

LM79M05

3-Terminal 0.5A Negative Voltage Regulator

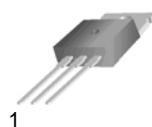
Features

- No External Components Required
- Output Current in Excess of 0.5A
- Internal Thermal Overload
- Internal Short Circuit Current Limiting
- Output Transistor Safe Area Compensation
- Output Voltages of -5V

Description

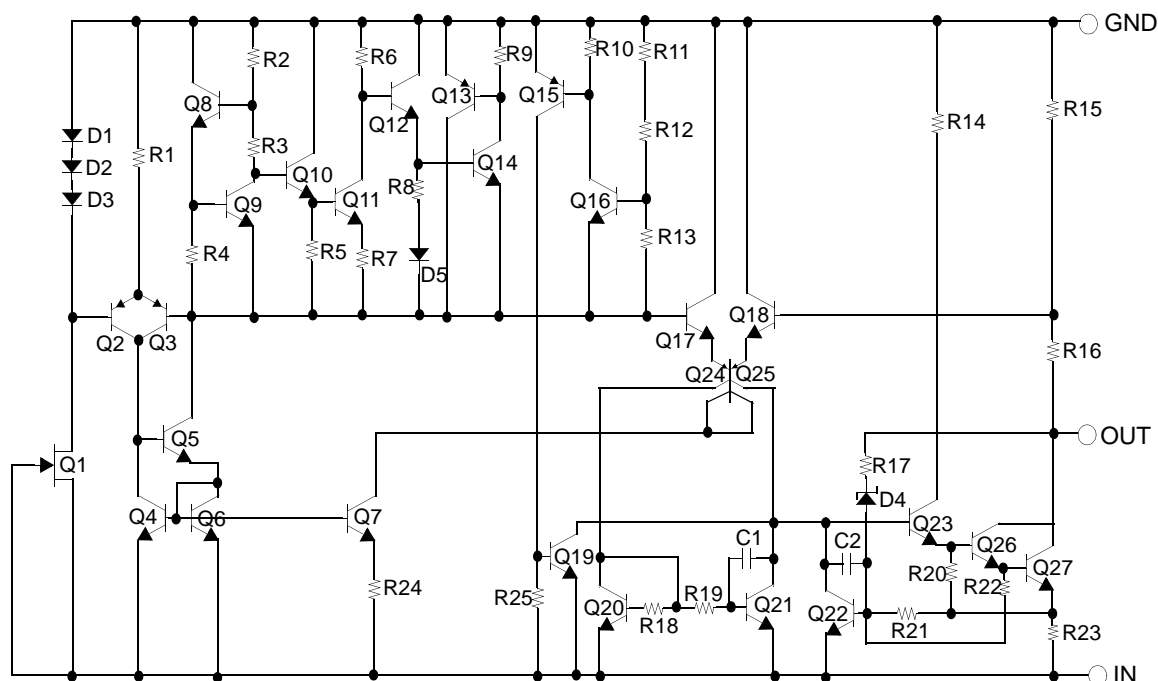
The LM79M05 of 3-Terminal medium current negative voltage regulator is monolithic integrated circuits designed as fixed voltage regulator. This regulator employs internal current limiting, thermal shutdown and safe area compensation making them essentially indestructible.

TO-220 (Single Gauge)



1. GND 2. Input 3. Output

Schematic Diagram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input Voltage(for $V_O = -5V$)	V_I	-35	V
Thermal Resistance Junction-Cases	$R_{\theta JC}$	5	$^{\circ}C/W$
Thermal Resistance Junction-Air	$R_{\theta JA}$	65	$^{\circ}C/W$
Operating Temperature Range	T_{OPR}	0 ~ +125	$^{\circ}C$
Storage Temperature Range	T_{STG}	-65 ~ +150	$^{\circ}C$

Electrical Characteristics (LM79M05)

(Refer to test circuit, $0^{\circ}C \leq T_J \leq +125^{\circ}C$, $I_O = 350mA$, $V_I = -10V$, unless otherwise specified, $C_I = 0.33\mu F$, $C_O = 0.1\mu F$)

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Output Voltage	V _O	T _J = +25°C		-4.8	-5	-5.2	V
		I _O = 5mA to 350mA V _I = -7V to -25V		-4.75	-5	-5.25	
Line Regulation (Note1)	ΔV _O	T _J =+25°C	V _I = -7V to -25V	-	7.0	50	mV
			V _I = -8V to -25V	-	2.0	30	
Load Regulation (Note1)	ΔV _O	I _O = 5mA to 500mA T _J = +25°C		-	30	100	mV
Quiescent Current	I _Q	T _J = +25°C		-	3.0	6.0	mA
Quiescent Current Change	ΔI _Q	I _O = 5mA to 350mA		-	-	0.4	mA
		I _O = 200mA V _I = -8V to -25V		-	-	0.4	
Output Voltage Drift	ΔV _O /ΔT	I _O = 5mA		-	-0.2	-	mV/°C
Output Noise Voltage	V _N	f = 10Hz, 100kHz T _A = +25°C		-	40	-	μV
Ripple Rejection	RR	f = 120Hz V _J = -8 to -18V		54	60	-	dB
Dropout Voltage	V _D	T _J =+25°C, I _O = 500mA		-	1.1	-	V
Short Circuit Current	I _{SC}	T _J = +25°C, V _I = -35V		-	140	-	mA
Peak Current	I _{PK}	T _J = +25°C		-	650	-	mA

Note:

1. Load and line regulation are specified at constant junction temperature. Change in V_O due to heating effects must be taken into account separately. Pulse testing with low duty is used.

Typical Performance Characteristics

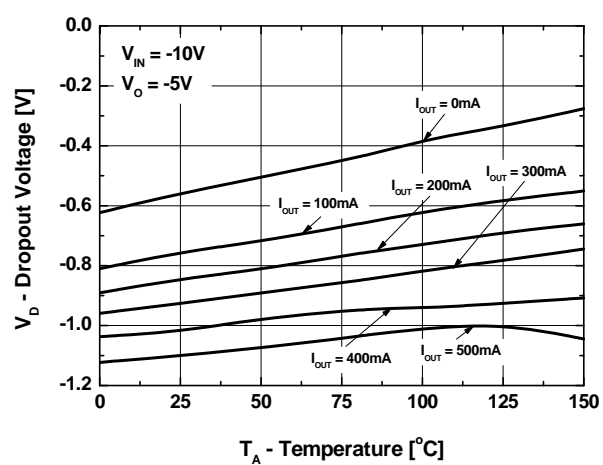


Figure 1. Dropout Voltage

Typical Applications

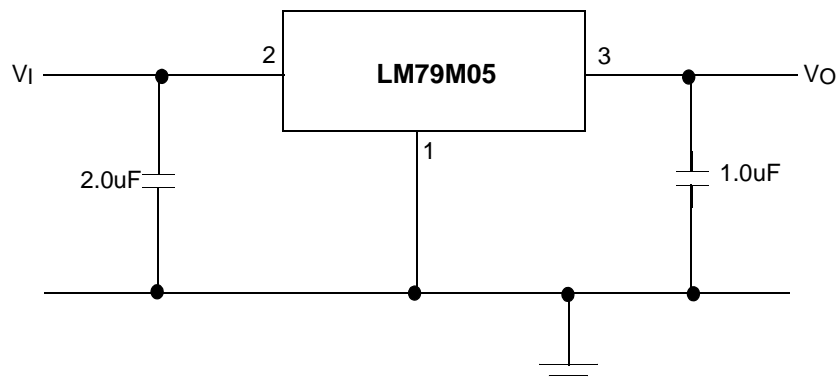


Figure 2. Fixed Output Regulator

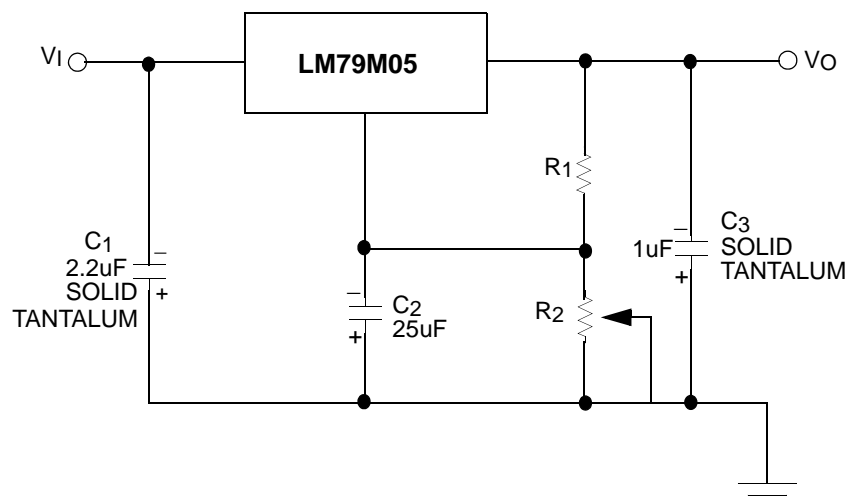


Figure 3. Variable Output

Notes:

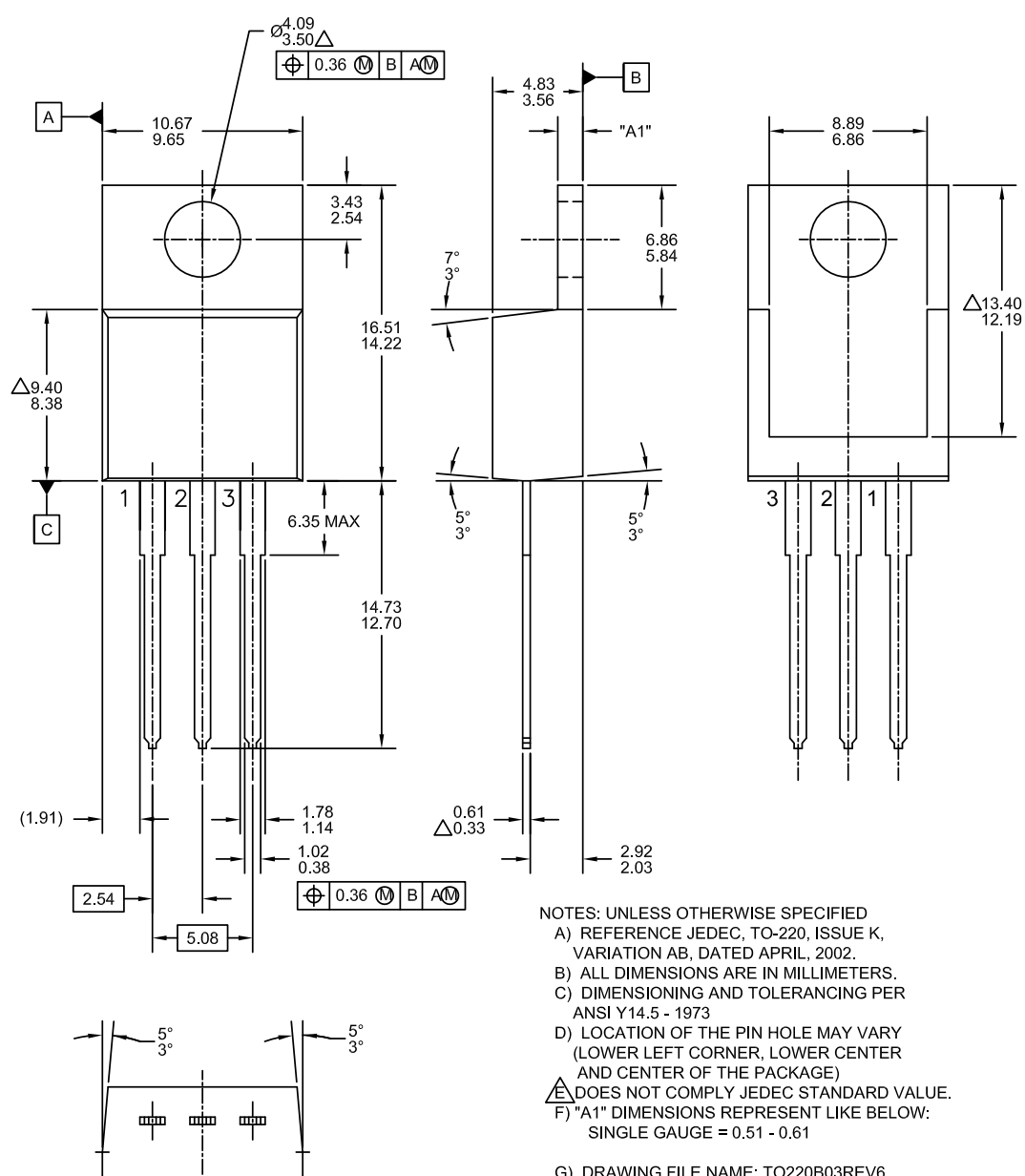
1. Required for stability. For value given, capacitor must be solid tantalum. $25\mu\text{F}$ aluminum electrolytic may be substituted.
2. C_2 improves transient response and ripple rejection. Do not increase beyond $50\mu\text{F}$.

Mechanical Dimensions

Package

Dimensions in millimeters

TO-220 [SINGLE GAUGE]



Ordering Information

Product Number	Package	Operating Temperature
LM79M05CT	TO-220 (Single Gauge)	0 ~ +125°C

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