

42051

NEGATIVE VOLTAGE REGULATORS
Commercial or Military



Features:

- Output current to 5 Amps
- Output voltage To -34 V
- Internal short circuit protection

Applications:

- Military and Hi Rel industrial applications where hermetically sealed product is required.

DESCRIPTION

The 42051 series of regulators covers the voltage range from -5 V through -34 V. These regulators are fabricated using hybrid techniques. The devices are complete with internal short circuit protection, which includes voltage shutdown and current fold-back. To insure circuit stability under all load combinations it is recommended that a minimum of 2.0 μ F capacitance (solid tantalum) be connected between power ground and the input to the regulator.

ABSOLUTE MAXIMUM RATINGS

Output Current - I_{OUT}	5 A
Power Dissipation @ 25°C Case Temperature	120W
Operating Temperature	-55°C to +125°C
Storage Temperature	-65°C to +150°C
Input Voltage - V_{IN}	-40 V

NOTE: Lead Temperature (Soldering, 10 sec.) 300°C

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Micropac reserves the right to make changes at any time in order to improve design and to supply the best product possible.

ELECTRICAL CHARACTERISTICS (Note 1)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Output Voltage	V_{OUT}	$I_{OUT} = 1A, V_{IN} = V_O - 5V$	$V_{OUT} + .1V$	V_{OUT}	$V_{OUT} - .1V$	VDC
Differential Voltage $V_{IN} - V_{OUT}$	ΔV	$I_{OUT} = I_{MAX}$	5			VDC
Line Regulation (Note 3)		$-V_{IN} = V_{OUT} - 5V$ to $-V_{IN} = -40V$.1	% V_{OUT}
Load Regulation (Note 2)		$I_{OUT} = .25A$ to $-I_{OUT} = -I_{MAX}$ $V_{IN} = V_O - 5V$			40	mV
Ripple Rejection		$f = 50$ to 500 Hz 1.0V (P-P) $V_{IN} - V_{OUT} = 5V$	50			dB
Temperature Coefficient	T_C	$0^\circ C \leq T_C \leq 100^\circ C$.05		%/ $^\circ C$
Standby Current	I_S				25	mA
Thermal Resistance	θ_{JC}			1		$^\circ C/W$
Long Term Stability				0.1		%/1000 hrs

Note 1: Case temperature 25°C unless otherwise specified.

Note 2: Voltage measured at Pin 2 within .05 inches from case.

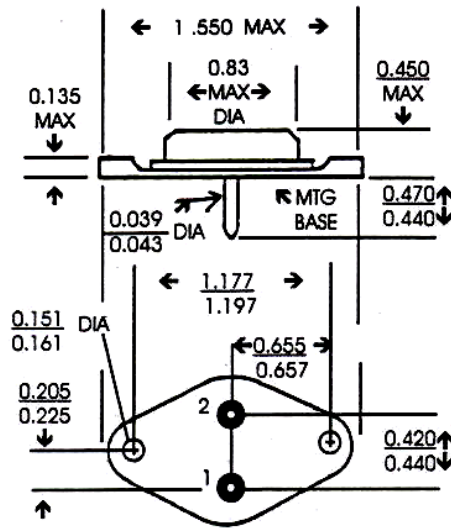
Note 3: Instantaneous regulation, average chip temperature changes must be accounted for separately.

Standard Outputs

TYPE	V_{OUT} (VDC)	MAX I_{OUT} (A)	TYP I_{KNEE} (A)	TYP I_{SC} (A)
42051 - 055	-5	5	6.5	2.5
065	-6	5	6.5	2.5
075	-7	5	6.5	2.5
085	-8	5	6.5	2.5
095	-9	5	6.5	2.5
105	-10	5	6.5	2.5
124	-12	4	5	2.5
144	-14	4	5	2
154	-15	4	5	2
164	-16	4	5	2
184	-18	4	5	2
204	-20	4	5	2
223	-22	3	4	2
243	-24	3	4	1.5
263	-26	3	4	1.5
283	-28	3	4	1.5
303	-30	3	4	1.5
323	-32	3	4	1.5
343	-34	3	4	1.5

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Mechanical Configuration



ELECTRICAL CONNECTIONS	
Case	V_{IN}
Pin 1	Ground
Pin 2	V_{OUT}

Figure 1, Power Derating

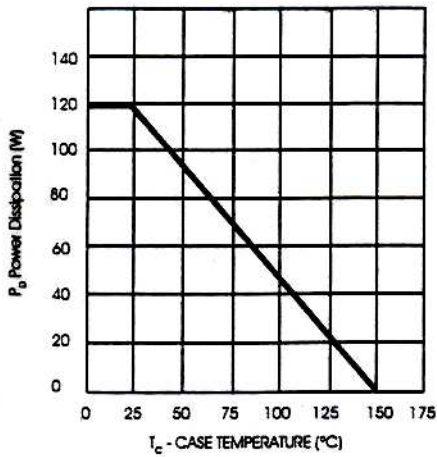
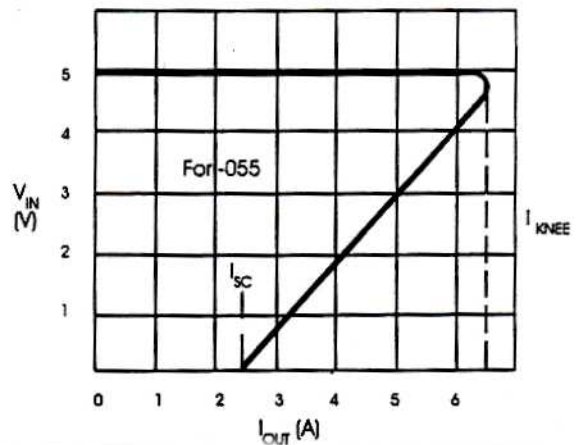


Figure 2, Typical Output Characteristics



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