

TP78M05K3-1

1A Fixed Voltage Regulators

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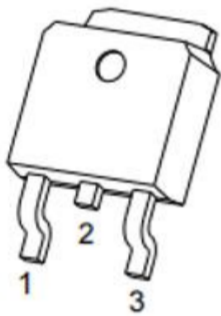
Features

- 3-Terminal regulators
- Maximum Output current 1A
- Output voltage V_o : 5V
- Compact package: TO-252-2L

Applications

- HVAC Systems
- SMPS Post Regulation
- Test and Measurement Equipment
- Industrial Power Supplies

PIN CONFIGURATION



1.VIN
2.GND
3.OUT

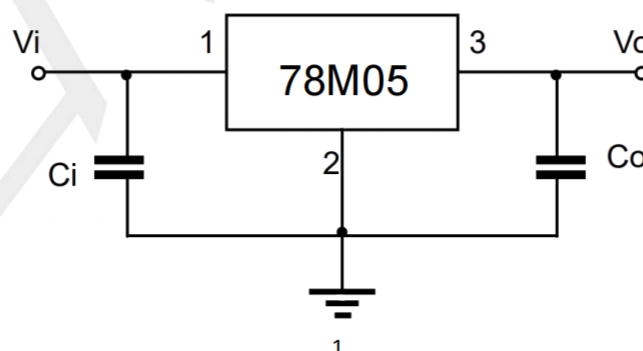
Pin Number	Pin Name	Pin Function
1	VIN	Input of Supply Voltage
2	GND	Ground
3	VOUT	Output of the Regulator

Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted)

Symbol	Parameter	Rating	UNIT
VIN	Input voltage	35	V
$R_{\theta JA}$	Thermal Resistance Junction-ambient to Air	80	°C/W
PD	Continuous total dissipation ($T_a = 25^\circ\text{C}$)	1.25	W
T _{OPR}	Operating Junction Temperature Range	-40~+125	°C
T _{stg}	Storage temperature range	-65~+150	°C

TYPICAL APPLICATION



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Electrical Characteristics

($V_i=10V$, $I_o=500mA$, $0<T_J<125^{\circ}C$, $C_i=0.33\mu F$, $C_o=0.1\mu F$, unless otherwise specified)

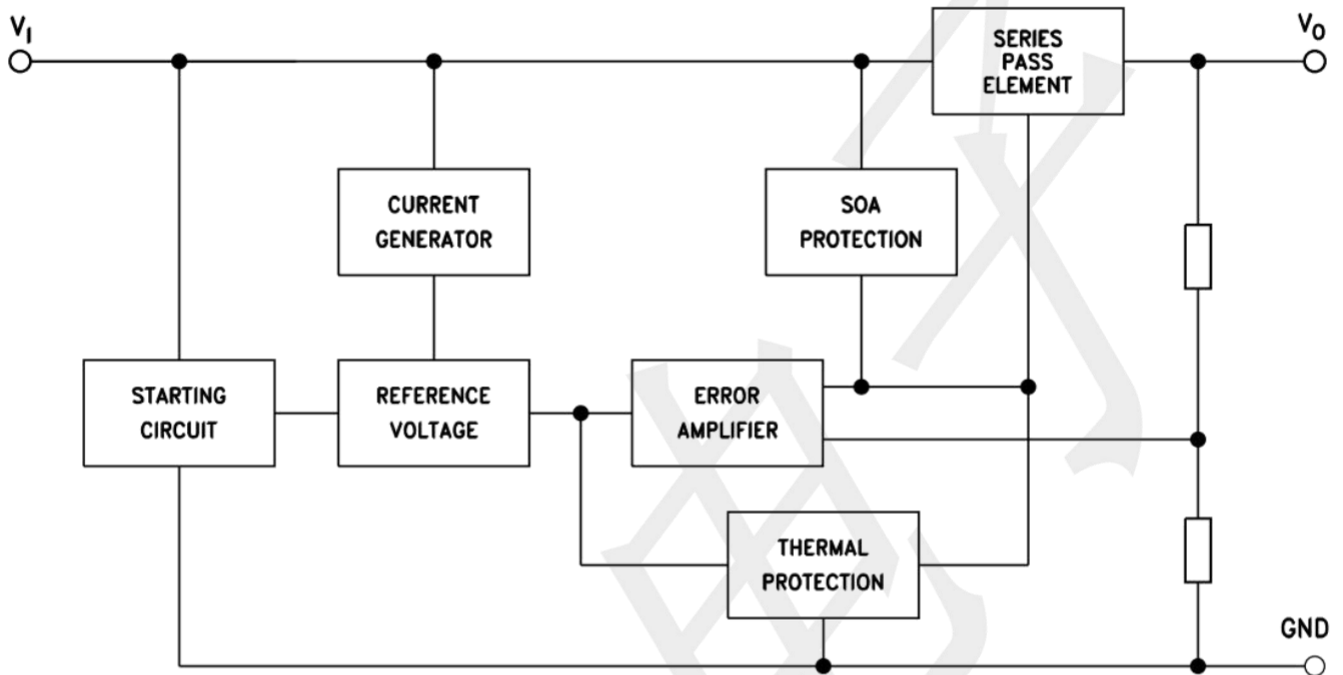
AMETER	SYMBOL	TEST Conditions	MIN	TYP	MAX	UNIT
DC Output Voltage	VO	$T_J=25^{\circ}C$	4.8	5.0	5.2	V
		$P_D<15W$ $V_i=8V$ to $20V$, $I_o=5mA$ to $1A$	4.75	5.0	5.25	V
Load Regulation	ΔV_o	$T_J=25^{\circ}C$ $I_o=5mA$ to $1A$	--	--	100	mV
		$T_J=25^{\circ}C$ $I_o=250mA$ to $750mA$	--	--	50	mV
Line regulation	ΔV_o	$T_J=25^{\circ}C$ $V_i=7.5V$ to $25V$	--	--	100	mV
		$T_J=25^{\circ}C$ $V_i=8V$ to $12V$	--	--	50	mV
Quiescent Current	I_q	$T_J=25^{\circ}C$	--	--	8.0	mA
Quiescent Current Change	ΔI_q	$V_i=8V$ to $25V$	--	--	0.8	mA
		$I_o=5mA$ to $1A$	--	--	0.5	mA
Output Voltage Drift	$\Delta V_o/\Delta T$	$I_o=5mA$	--	0.8	--	mV/ $^{\circ}C$
Output Noise Voltage	V_N	$T_J=25^{\circ}C$ $10Hz \leq f \leq 100KHz$	--	42	--	$\mu V/V_o$
Ripple Rejection	RR	$V_i=8V$ to $18V$, $f=120Hz$	63	72	--	dB
Dropout Voltage	V_d	$I_o=300mA$ $T_J=25^{\circ}C$	--	1.0	--	V
Peak Current	I_{pk}	$T_J=25^{\circ}C$	--	1.0	--	A

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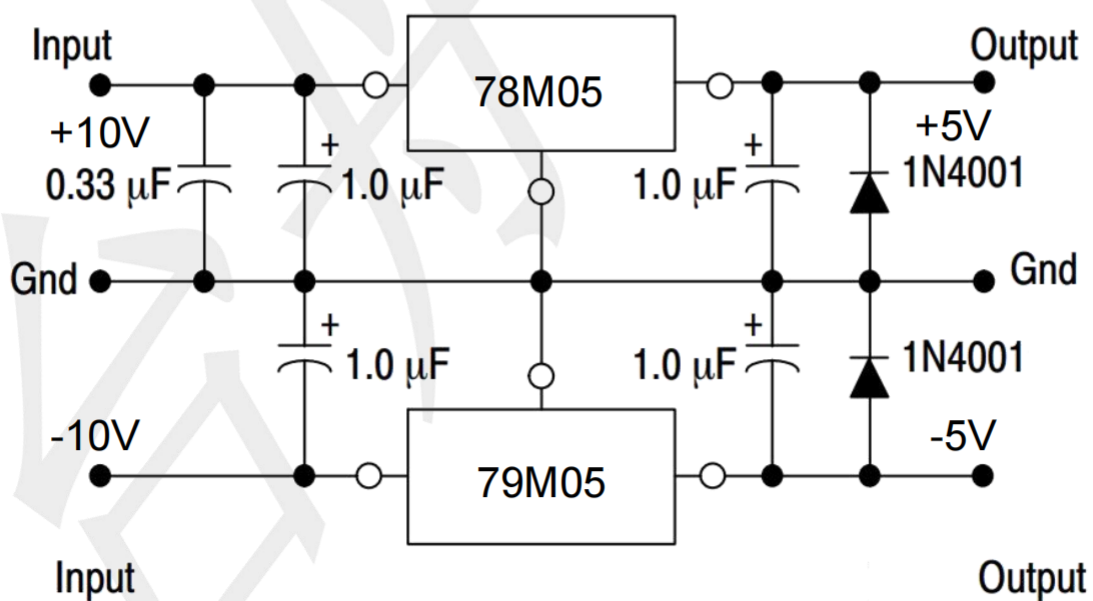
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BLOCK DIAGRAM



Typical Application Circuit

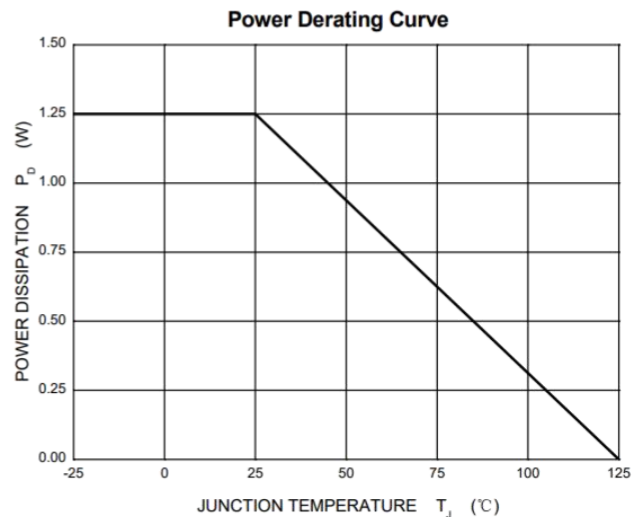
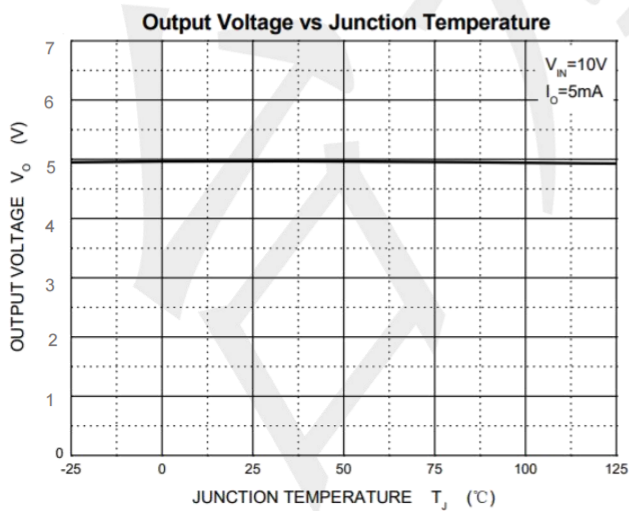
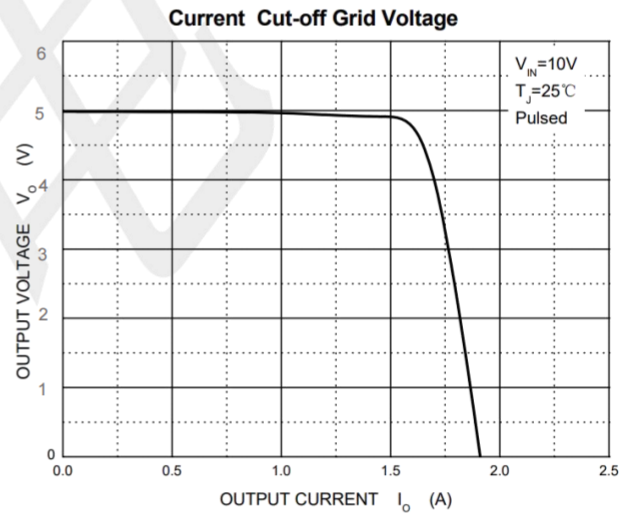
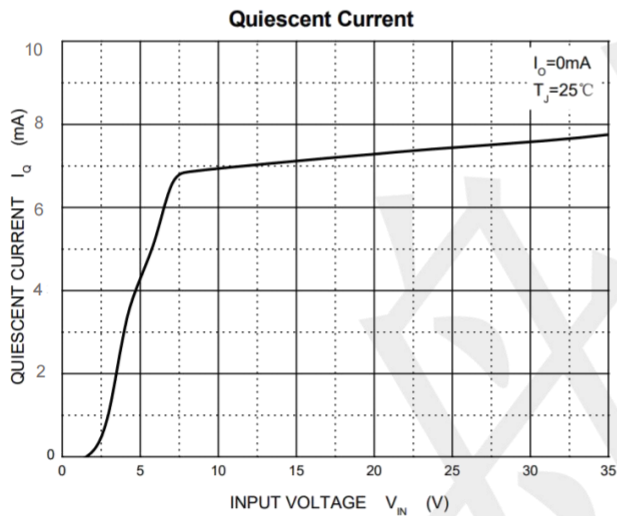
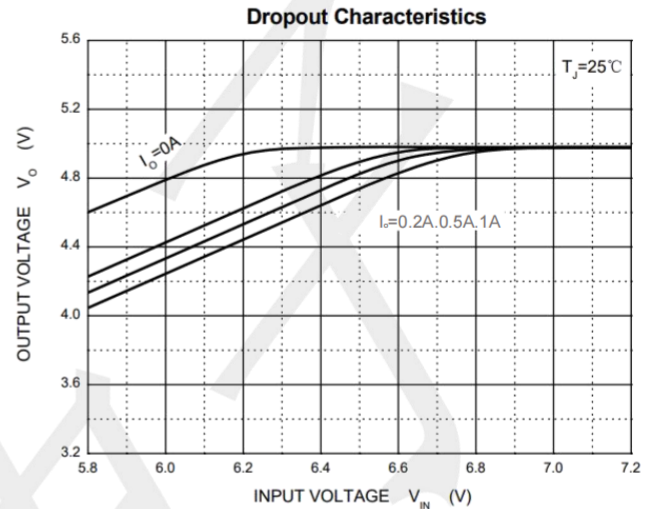
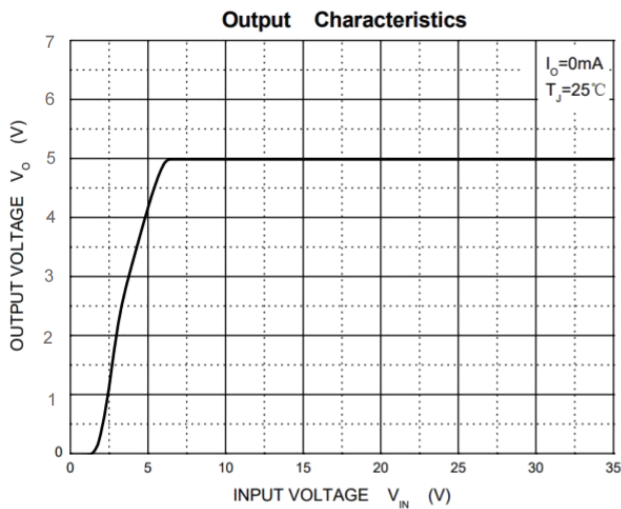


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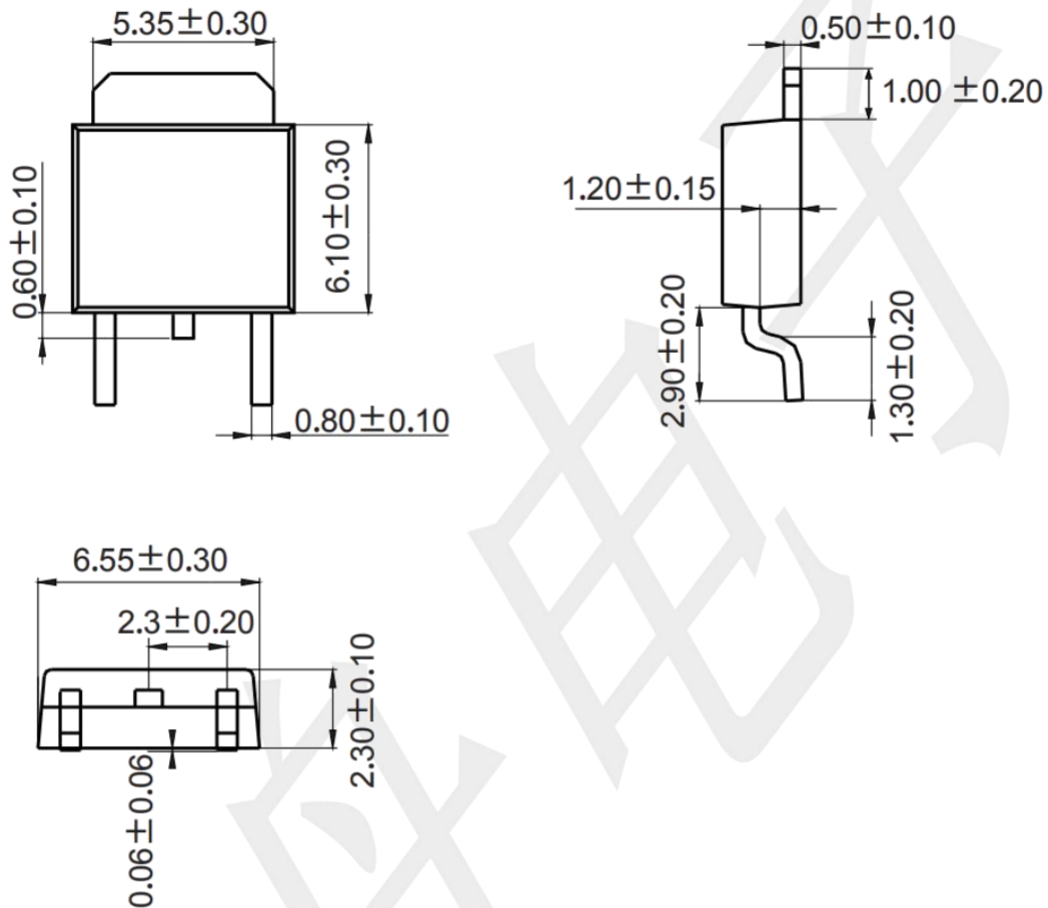
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Typical Operating Characteristics (25 °C, unless otherwise noted)



Package Outline Dimensions (unit: mm)

TO-252-2L



Mounting Pad Layout (unit: mm)

