

/ Descriptions

Voltage Regulator in a TO-92 Plastic Package.

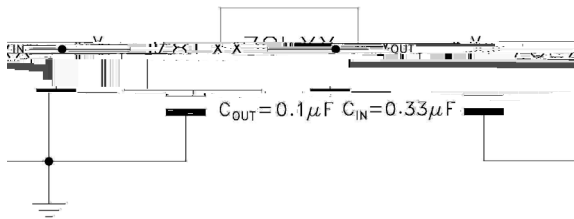
/ Features

3-Terminal regulators ,output current up to 100 mA, internal thermal overload protection and short-circuit limiting.

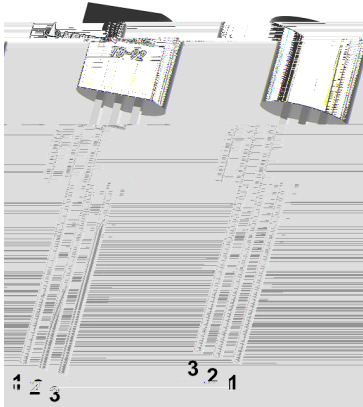
/ Applications

Voltage Regulator.

/ Equivalent Circuit or Application Circuit



/ Pinning



PIN1 IN PIN 2 GND PIN 3 OUT

/ Marking

See Marking Instructions.

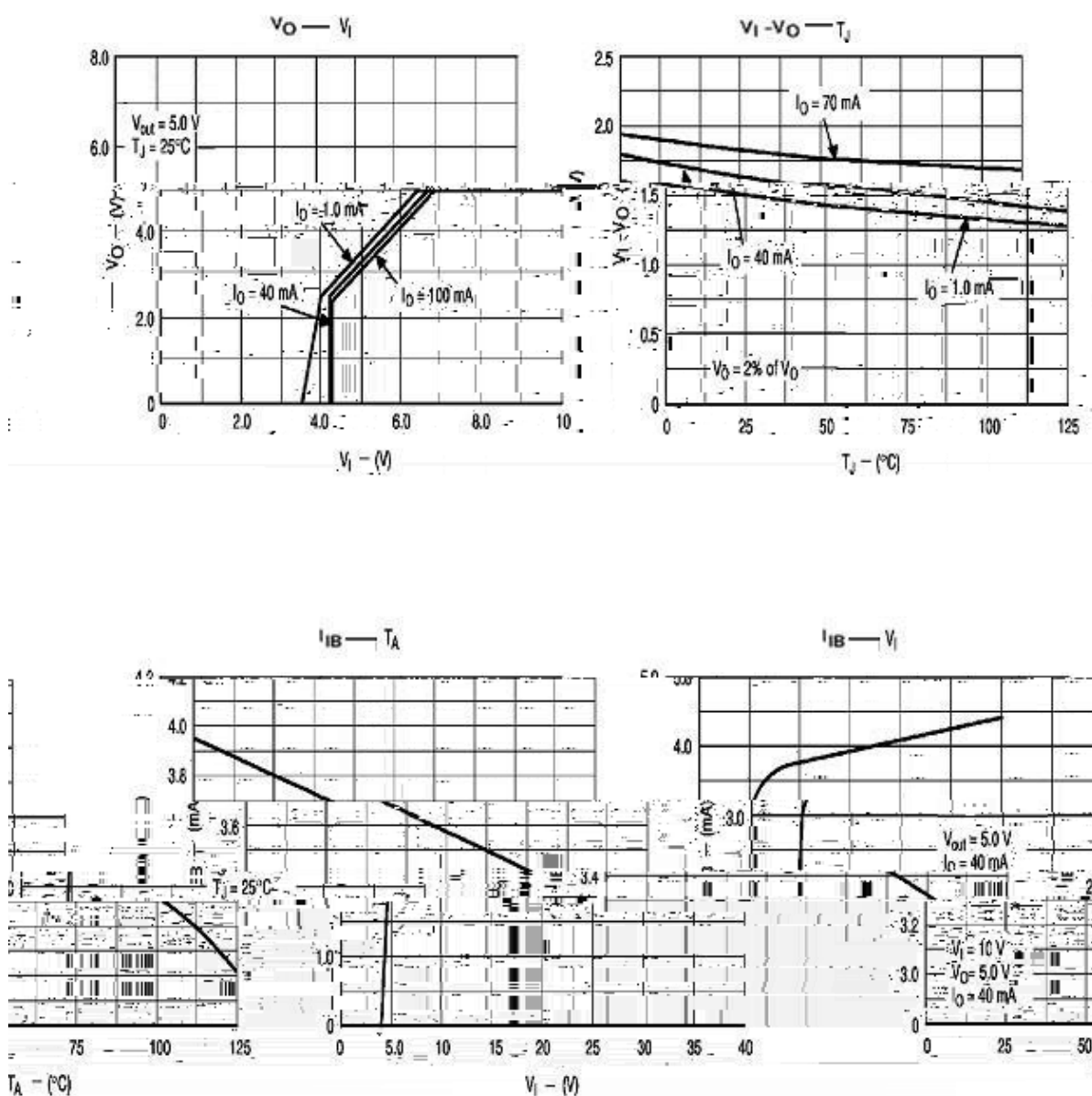
/ Absolute Maximum Ratings($T_a=25^\circ\text{C}$)

Parameter	Symbol	Rating	Unit
Input voltage	V_I	30	V
Output current	I_O	100	mA
Operating Temperature Range	T_{OPR}	-40~125	
Power Dissipation	P_D	500	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	ΔV_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	ΔV_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	$f=10\text{Hz-}100\text{KHz}$ $T_J=25^\circ\text{C}$		42		μV
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	ΔI_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

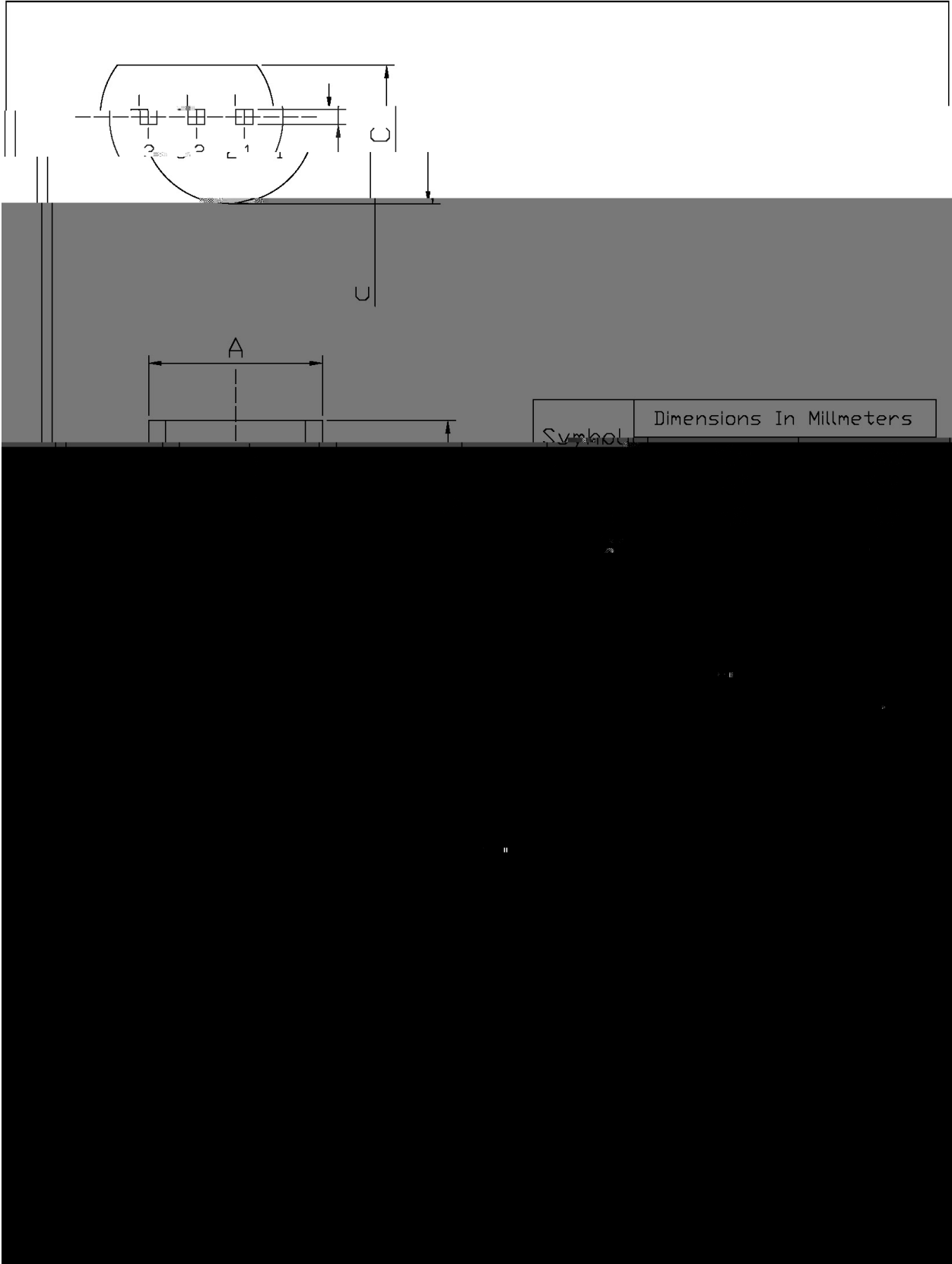
/ Electrical Characteristic Curve



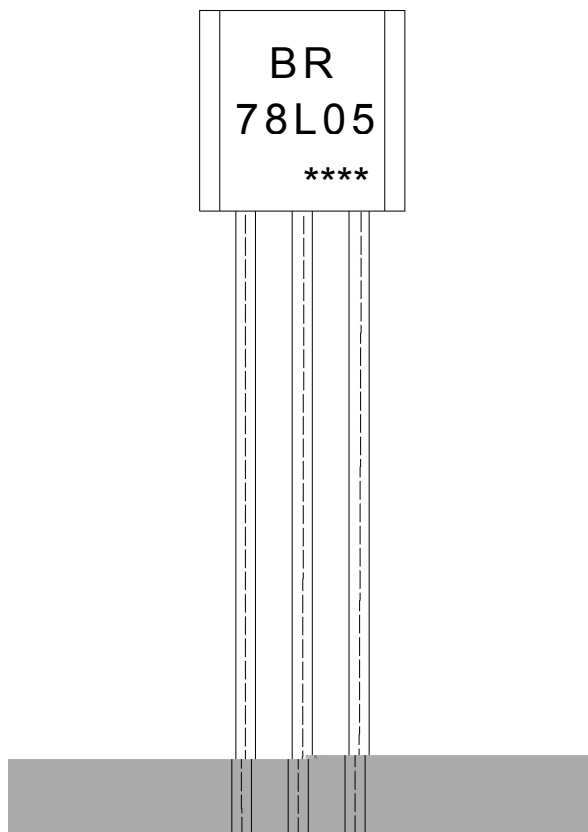
/ Package Dimensions

TO-92

Unit: mm



/ Marking Instructions



Note:

BR: Company Code

78L05: Product Type

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

() / Temperature Profile for Dip Soldering(Pb-Free)

Note:

- 1

25 150

60 90sec;

1.Preheating:25~150 , Time:60~90sec.
- 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

270 5 10 1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ BULK

Package Type	Units					Dimension				(unit mm3)	
	Units/Bag	Bags/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Tw	To	To	To

Package Type	Units					Dimension				(unit mm3)	
	Units/tape	Tape/Inner Box	Rows/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Bag	Inner Box	Tw	Outer Box	To	To