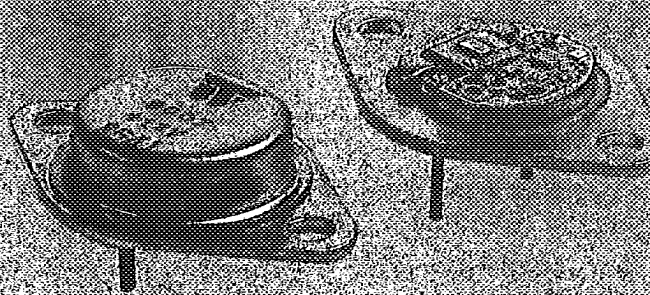


# Bowmar/White Technology

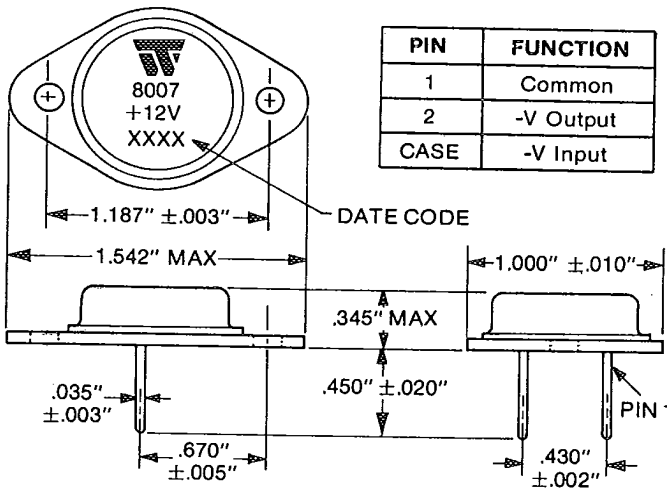
## HYBRID THREE TERMINAL VOLTAGE REGULATORS 8007, 8008, 8009



### FEATURES

- Provides  $\pm 1\%$  Temperature Stability from  $-55^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$
- Internal Current Foldback Protects Sensitive Loads at any Temperature
- Rugged Hermetically Sealed Package for Effective Heat Transfer
- Active Laser Trimming Assures Initial Accuracy

### CASE OUTLINE



PIN	FUNCTION
1	Common
2	-V Output
CASE	-V Input

### DESCRIPTION

The 8007, 8, 9 is a three-terminal series pass voltage regulator intended for severe environments to  $200^{\circ}\text{C}$ .

These regulators are self contained in a rugged hermetically sealed TO-3 header. The copper package is nickel plated and its feedthru pins are copper cored.

A single  $10\mu\text{fd}$  capacitor is all that is required to provide a high quality, tightly regulated power supply.

Foldback current limiting is a standard feature.

Output voltage, line and load regulation fully specified at  $200^{\circ}\text{C}$ .

Initial voltage is active laser trimmed to 1%. See the tables on the following page for individual specifications.

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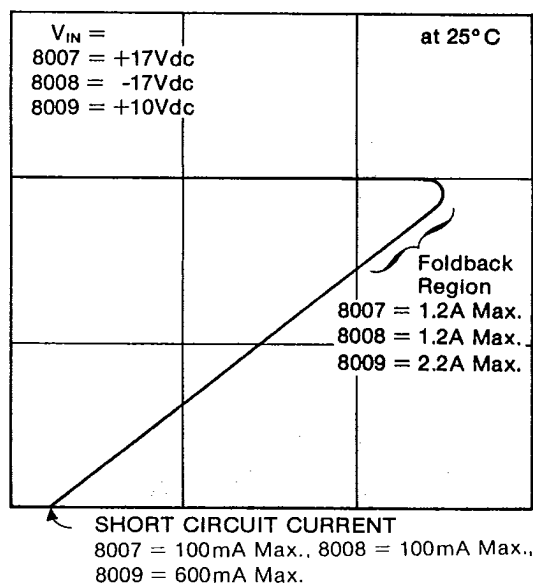
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# HYBRID THREE TERMINAL VOLTAGE REGULATORS—8007, 8008, 8009

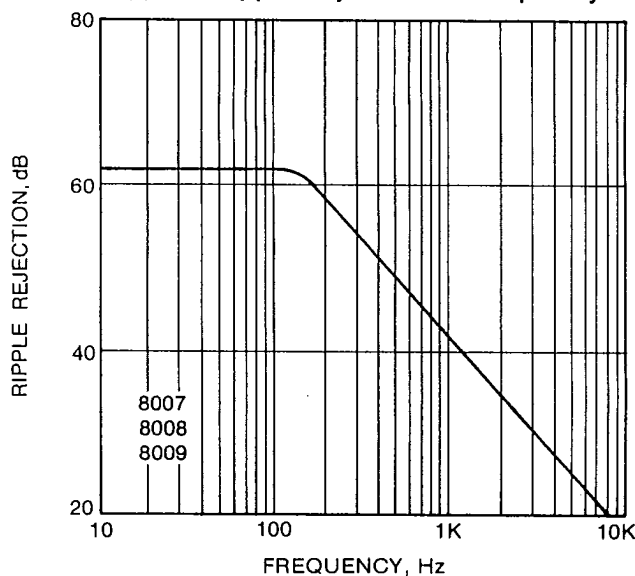
## ELECTRICAL CHARACTERISTICS

SPECIFICATION	8007			8008		8009	
	CONDITION	OUTPUT LIMITS	CONDITION	OUTPUT LIMITS	CONDITION	OUTPUT LIMITS	
Output Voltage at +25°C	$V_{IN}$ $I_L$	+17Vdc 300mA +12.0Vdc ±.06Vdc	-17Vdc 300mA -12.0Vdc ±.06Vdc	+10Vdc 300mA +5.0Vdc ±.05Vdc			
Output Voltage at +200°C	$V_{IN}$ $I_L$	+17Vdc 300mA +12.0Vdc ±.12Vdc	-17Vdc 300mA -12.0Vdc ±.12Vdc	+10Vdc 300mA +5.0Vdc ±.075Vdc			
Line Regulation at +25°C to +200°C	$V_{IN}$ $I_L$	+15 to +36Vdc 50mA $V_o$ at Temp. ±.012Vdc	-15 to -36Vdc 50mA $V_o$ at Temp. ±.012Vdc	+8 to +26Vdc 50mA $V_o$ at Temp. ±.050Vdc			
Load Regulation at +25°C to +200°C	$V_{IN}$ $I_L$	+17Vdc 50 to 300mA $V_o$ at Temp. ±.12Vdc	-17Vdc 50 to 300mA $V_o$ at Temp. ±.12Vdc	+10Vdc 50 to 300mA $V_o$ at Temp. ±.050Vdc			
Ripple Rejection at +25°C	$V_{IN}$ $I_L$	+17Vdc 300mA 60dB Min. at 120Hz	-17Vdc 300mA 60dB Min. at 120Hz	+10Vdc 300mA 60dB Min. at 120Hz			
Noise Output at +25°C	$V_{IN}$ $I_L$	+17Vdc 300mA 50mVRMS Max.	-17Vdc 300mA 50mVRMS Max.	+10Vdc 300mA 50mVRMS Max.			
Current Foldback at +25°C	$V_{IN}$	+17Vdc 1.2A Max.	-17Vdc 1.2A Max.	+10Vdc 2.2A Max.			
Current at Short Circuit at +25°C	$V_{IN}$	+17Vdc 100mA Max.	-17Vdc 100mA Max.	+10Vdc 600mA Max.			

Output Current Characteristic



Typical Ripple Rejection vs Frequency

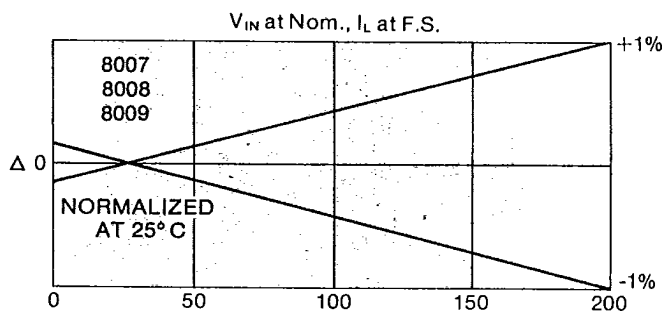


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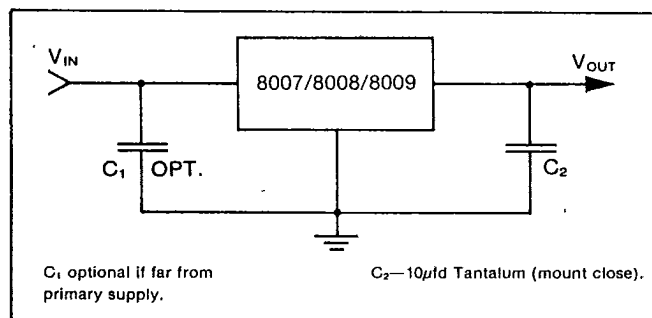
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# HYBRID THREE TERMINAL VOLTAGE REGULATORS—8007, 8008, 8009

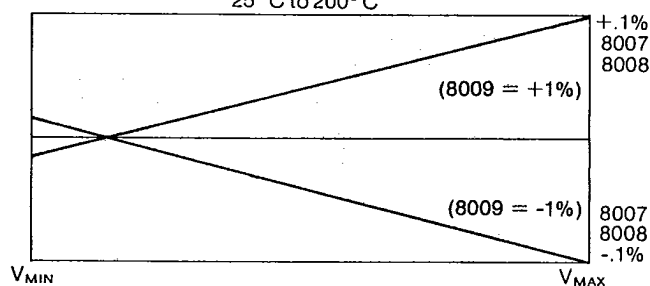
Voltage Stability vs Temperature



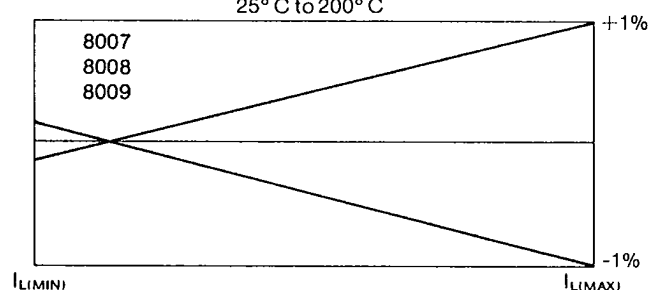
Connection Diagram



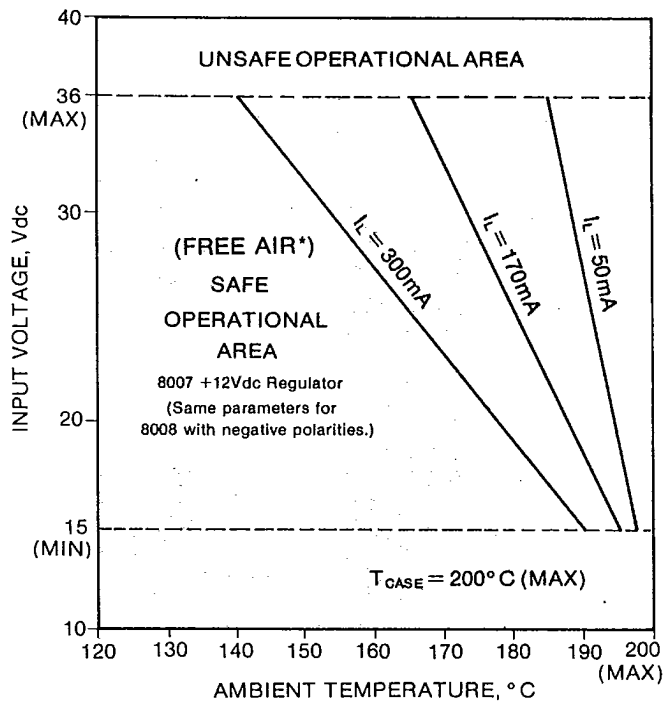
Line Regulation  
25°C to 200°C



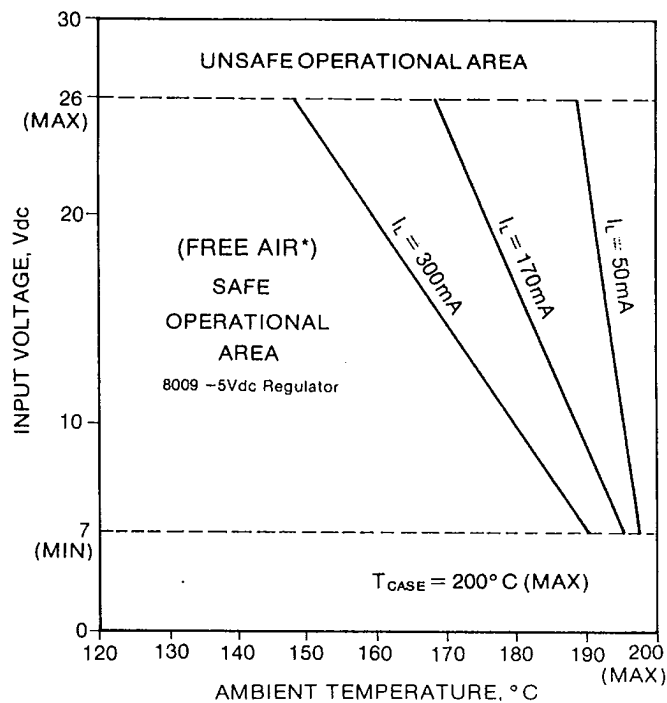
Load Regulation  
25°C to 200°C



Safe Operating Area



Safe Operating Area



\*Heat sink will increase SOA.

3

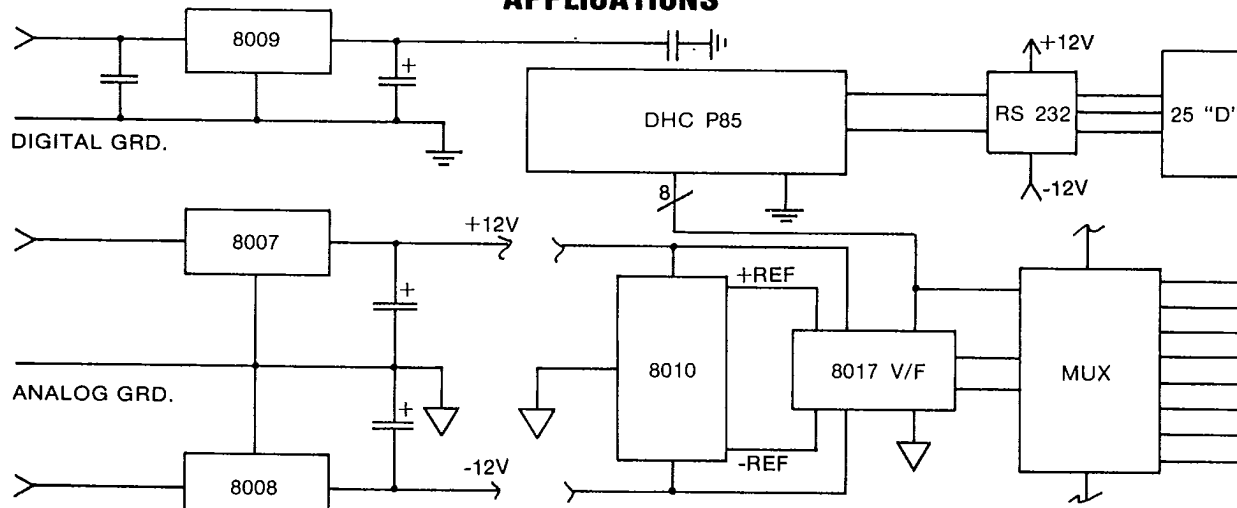
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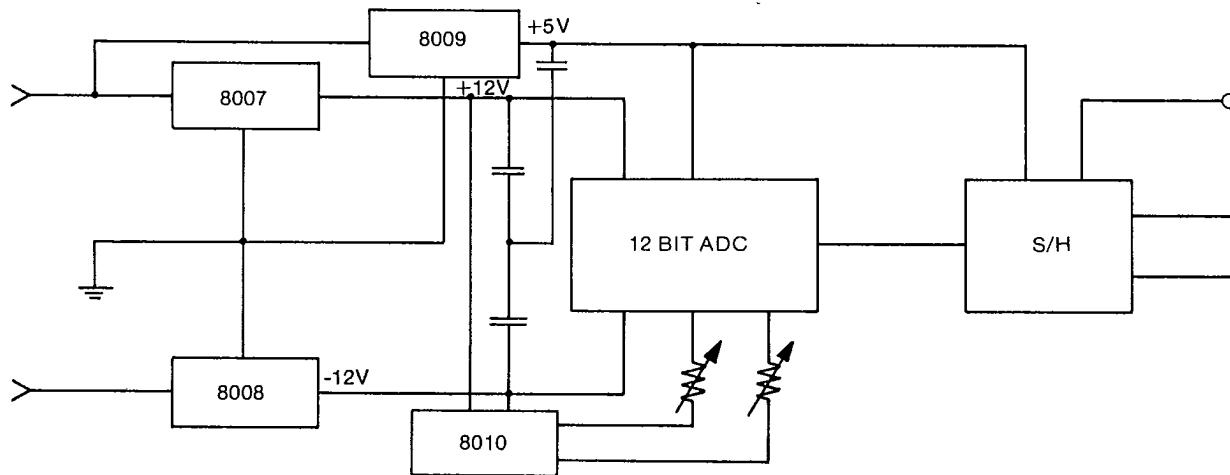
Product Warranty: complete warranty statement available upon request.

# HYBRID THREE TERMINAL VOLTAGE REGULATORS—8007, 8008, 8009

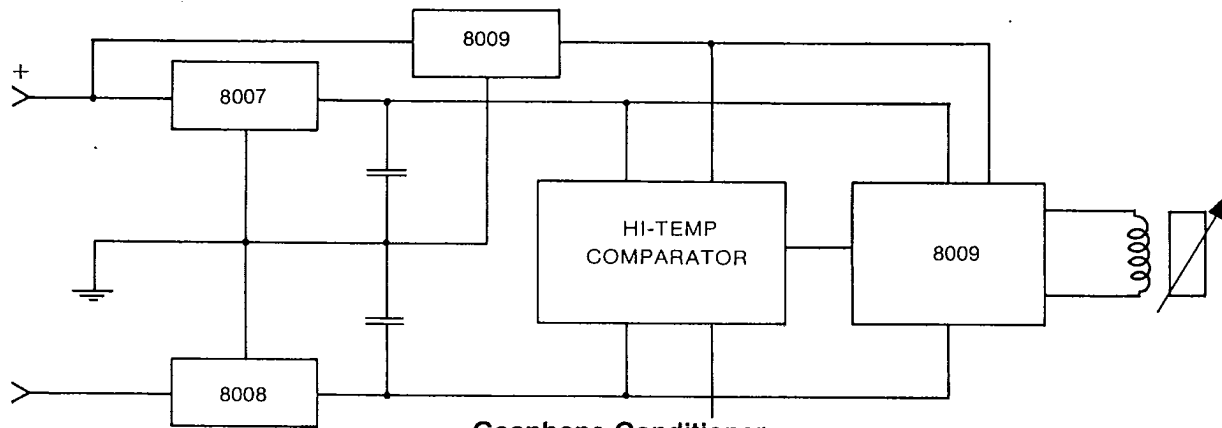
## APPLICATIONS



Hi-Temp Data Acquisition System



Hi-Speed Data Acquisition



Geophone Conditioner

**Bowmar/White Technology**

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