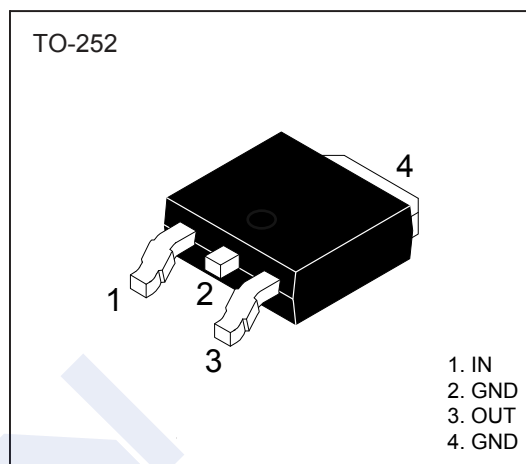


## Three Terminal Positive Voltage Regulator

### 78M05

#### ■ Features

- Maximum Output Current  $I_o$ : 500mA
- Output Voltage  $V_o$ : 5V
- Continuous Total Dissipation PD: 1.25 W ( $T_a=25\text{ }^\circ\text{C}$ )



#### ■ Absolute Maximum Ratings Over Operating Temperature Range(unless otherwise noted)

Parameter	Symbol	Rating	Unit
Input Voltage	$V_i$	35	V
Maximum Output Current	$I_o$	0.5	A
Thermal Resistance, Junction-to-Ambient	$R_{thJA}$	80	$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_{OPR}$	-25 to 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to 150	

## Three Terminal Positive Voltage Regulator

### 78M05

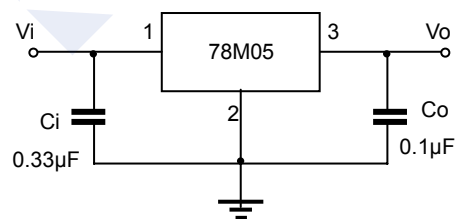
#### Electrical Characteristics at Specified Virtual Junction Temperature

( $V_i=10V$ ,  $I_o=350mA$ ,  $C_i=0.33\mu F$ ,  $C_o=0.1\mu F$ , unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	25°C	4.8	5	5.2	V
		$7V \leq V_i \leq 20V$ , $I_o = 5.0mA \sim 350mA$	-25 to 125°C	4.75	5	
Load Regulation	$\Delta V_o$	$I_o = 5.0mA \sim 500mA$	25°C		100	mV
		$I_o = 5.0mA \sim 200mA$	25°C		50	
Line Regulation	$\Delta V_o$	$7V \leq V_i \leq 25V$ , $I_o = 200mA$	25°C		100	mV
		$8V \leq V_i \leq 25V$ , $I_o = 200mA$	25°C		50	
Quiescent Current	$I_q$	25°C			6	mA
Quiescent Current Change	$\Delta I_q$	$8V \leq V_i \leq 25V$ , $I_o = 200mA$	-25 to 125°C		0.8	
		$5mA \leq I_o \leq 350mA$	-25 to 125°C		0.5	
Output Noise Voltage	$V_N$	$10Hz \leq F \leq 100kHz$	25°C		200	$\mu V/V_o$
Ripple Rejection	$RR$	$8V \leq V_i \leq 18V$ , $F=120Hz$ , $I_o=300mA$	-25 to 125°C	62		dB
Dropout Voltage	$V_d$	$I_o=350mA$	25°C		2.5	V
Short Circuit Current Limit	$I_{sc}$	$V_i=10V$	25°C		300	mA
Peak Current	$I_{pk}$		25°C		0.5	A

\* Pulse test.

#### Typical Application



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

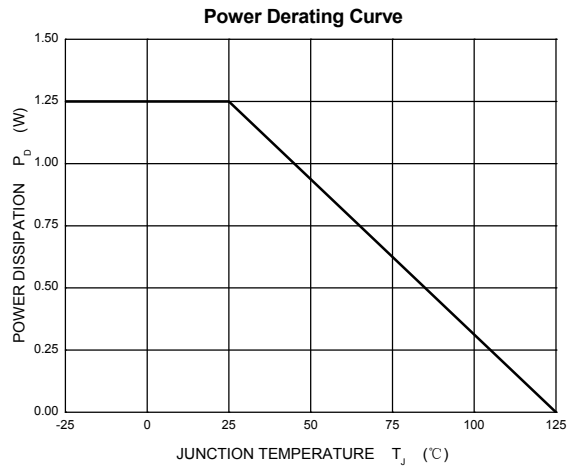
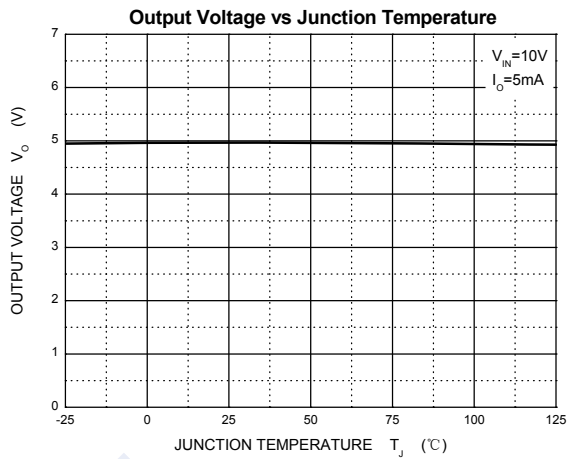
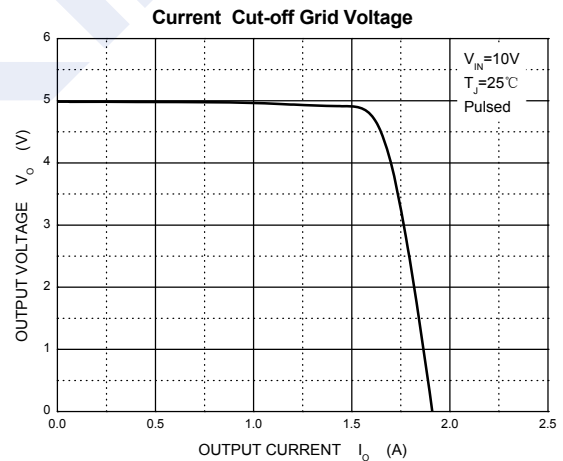
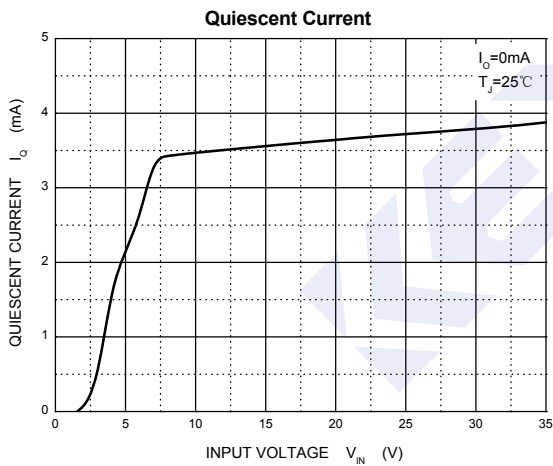
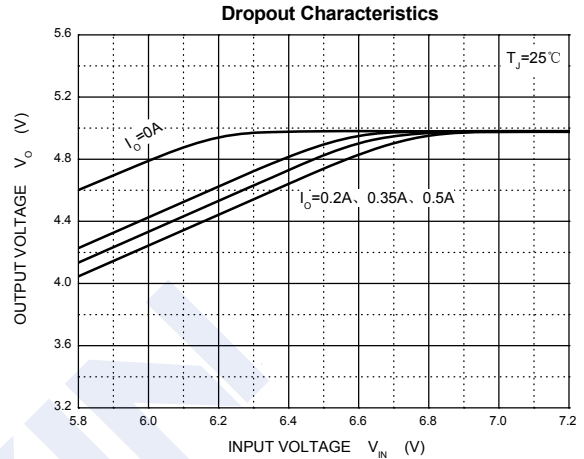
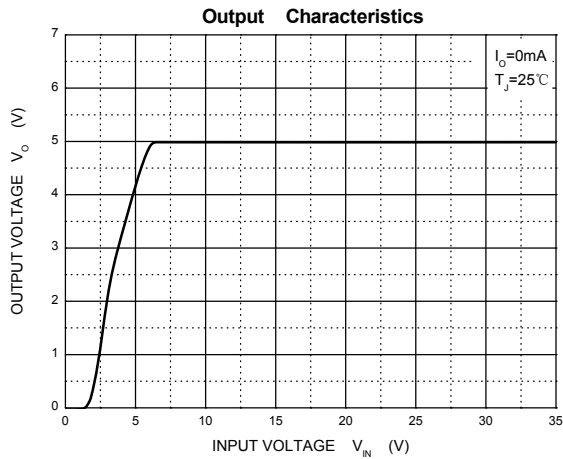
#### Marking

Marking	78M05 *****
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# Three Terminal Positive Voltage Regulator

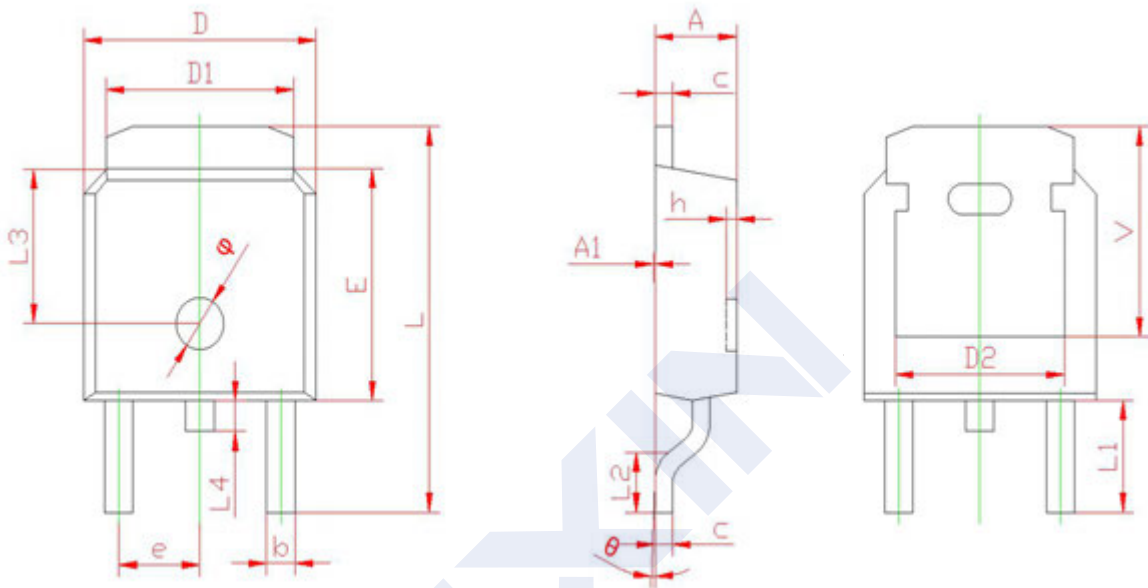
## 78M05

■ Typical Characteristics



## Three Terminal Positive Voltage Regulator 78M05

### ■ Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.960	0.026	0.038
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.800 REF		0.189 REF	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF		0.114 REF	
L2	1.400	1.700	0.055	0.067
L3	4.00 REF		0.157 REF	
L4	0.600	1.000	0.024	0.039
φ	1.200	1.400	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.500 REF		0.217 REF	