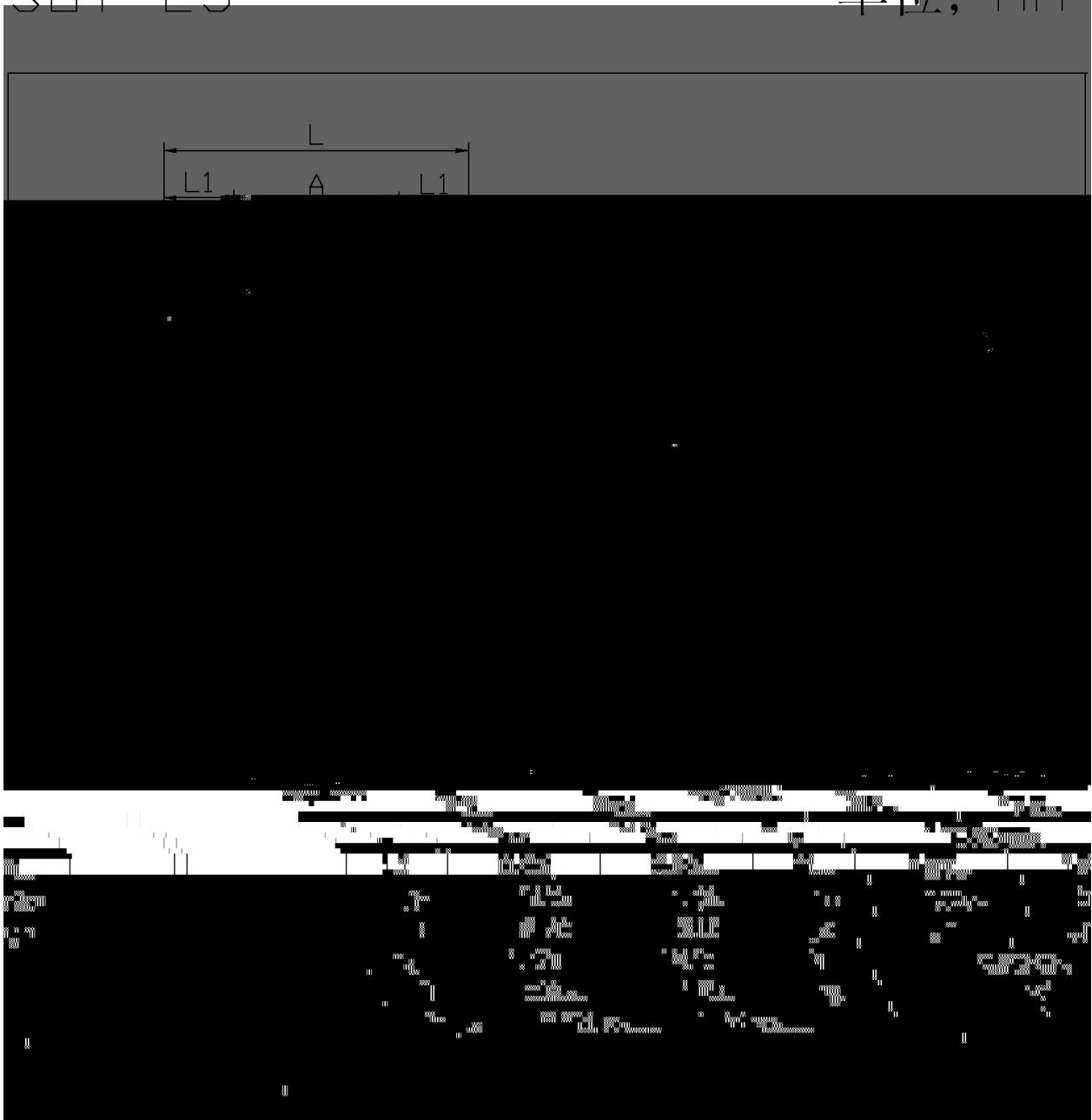
/ Electrical Characteristic Curve



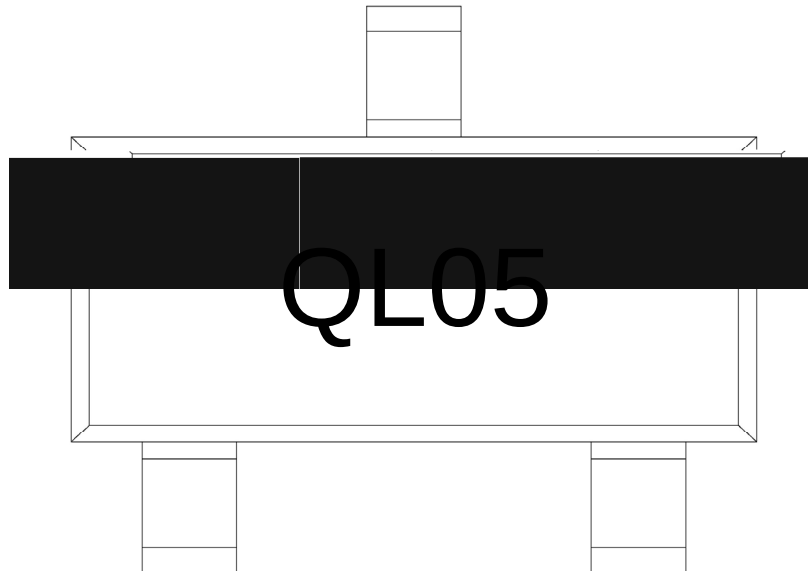
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



Q

L05

Note:

Q: Automobile halogen-free product Code

L05: Product Type Code

() / Temperature Profile for IR Reflow Soldering(Pb-Free)

Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255±5

5±0.5sec;

2.Peak Temp.:255±5 , Duration:5±0.5sec.
- 3

2 10

/sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec



/ REEL