



DESCRIPTION

Three-terminal positive voltage regulator.

The A78L05 is available in SOT-23 package.

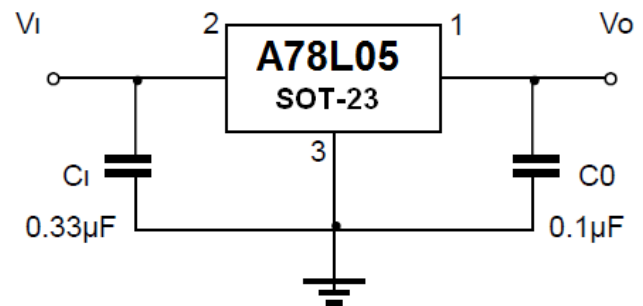
ORDERING INFORMATION

Package Type	Part Number	
SOT-23 SPQ: 3,000pcs/Reel	E3	A78L05E3R
		A78L05E3VR
Note	V: Halogen free Package R: Tape & Reel	
AiT provides all RoHS products		

FEATURES

- Maximum Output current I_o : 0.1A
- Output voltage V_o : 5V
- Continuous total dissipation
 P_D : 0.35W ($T_A=25^\circ\text{C}$)
- Available in SOT-23 Package

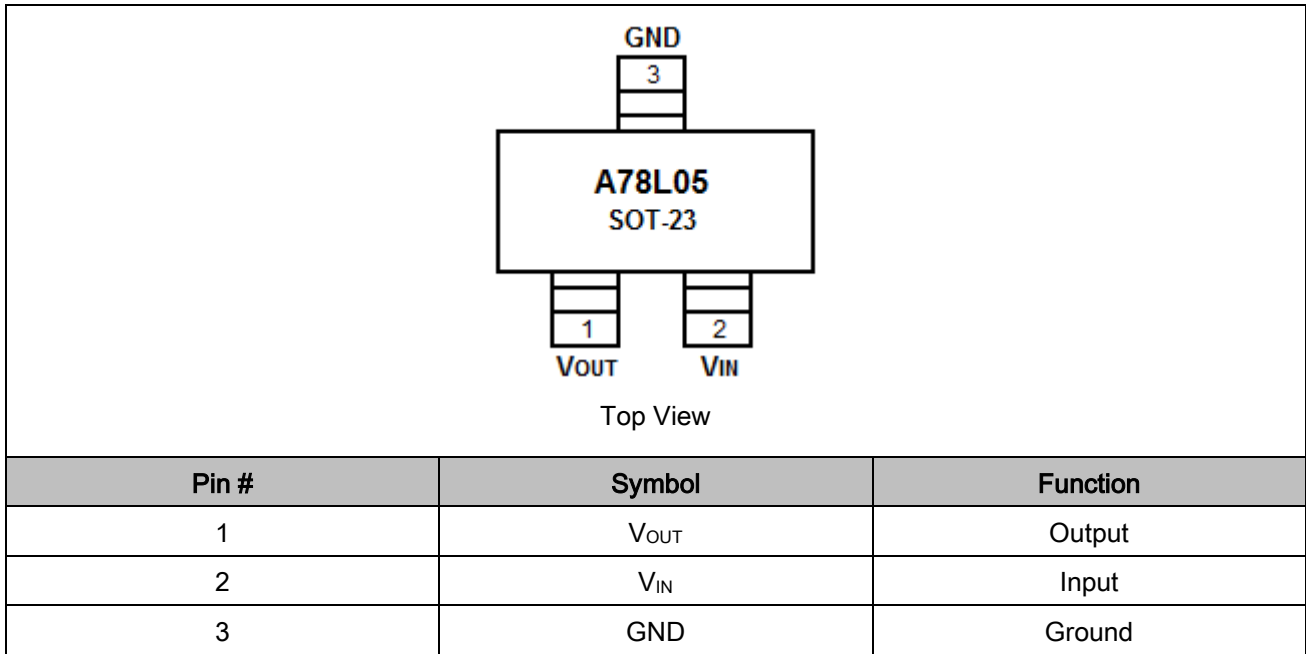
TYPICAL APPLICATION



NOTE: Bypass capacitors are recommended for optimum stability and transient response and should be located as close as Possible to the regulators.



PIN DESCRIPTION





ABSOLUTE MAXIMUM RATINGS

V_I , Input Voltage	30V
T_{OPR} , Operating Junction Temperature Range	0°C ~ +125°C
T_{STG} , Storage Temperature Range	-65°C ~ +150°C

Stress beyond above listed "Absolute Maximum Ratings" may lead permanent damage to the device. These are stress ratings only and operations of the device at these or any other conditions beyond those indicated in the operational sections of the specifications are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ELECTRICAL CHARACTERISTICS

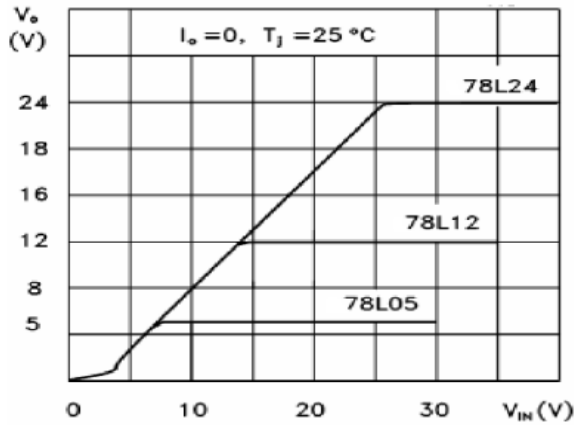
$V_I=10V$, $I_o=40mA$, $C_I=0.33\mu F$, $C_O=0.1\mu F$, 25°C, unless otherwise specified.

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
Output Voltage	V_O	25°C	4.8	5.0	5.2	V	
		0~125°C	4.75	5.0	5.25		
							$7V \leq V_I \leq 20V$, $I_o=1mA \sim 40mA$
Load Regulation	ΔV_O	$I_o=1mA \sim 100mA$	25°C	-	15	60	mV
		$I_o=1mA \sim 40mA$	25°C	-	8	30	
Line Regulation	ΔV_O	$7V \leq V_I \leq 20V$		-	32	150	mV
		$8V \leq V_I \leq 20V$	25°C	-	26	100	
Quiescent Current	I_Q		25°C	-	3.8	6.0	mA
Quiescent Current Change	ΔI_Q	$8V \leq V_I \leq 20V$	0~125°C	-	-	1.5	mA
		$1mA \leq I_o \leq 40mA$	0~125°C	-	-	0.1	
Output Noise Voltage	V_N	$10Hz \leq f \leq 100kHz$	25°C	-	42	-	uV
Ripple Rejection	RR	$8V \leq V_I \leq 20V$, $f=120Hz$	0~125°C	41	49	-	dB
Dropout Voltage	V_D		25°C	-	1.7	-	V

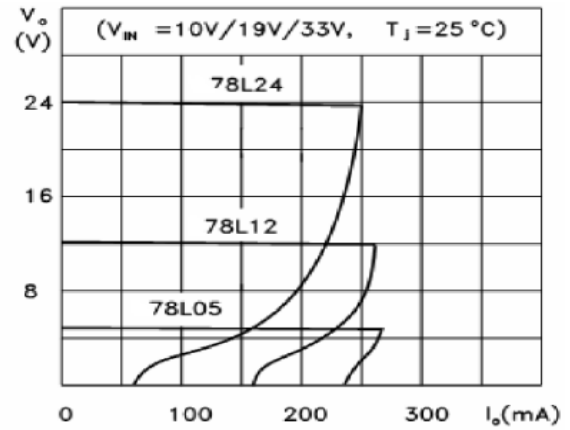


TYPICAL PERFORMANCE CHARACTERISTICS

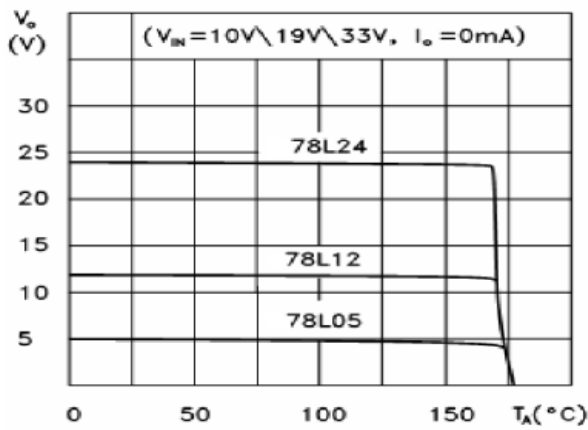
1. Output Characteristics



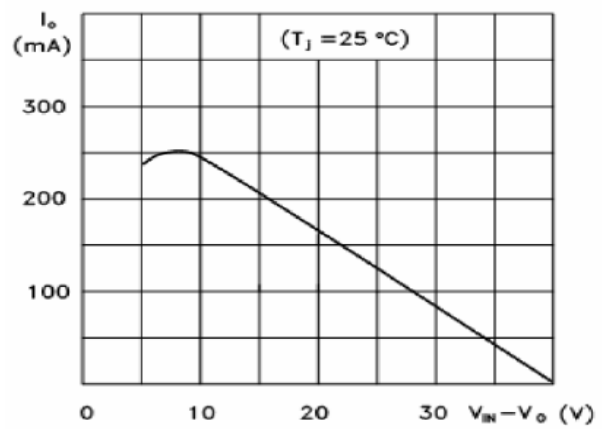
2. Load Characteristics



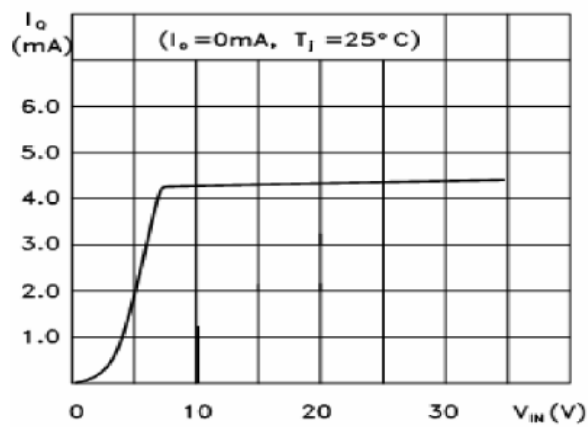
3. Thermal Shutdown



4. Short Circuit Output Current



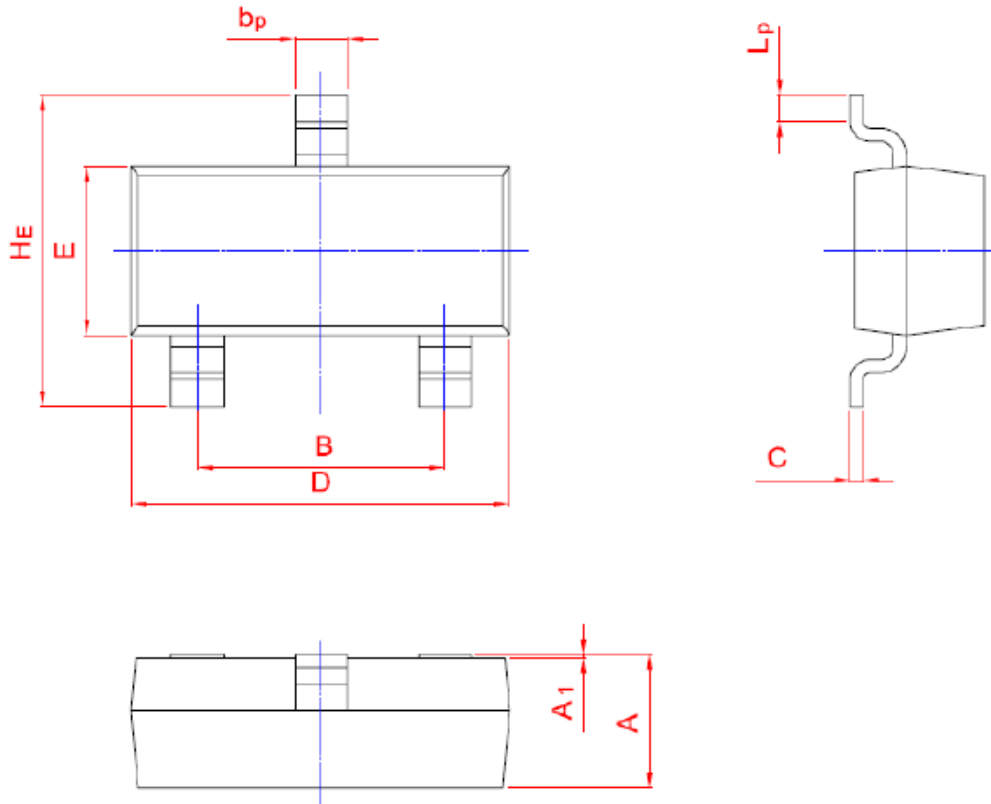
5. Quiescent Current vs. Input Voltage





PACKAGE INFORMATION

Dimension in SOT-23 (Unit: mm)



Symbol	Min	Max
A	0.95	1.40
B	1.78	2.04
b _p	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
H _E	2.20	3.00
A ₁	0.013	0.100
L _p	0.20	0.50



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