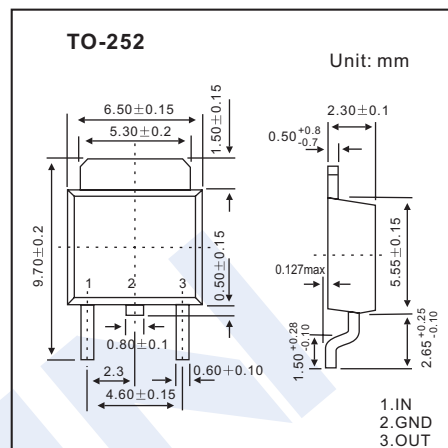


## Three-Terminal Positive Voltage Regulator

## LM78M05



### ■ Features

- Maximum Output current  $I_{OM}$ : 0.5A
- Output Voltage  $V_o$ : 5V
- Continuous Total Dissipation  $P_d$ : 1.25W

### ■ Absolute Maximum Ratings (Operating temperature range applies unless otherwise specified)

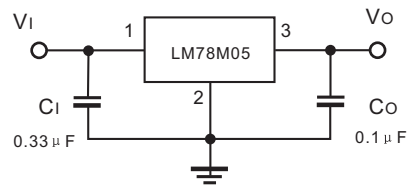
Parameter	Symbol	Rating	Unit
Input Voltage	$V_i$	35	V
Operating Junction Temperature Range	$T_{OPR}$	-55 ~ +125	°C
Storage Temperature Range	$T_{STG}$	-65 ~ +150	°C

### ■ Electrical Characteristics ( $V_i=10V$ , $I_o=350mA$ , $C_i=0.33 \mu F$ , $C_o=0.1 \mu F$ , unless otherwise specified)

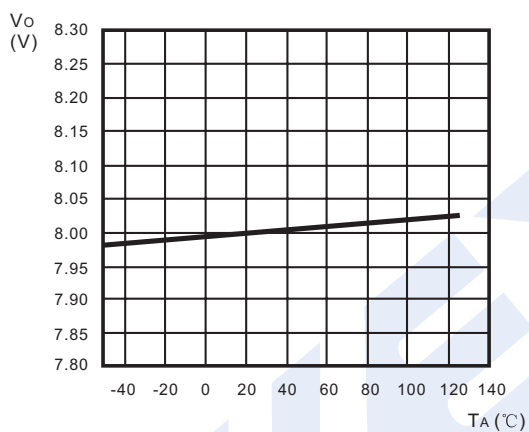
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Output Voltage	$V_o$	$T_J = 25^\circ C$	4.8	5.0	5.2	V
		$T_J = 0 \sim 125^\circ C$ , $7V \leq V_i \leq 20V$ , $I_o = 5mA \sim 350mA$ , $P_o \leq 15W$	4.75	5.0	5.25	V
Load Regulation	$\Delta V_o$	$T_J = 25^\circ C$ , $I_o = 5mA \sim 0.5A$		15	100	mV
		$T_J = 25^\circ C$ , $I_o = 5mA \sim 200mA$		5	50	mV
Line Regulation	$\Delta V_o$	$T_J = 25^\circ C$ , $7V \leq V_i \leq 25V$ , $I_o = 200mA$		3	100	mV
		$T_J = 25^\circ C$ , $8V \leq V_i \leq 25V$ , $I_o = 200mA$		1	50	mV
Quiescent Current	$I_q$	$T_J = 25^\circ C$		4.2	6	mA
Quiescent current Change	$\Delta I_q$	$T_J = 0 \sim 125^\circ C$ , $8V \leq V_i \leq 25V$ , $I_o = 200mA$			0.8	mA
		$T_J = 0 \sim 125^\circ C$ , $5mA \leq I_o \leq 350mA$			0.5	mA
Output Noise Voltage	$V_N$	$T_J = 25^\circ C$ , $10Hz \leq f \leq 100KHz$		40	200	$\mu V$
Ripple Rejection	RR	$T_J = 0 \sim 125^\circ C$ , $8V \leq V_i \leq 18V$ , $f = 120Hz$ , $I_o = 300mA$	62	80		dB
Dropout Voltage	$V_d$	$T_J = 25^\circ C$ , $I_o = 350mA$		2	2.5	V
Short Circuit Current	$I_{sc}$	$T_J = 25^\circ C$ , $V_i = 10V$		300		mA
Peak Current	$I_{PK}$	$T_J = 25^\circ C$		0.7		A

## LM78M05

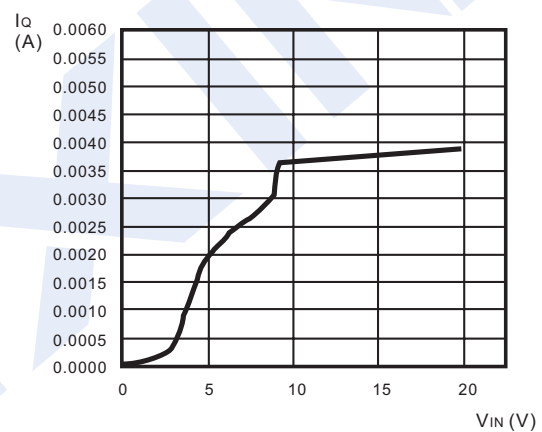
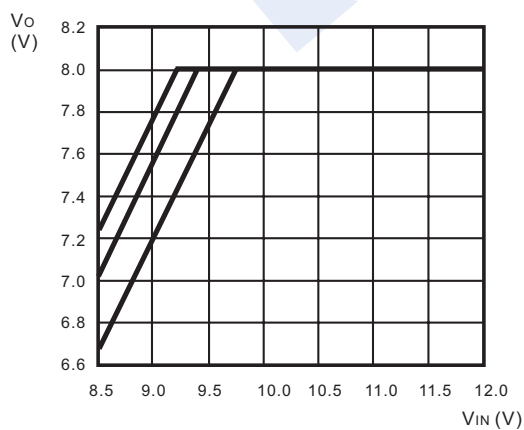
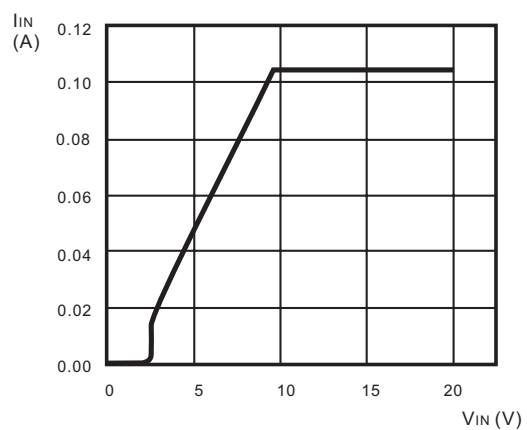
## ■ Typical Application



## ■ Typical Characteristics



Ambient Temperature vs Output Voltage

Input Voltage vs Quiescent Current (T<sub>J</sub> = 25°C)Input Voltage vs Output Voltage (T<sub>J</sub> = 25°C)Input Voltage vs Input Current (T<sub>J</sub> = 25°C)