

42141

POSITIVE HIGH TEMPERATURE REGULATOR + 5 VOLTS

Mii

MICRO CIRCUITS DIVISION

Features:

- 200°C Operation
- Output noise typically less than 3µV
- Output current up to 150 mA
- Input voltage up to 30V
- Internal short circuit protection, foldback and current limiting

Applications:

- Down hole oil exploration
- Military & high reliability applications where a hermetically sealed product for harsh environments is required

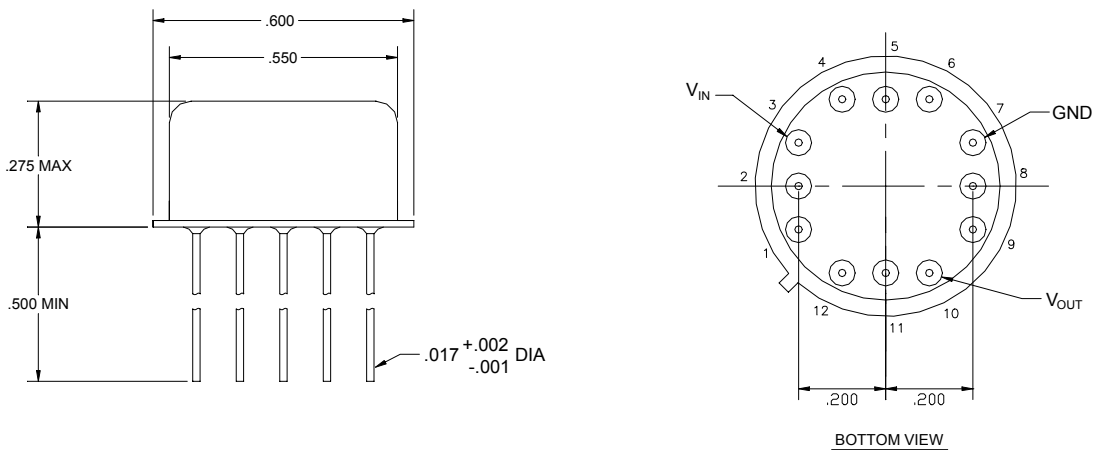
DESCRIPTION

This regulator is fabricated using hybrid techniques and will operate at temperatures up to 200°C. This device is complete with internal short circuit protection, which includes voltage shutdown and current foldback. It is strongly recommended that input and output capacitors be added as close to the case as possible. A 2µf capacitor should be added to the input and a minimum of 1.5µf should be added to the output. See typical connection diagram.

ABSOLUTE MAXIMUM RATINGS AT 200°C

Output Current (I _{OUT})	150mA
Input Voltage (V _{IN})	+30V _{DC}
Operating Temperature (T _C).....	200°C
Power Dissipation @ t _A = 25°C (Pd).....	1.0W

MECHANICAL CONFIGURATION



PIN	FUNCTION
3	V _{IN}
7	GROUND (COMMON)
10	V _{OUT}

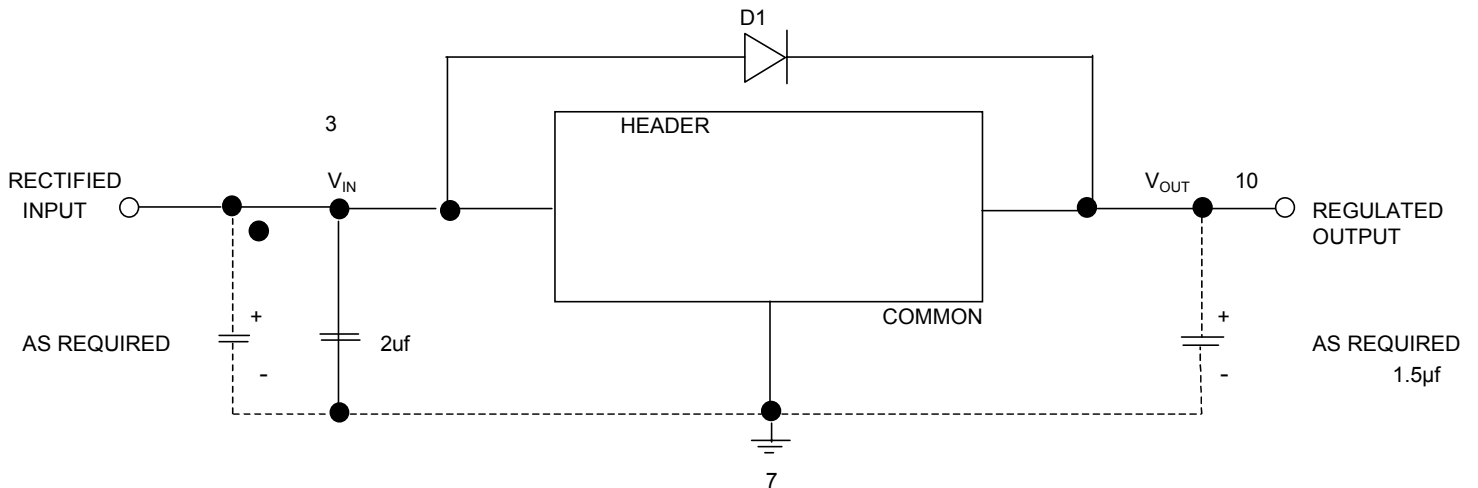
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ELECTRICAL CHARACTERISTICS

PARAMETER	TEST CONDITIONS	CASE TEMPERATURE	TYPICAL
Output Voltage	$I_{OUT} = 150 \text{ mA}$ $V_{IN} = V_{OUT} + 3V_{DC}$	0°C to +200°C	$V_{OUT} \pm 1.0\%$
Line Regulation	$V_{IN} = V_{OUT} + 3V_{DC}$ $I_{OUT} = 50 \text{ mA}$	0°C to +200°C	$V_{OUT} \pm 0.3\%$
Load Regulation	$V_{IN} = V_{OUT} + 5V_{DC}$ $I_{OUT} = 50 \text{ to } 150 \text{ mA}$	0°C to +200°C	$V_{OUT} \pm 0.5\%$
Ripple Rejection at 120 Hz	$V_{IN} = V_{OUT} + 5V_{DC}$	+25°C	-55 db
Standby Current	$V_{IN} = V_{OUT} + 5V_{DC}$ $I_{OUT} = 0$	+25°C	20 mA
Short Circuit Current	$V_{IN} = V_{OUT} + 5V_{DC}$	+25°C	150 mA
Foldback Current	$V_{IN} = V_{OUT} + 5V_{DC}$	+25°C	450 mA
Differential Voltage ($\Delta V = V_{IN} - V_{OUT}$)	$I_{OUT} = 150 \text{ mA}$	+25°C to +200°C	3V Min.

NOTE: Under condition $V_{IN} - V_{OUT} \times I_{OUT} \leq 2.0$ watts using EG&G Wakefield Engineering Model 215 Heatsink or 1.5 watts without Heatsink.

TYPICAL CONNECTION DIAGRAM



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