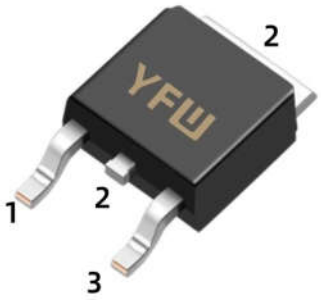
3-Terminal 1A Negative Voltage Regulator



1. GND
2. Input
3. Outp

TO-252

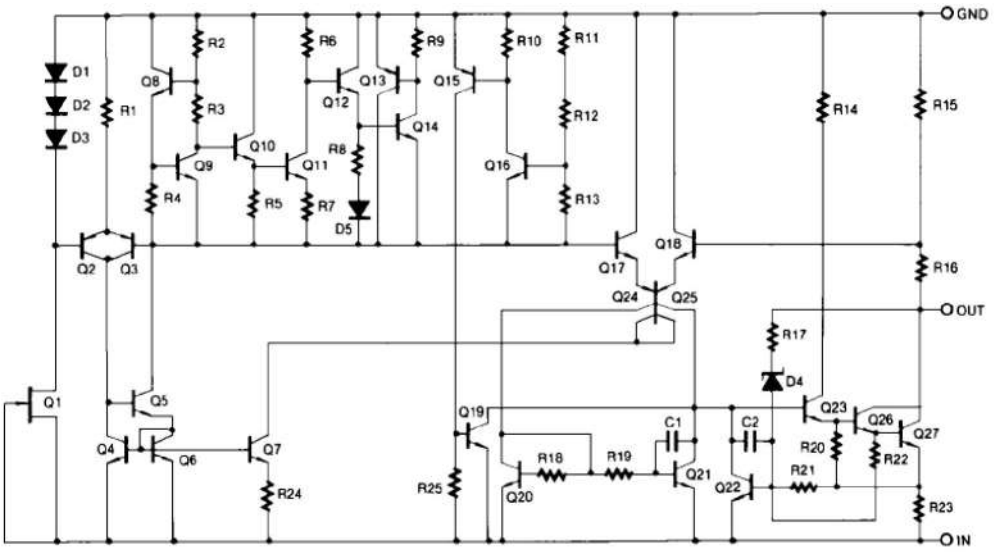
Description

The 79M15 series of 3-Terminal medium currentnegative 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.

Features

- No external components required
- Output current in excess of 1A
- Internal thermal overload
- Internal short circuit current limiting
- Output transistor safe area compensation
- Output voltages of -15V

Internal Block Digram



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Input voltage	V_{IN}	-35	V
Power Dissipation	P_D	1.2	W
Operating Junction Temperature Range	T_j	150	℃
Storage Temperature Range	T_{stg}	-65 ~ 150	℃
Soldering Temperature (10 seconds)	T_{sol}	260	℃

Electrical Characteristics (Ta = 25 ℃)

(Refer to the test circuits, I_O=350mA, 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℃		-14.40	-15	-15.60	V
		I_O= 5mA ~ 1A V_I = -18V ~ -30V		-14.2 5	-15	-15.75	
Line Regulation (Note)	ΔV_O	T_j = 25℃	V_I = -17.5V ~ -30V			100	mV
			V_I = -18V ~ -28V			50	
Load Regulation (Note)	ΔV_O	T_j = 25℃	I_O= 5mA ~ 0.75A			240	mV
			I_O= 0.25A ~ 1A			12	
Quiescent Current	I_Q	T_j = 25℃				6	mA
Quiescent Current Change	ΔI_Q	I_O= 5mA ~ 1A				0.4	mA
		V_I = -17.5V ~ -30V				0.6	
Output Voltage Drift	$\Delta V/\Delta T$	I_O = 5mA			-0.4		mV/℃
Output Noise Voltage	V_N	f = 10HZ ~ 100KHZ			40		μV
Ripple Rejection	RR	f = 120Hz, V_I = -18V ~ -30V			60		dB
Dropout Voltage	V_D	T_j =25℃ , I_O = 1A			2.0		V
Short Circuit Current	I_{SC}	T_j =25℃			230		mA
Peak Current	I_{PK}	T_j = 25℃			1.8		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

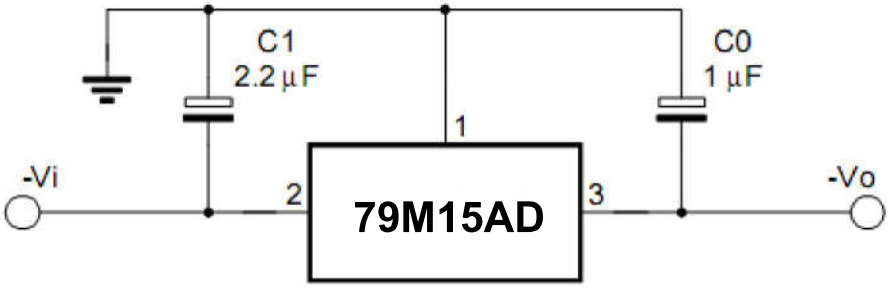


Figure.1 -15V output regulator

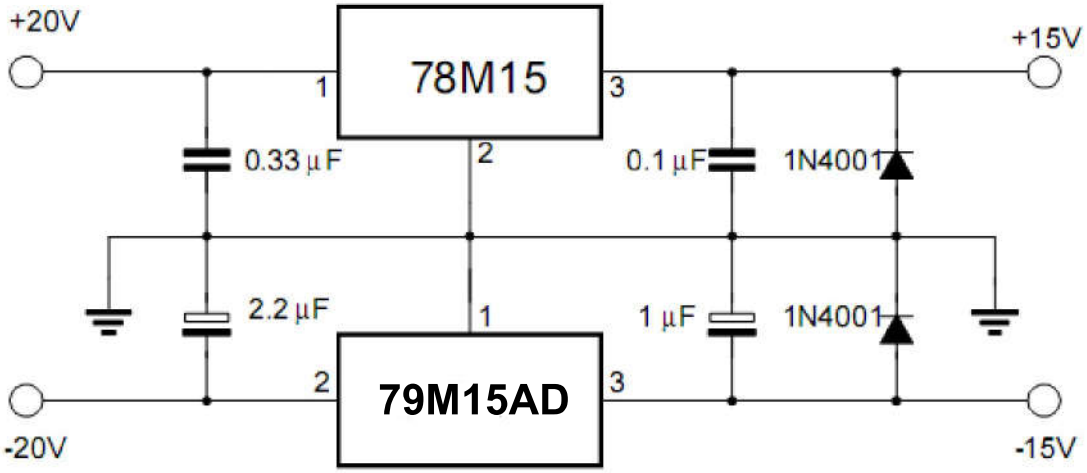


Figure.2 Split power supply(±15V,0.5A)

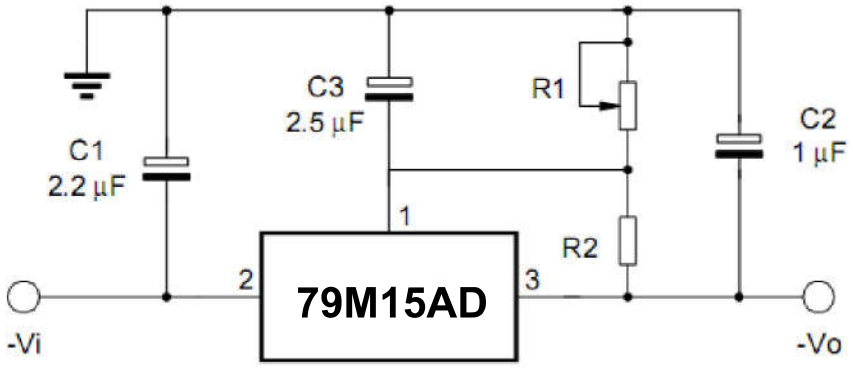


Figure.3 Circuit for increasing output voltage

Typical Characteristics

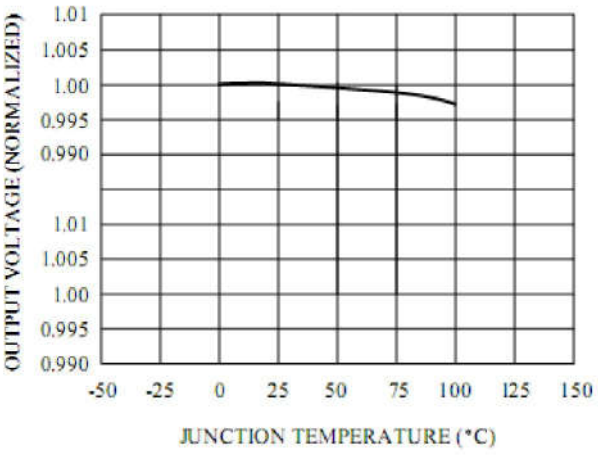


Figure 1. Output voltage vs temperature

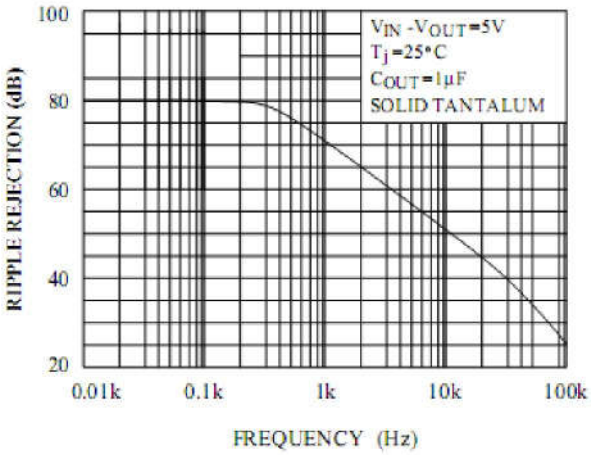


Figure 2. Ripple Rejection

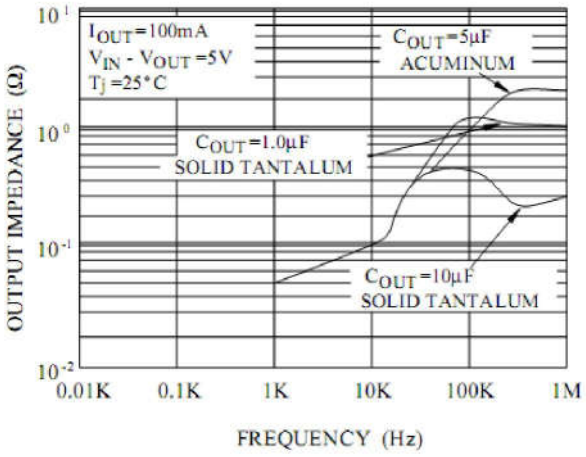


Figure 3. Output impedance

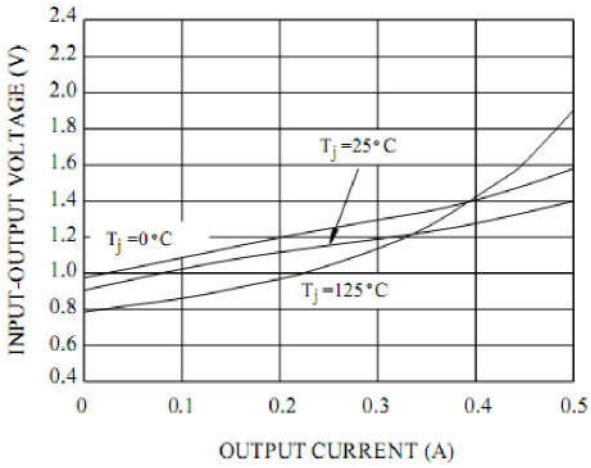


Figure 4. Minimum input-output differential

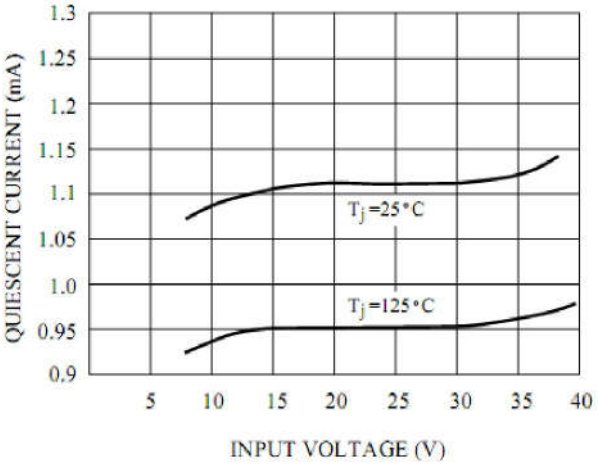


Figure 5. Input Voltage

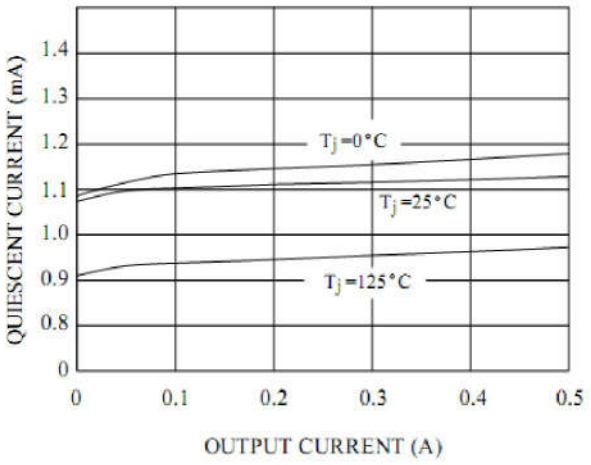


Figure 6. Quiescent current vs load current

Typical Characteristics

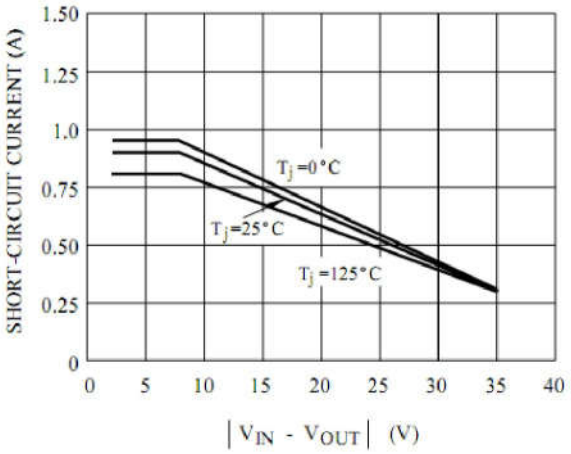


Figure 1. Short-circuit current

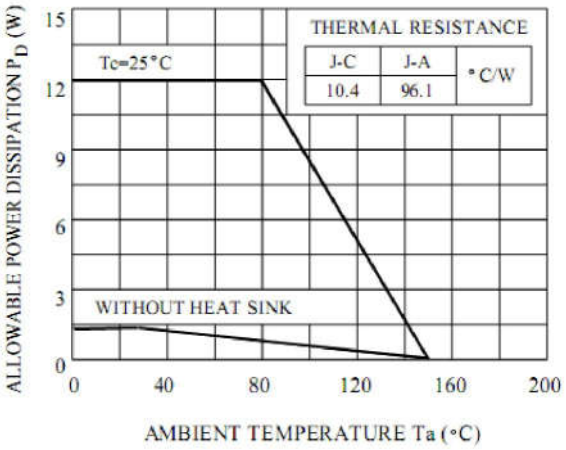
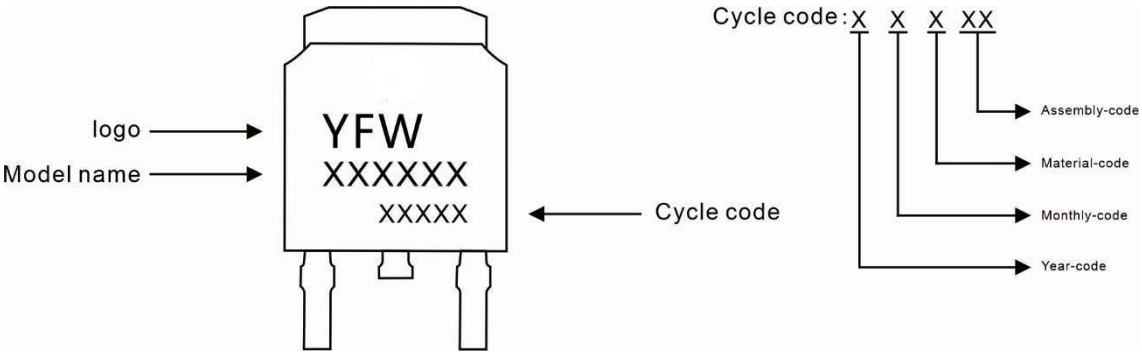


Figure 2. Power Derating Curve

Marking Diagram

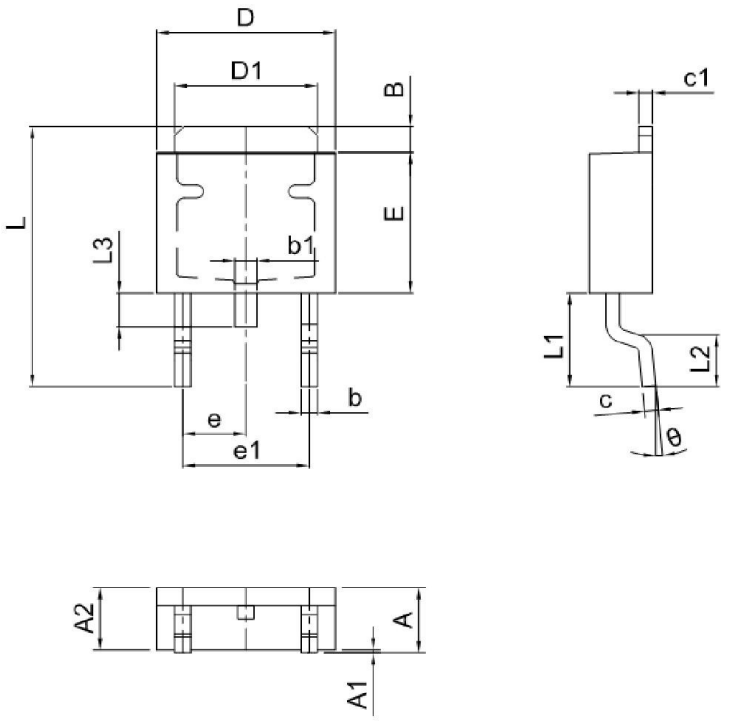


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
79M15AD	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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