

<p>42095</p> <p style="text-align: center;">NEGATIVE HIGH TEMPERATURE REGULATOR</p>	<p>Mii</p> <p>HYBRID MICROELECTRONICS PRODUCTS DIVISION</p>
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<p>Features:</p> <ul style="list-style-type: none"> Output current to 1.5 amps Input voltage to -30V Internal short circuit protection, foldback and current limiting Storage Temperature +250°C 200°C Operating temperature 	<p>Applications:</p> <ul style="list-style-type: none"> Logging while drilling Measuring while drilling (down-hole applications) Other harsh environments Used as military and industrial devices Designed for use in high temperature environments
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DESCRIPTION

The 42095 series of regulators covers the voltage range from -5 VDC through -30 VDC. These regulators are fabricated using hybrid techniques and will operate at temperatures up to +200°C case. These devices are complete with internal short circuit protection which includes voltage shutdown and current foldback. The 42095 series regulators normally do not require any additional components. However, for good design practice, an external filter cap should be installed at the input, as close to the case as possible.

ABSOLUTE MAXIMUM RATINGS AT 200°C Case temperature

Output Current (I _{OUT})	1.5A
Input Voltage (V _{IN})	-38VDC
Operating Temperature (T _C).....	200°C
Storage Temperature	-65°C to 200°C
Power Dissipation (P _d).....	25W

TABLE 1 (see note)

TYPE	V _{OUT} VDC	MAX I _{OUT} A	I _{KNEE} TYP A
42095-005	-5	1.5	2.0
42095-012	-12	1.5	2.0
42095-015	-15	1.5	2.0
42095-018	-18	1.5	2.0
42095-024	-24	1.5	2.0
42095-030	-30	1.5	2.0

NOTE: Under condition (V_{IN} - V_{OUT} × I_{OUT}) ≤ 25 watts at 200°C. Micropac can provide custom output voltages between -5VDC and -30VDC.

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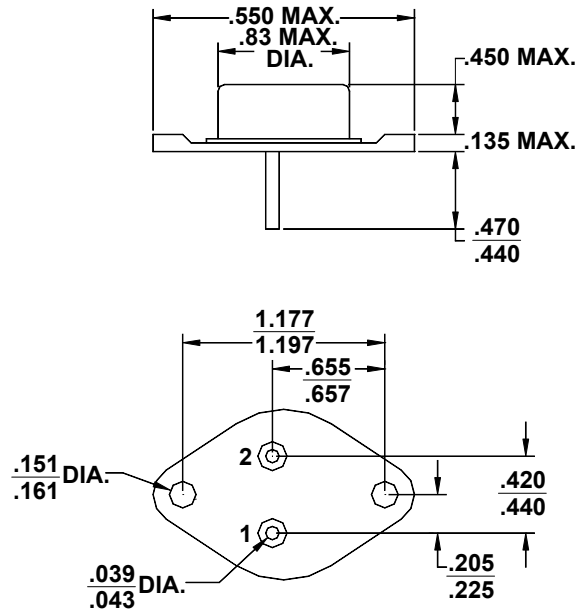
ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	TEMPERATURE CASE TEMP	TYPICAL
*Output Voltage	$I_{OUT} = 300 \text{ mA}$ $V_{IN} = V_{OUT} + 3\text{VDC}$	+25°C to +200°C	$V_{OUT} \pm 1.0\%$
*Line Regulation	$V_{IN} = V_{OUT} + 3\text{VDC}$ to $V_{IN} = 38 \text{ V}$ $I_{OUT} = 50 \text{ mA}$	+25°C to +200°C	$V_{OUT} \pm 0.3\%$
Load Regulation	$V_{IN} = V_{OUT} + 5\text{VDC}$ $I_{OUT} = 50 \text{ to } 300\text{mA}$	+25°C to +200°C	$V_{OUT} \pm 0.5\%$
Ripple Rejection at 120 Hz	$V_{IN} = V_{OUT} + 5\text{VDC}$	+25°C	-60dB
Standby Current	$V_{IN} = V_{OUT} + 5\text{VDC}$ $I_{OUT} = 0$	+25°C	30mA
Short Circuit Current	$V_{IN} = V_{OUT} + 5\text{VDC}$	+25°C	400mA
Short Circuit Current	$V_{IN} = V_{OUT} + 5\text{VDC}$	+200°C	200mA
Foldback Current (knee)	$V_{IN} = V_{OUT} + 5\text{VDC}$	+25°C	2A
Foldback Current (knee)	$V_{IN} = V_{OUT} + 5\text{VDC}$	+200°C	1.5A
Noise Output	$V_{IN} = V_{OUT} + 5\text{VDC}$ $I_{OUT} = 300 \text{ mA}$	+25°C	2mVRMS
Differential Voltage * ($\Delta V = V_{IN} - V_{OUT}$)	$I_{OUT} = 300 \text{ mA}$	+25°C to +200°C	3 VDC MIN

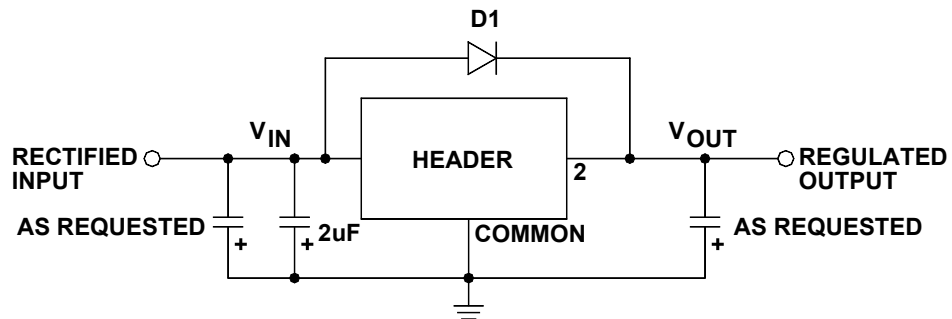
* $V_{IN} = 10\text{V Min}$

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Mechanical Configuration



Typical Connection Diagram



Electrical Connection	
Case	V_{IN}
Pin 1	Ground
Pin 2	V_{OUT}

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