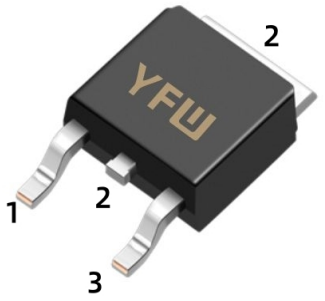
3-Terminal 1.0A Negative Voltage Regulator

Description

The 79M05 series of 3-Terminal medium current negative voltage regulators are monolithic integrated circuits designed as fixed voltage regulators. These regulators employ internal current limiting, thermal shutdown and safe area compensation making them essentially indestructible.



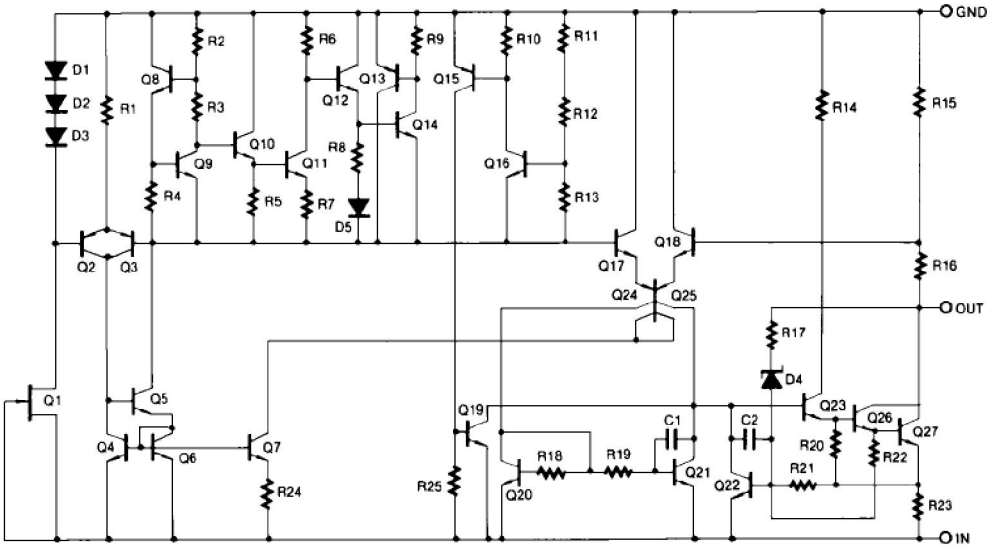
1. GND
2. Input
3. Outp

TO-252

Features

- ➢No external components required
- ➢Output current in excess of 1.0A
- ➢Internal thermal overload
- ➢Internal short circuit current limiting
- ➢Output transistor safe area compensation
- ➢Output voltages of -5V

Internal Block Digram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input voltage	V_{IN}	-30	V
Output voltage	V_O	-5	V
Operating Junction Temperature Range	T_j	-55 ~ 150	°C
Storage Temperature Range	T_{stg}	-65 ~ 150	°C

Electrical Characteristics (Ta = 25℃)

(Refer to the test circuits, I_O=500mA, V_I=-10V, C_I = 2.2μF, C_O=1μF unless otherwise specified)

Parameter	Symbol	Conditions		Value			Unit
				Min	Typ	Max	
Output Voltage	V_O	T_j = 25°C		-4.8	-5.0	-5.2	V
		I_O= 5mA ~ 1.0A , P_O<15W V_I = -7V ~ -20V		-4.75	-5.0	-5.25	
Line Regulation (Note)	ΔV_O	T_j = 25°C	V_I = -7V ~ -25V			100	mV
			V_I = -8V ~ -12V			50	
Load Regulation (Note)	ΔV_O	T_j = 25°C	I_O= 5mA ~ 1.0A			100	mV
			I_O= 0.25A ~ 0.75A			50	
Quiescent Current	I_Q	T_j = 25°C				6.0	mA
Quiescent Current Change	ΔI_Q	I_O= 5mA ~ 1.0A				0.5	mA
		V_I = -8 ~ -25V				0.8	
Output Voltage Drift	$\Delta V/\Delta T$	I_O = 5mA			-0.4		mV/°C
Output Noise Voltage	V_N	f = 10Hz ~ 100KHz			40		μV
Ripple Rejection	RR	f = 120Hz, ΔV_I = 10V			60		dB
Dropout Voltage	V_D	T_j =25°C, I_O = 1.0A			2		V
Short Circuit Current	I_{SC}	T_j =25 , V_I= -35V			300		mA
Peak Current	I_{PK}	T_j = 25°C			1.6		A

Notes:

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

Typical Applications

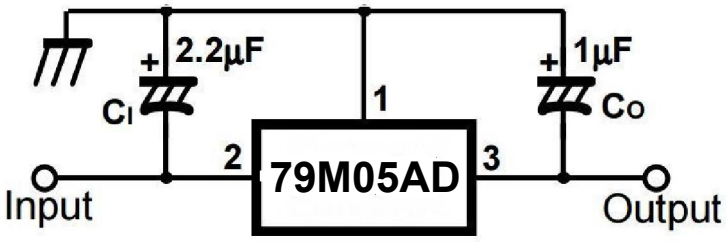


Figure.1 Fixed output regulat

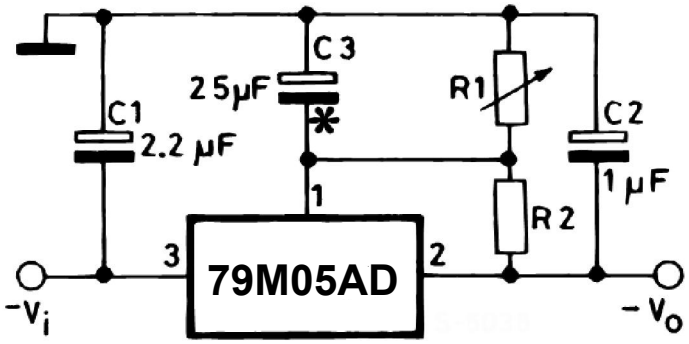


Figure.2 Circuit for increasing output voltage

Typical Characteristics

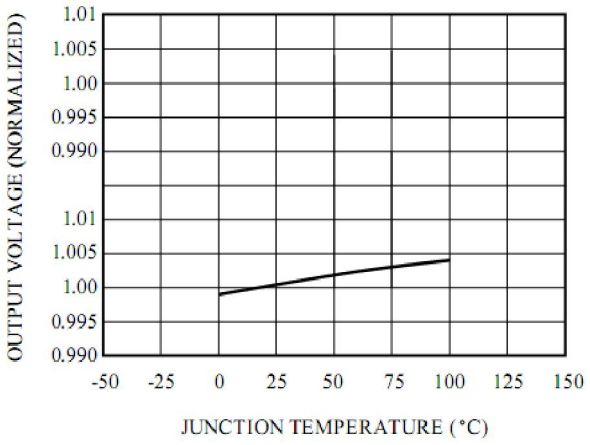


Figure 3. OutputVoltagevs.Temperature

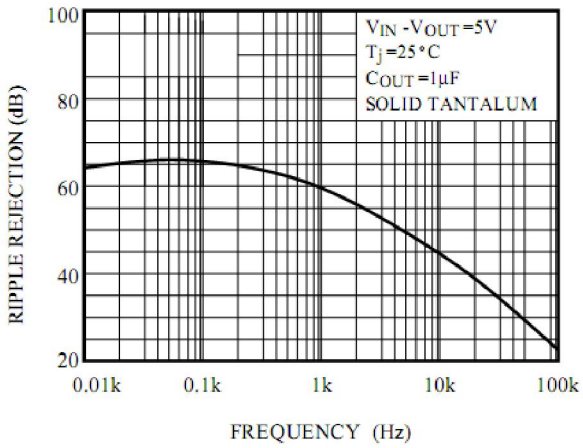


Figure 4. Ripple rejection

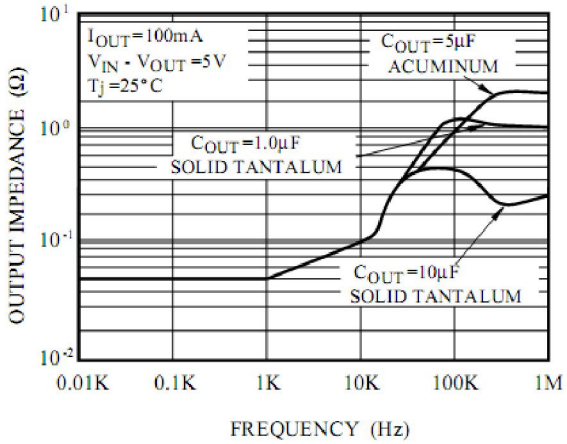


Figure 5. Output impedance

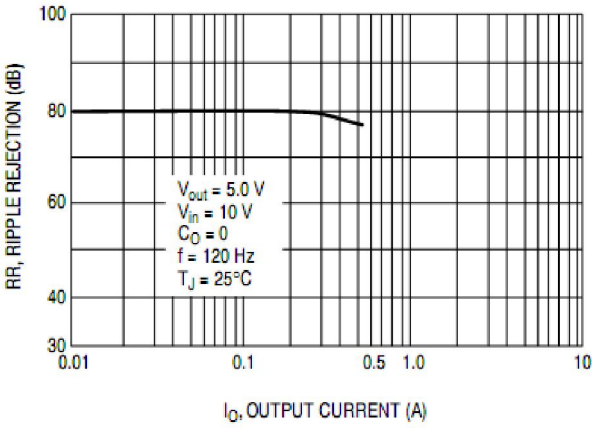


Figure6. Minimum input-output differential

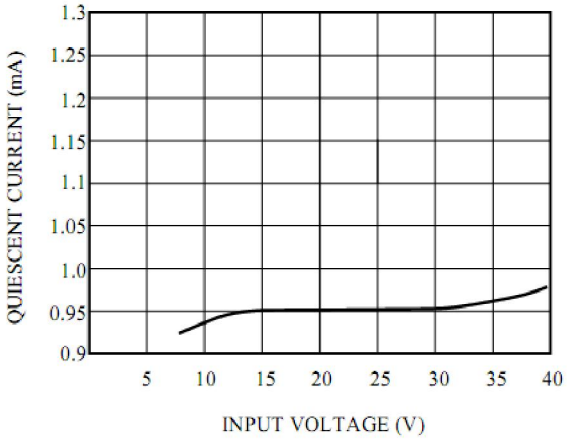


Figure 7. Bias Current vs Input Voltage

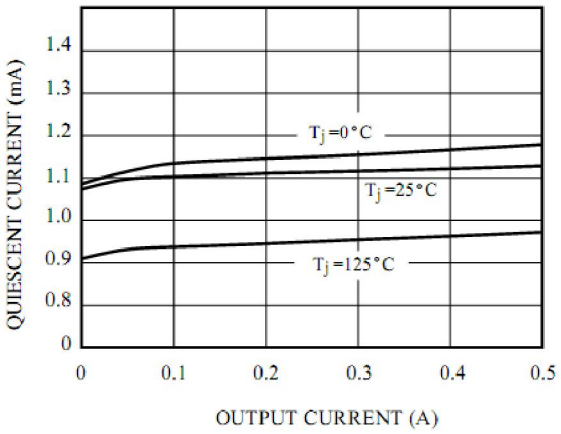


Figure 8. Quiescent current vs load current

Typical Characteristics

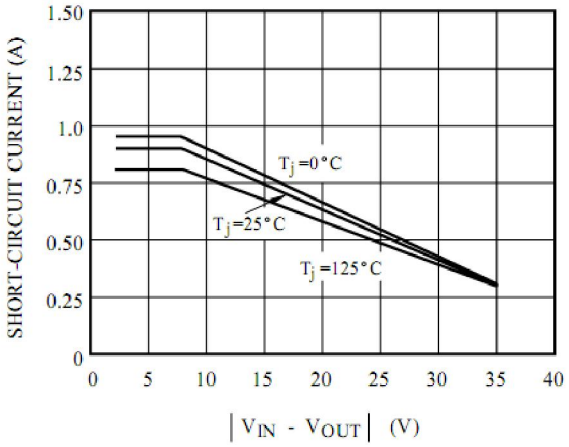


Figure 9. Short-circuit current

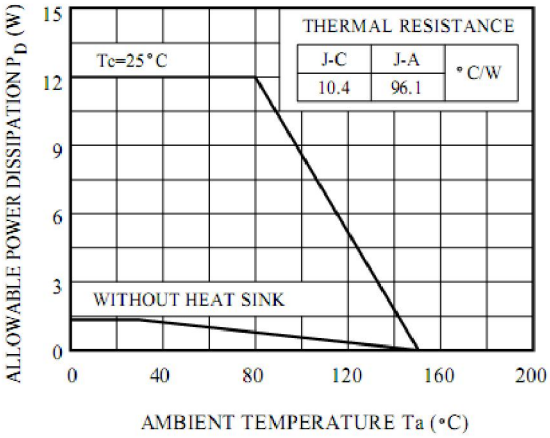
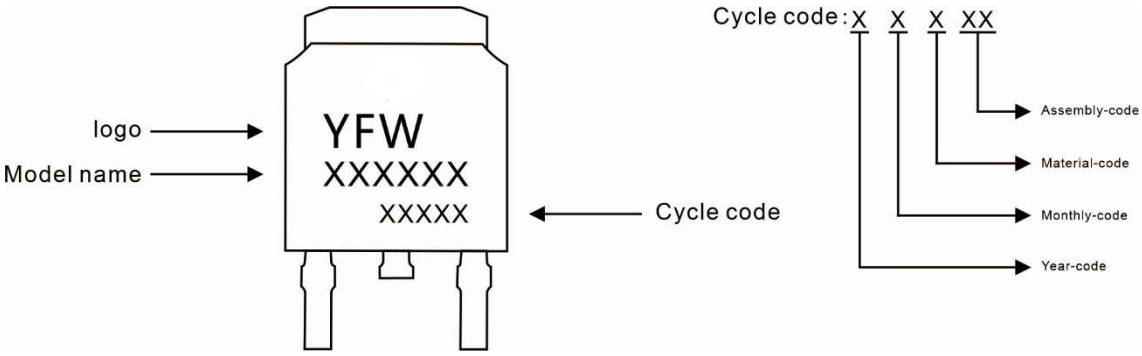


Figure 10. Power Derating

Marking Diagram

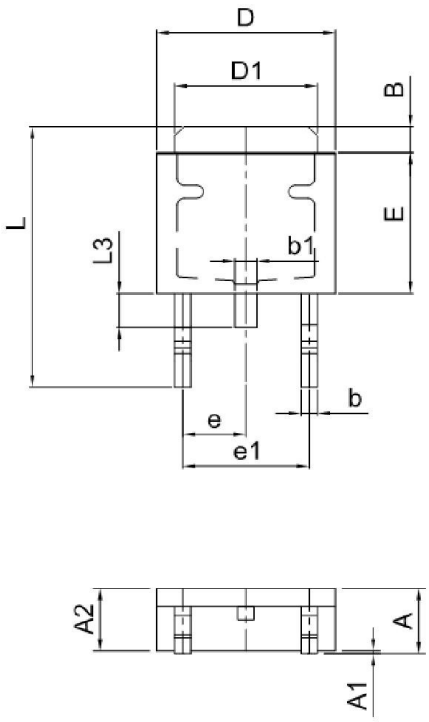


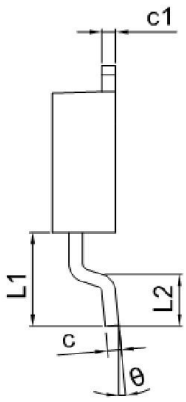
Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
79M05AD	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252





Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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