

/ Descriptions

SOT-23 Voltage Regulator in a SOT-23 Plastic Package.

/ Features

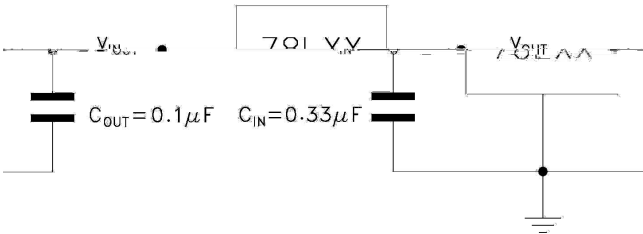
100mA, AEC-Q100

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.

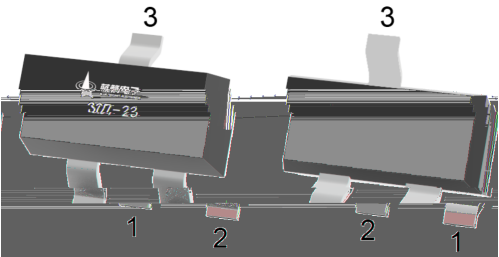
/ Applications

Voltage Regulator, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit or Application Circuit



/ Pinning



PIN1 VOUT PIN 2 VIN PIN 3 GND

/ Marking

Marking	QL05
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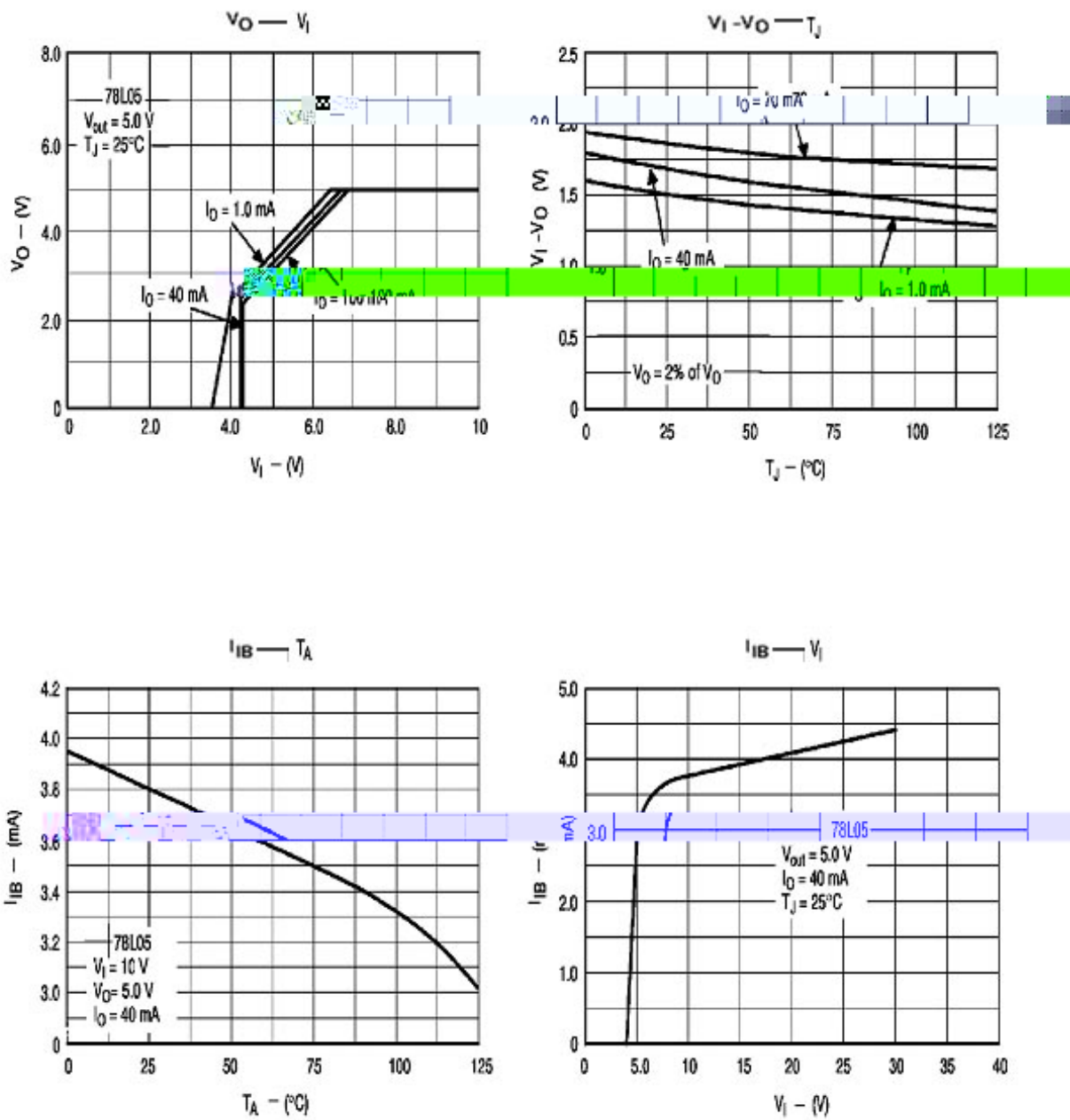
/ Absolute Maximum Ratings(Ta=25)

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(Ta=25 $V_I=10V, I_O=40mA$ unless otherwise specified)

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

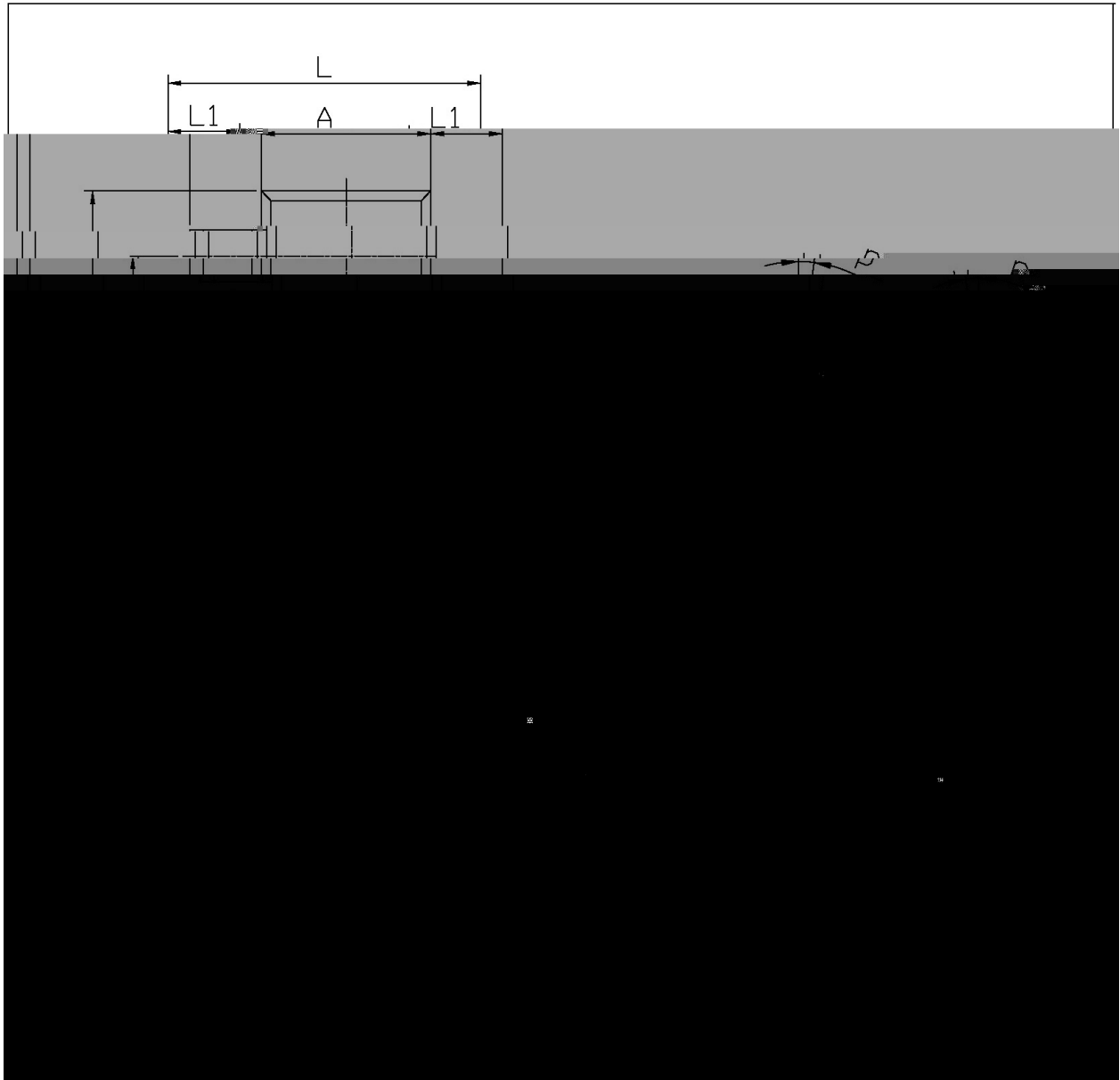
/ Electrical Characteristic Curve



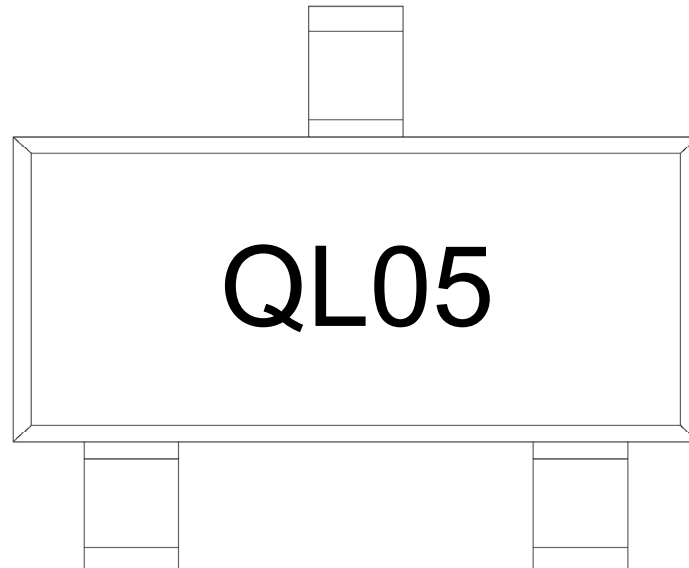
/ Package Dimensions

SOT-23

单位: mm



/ Marking Instructions



Q

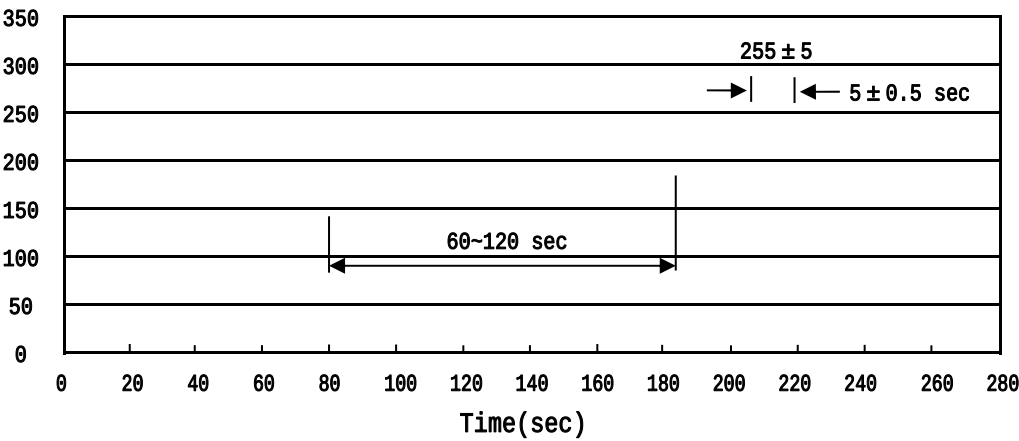
L05

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-23	3,000	10	30,000	6	180,000	7 ×8	180×120×180	390×385×205

/ Notices