



QNHCHIP

QN78M05

Product Specification

QN78M05

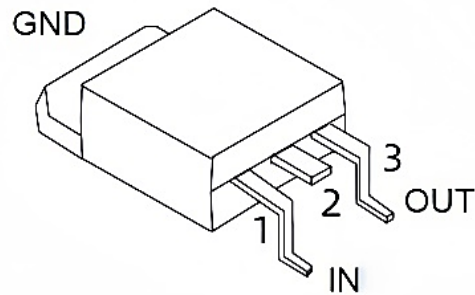
Three-terminal positive Voltage Regulator



FEATURES

- Output Current in Excess of 1A
- Output Voltage is 5V
- Internal thermal Overload protection
- Internal Short Circuit Current Limiting

PIN CONNECTION



TO-252

Pin Number	Pin Name	Description
1	IN	Input
2	GND	Ground
3	OUT	Output

ABSOLUTE MAXIMUM RATINGS (Ta=25 C)

Characteristics	Symbol	Value	Unit
Input Voltage	V_i	7 ~ 36	V
Storage Temperature Range	T_{stg}	- 85 ~ 150	°C

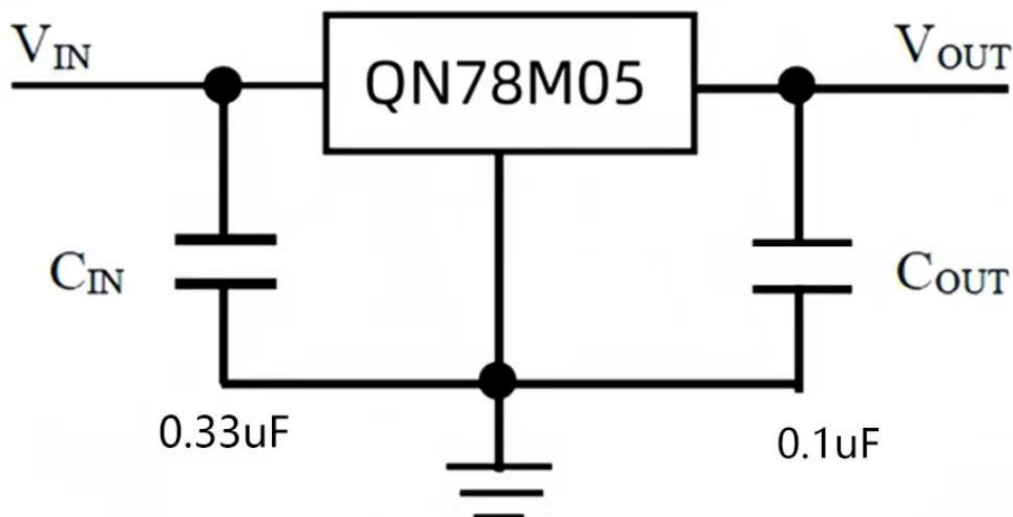


ELECTRICAL CHARACTERISTICS

(unless otherwise noted, $V_i=10V$, $I_o=350\text{ mA}$, $0^\circ\text{C} < T_j < 125^\circ\text{C}$, $C_1=0.33\text{ }\mu\text{F}$, $C_o=0.1\text{ }\mu\text{F}$)

Characteristics	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Output Voltage	V_o	$T_j=25^\circ\text{C}$	4.8	5.0	5.2	V
		$7V \leq V_i \leq 20\text{ V}$, $I_o=5\text{ mA} \sim 350\text{ mA}$	4.75	5	5.25	
Load Regulation	ΔV_o	$T_j=25^\circ\text{C}$, $I_o=5\text{ mA} \sim 1000\text{ mA}$		25	100	mV
		$T_j=25^\circ\text{C}$, $I_o=5\text{ mA} \sim 200\text{ mA}$		10	50	
Line Regulation	ΔV_o	$7V \leq V_i \leq 25\text{ V}$, $I_o=300\text{ mA}$, $T_j=25^\circ\text{C}$		4	100	mV
		$8V \leq V_i \leq 25\text{ V}$, $I_o=300\text{ mA}$, $T_j=25^\circ\text{C}$		2	50	
Quiescent Current	I_q	$T_j=25^\circ\text{C}$		4	6	mA
Quiescent Current Charge	ΔI_q	$8V \leq V_i \leq 25\text{ V}$, $I_o=300\text{ mA}$			0.8	mA
		$5\text{ mA} \leq I_o \leq 350\text{ mA}$			0.5	
Output Noise Voltage	V_N	$10\text{ Hz} \leq f \leq 100\text{ kHz}$, $T_j=25^\circ\text{C}$		40	200	μV
Dropout Voltage	V_d	$T_j=25^\circ\text{C}$		1.7		V
Ripple Rejection	RR	$8V \leq V_i \leq 18\text{ V}$, $f=120\text{ Hz}$, $I_o=300\text{ mA}$, $T_j=25^\circ\text{C}$	56	80		dB
Short Circuit Current Limit	I_{sc}	$T_j=25^\circ\text{C}$		950		mA

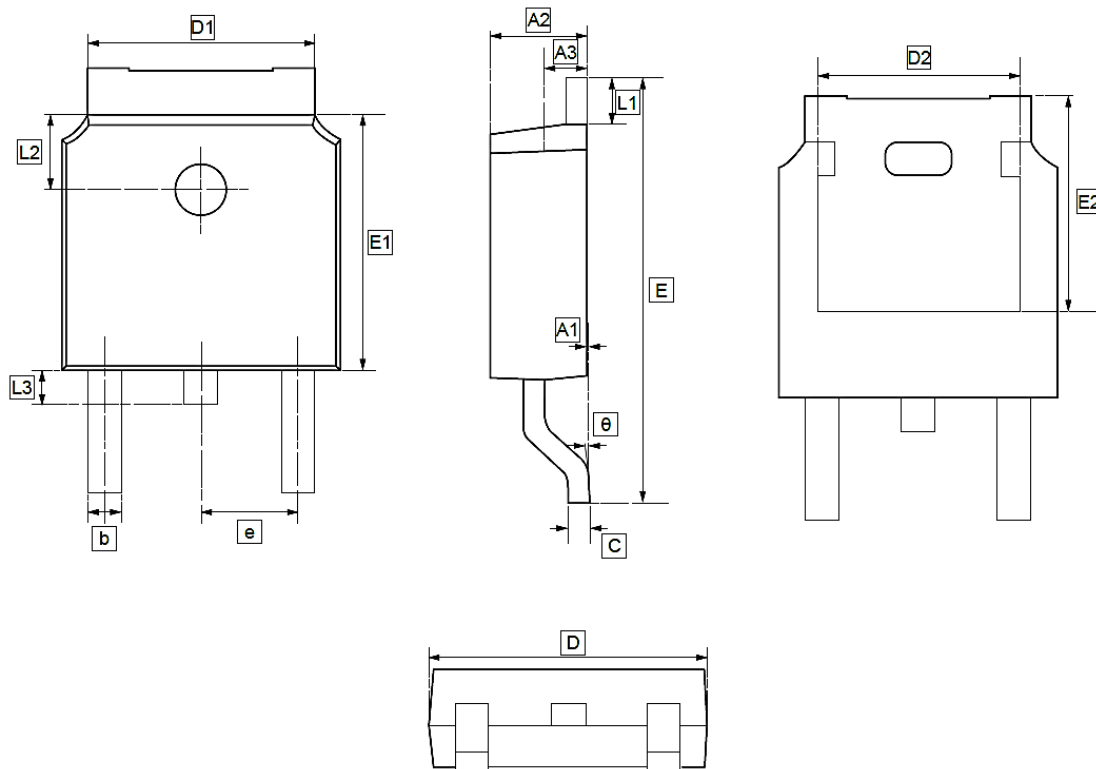
APPLICATION CIRCUIT



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



TO-252



DIMENSIONS(mm)

Symbol	Min.	Max.
A1	0.00	0.13
A2	2.18	2.39
A3	0.90	1.10
b	0.65	0.85
c	0.46	0.61
D	6.35	6.73
D1	4.95	5.46
D2	4.32	4.90
E	9.40	10.41
E1	5.97	6.22
E2	5.21	5.38
e	2.286 BSC	
L1	0.89	1.27
L2	1.70	1.90
L3	0.60	1.00
θ	0°	8°

Ordering information

Order Code	Marking	Package	current	Operating Temperature	V _{IN} (V)	PACKAGE OPTION
QN78M05-T	78M05	TO-252	1A	-85 ~ 150℃	7 ~ 36	Tape and Reel