

HIGH TEMPERATURE 5.0V VOLTAGE REFERENCE

HTVREF05

FEATURES

- Specified Over -55 to +225°C
- Optional External Trim
- 8mA Output Current
- 1.5mA Quiescent Current
- Short Circuit Protected
- Hermetic 8-Pin Ceramic DIP

APPLICATIONS

- Down-Hole Oil Well
- Avionics
- Turbine Engine Control
- Industrial Process Control
- Nuclear Reactor
- Electric Power Conversion
- Heavy Duty Internal Combustion Engines

GENERAL DESCRIPTION

The HTVREF05 is a precision high-reliability monolithic voltage reference fabricated with Honeywell's dielectrically isolated high-temperature (HTMOS®) process. It is designed specifically for applications with extremely wide temperature ranges of -55 to +225°C, such as down-hole oil well, aerospace, turbine engine and industrial control. Typically, parts will operate up to +250°C, with derated performance. All parts are burned in to eliminate infant mortality.

The HTVREF05 provides a high temperature stable 5.0V output, or bandgap reference for external biasing schemes. Output current is 8mA; power supply current is only 1.5mA.



Not Actual size

ELECTRICAL CHARACTERISTICS

$V_{IN} = 10.0V \pm 10\%$, $T = -55$ to $+225^{\circ}C$, $C_L = 100$ pF to Gnd
(unless otherwise specified)

Parameter	Test Conditions (1)	Typ	Worst Case		Units
			Min	Max	
Input Voltage (V_{IN})		10	9	11	V
V Reference		5.0			V
Initial Error	25° C		-75	+25	mV
Drift With Temperature	From -55 to +225° C		-30	+30	mV
Drift With Time (3)	225° C	3		10	mV/1000hr
Noise (0.1 to 10 Hz)		300			μV (pk-pk)
Output Current Range (2)	(See Figure 5)		-8	+8	mA
Line Regulation (4)	$V_{in} = 10V \pm 1$ VDC			5	mV/V
Load Regulation (2)				1.5	mV/mA
Supply Current	I Load = 0mA			1.5	mA
Output Short Circuit Current	Sink/Source	15			mA

(1) Pins 6 and 7 shorted and pins 3 and 4 shorted.

(2) See Figure 1.

(3) This specification is noncumulative. Subsequent 1000 hr. periods will exhibit significantly lower drift than the first 1000 hr. period.

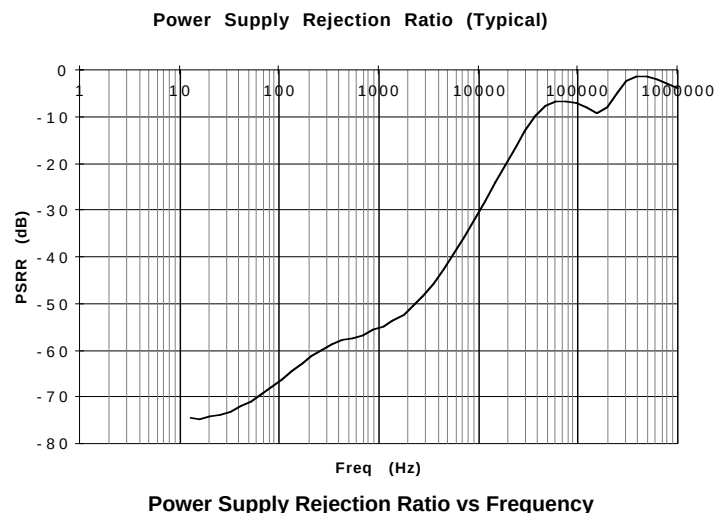
(4) See chart below.

ABSOLUTE MAXIMUM RATINGS (1)

Storage Temperature -55 to +225°C
 Total Input Voltage 12V
 Output Short Circuit Duration Continuous
 Output Current ± 50 mA
 Thermal Resistance (Junction-to-Case) 17°C/W
 Lead Temperature (Attachment, 10 sec) +355°C
 ESD Protection 2000V

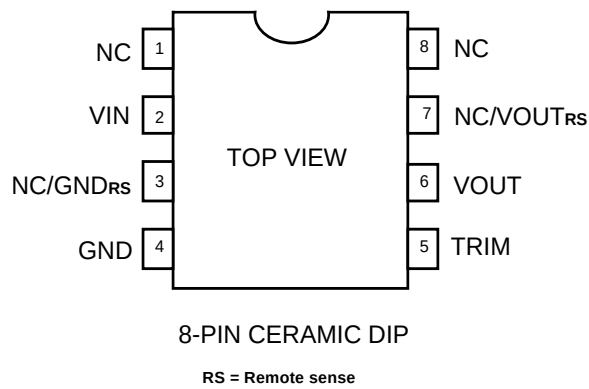
(1) Stresses in excess of those listed above may result in permanent damage. These are stress ratings only, and operation at these levels is not implied. Frequent or extended exposure to absolute maximum conditions may effect device reliability.

AC ELECTRICAL CHARACTERISTICS



HTVREF05

PACKAGE PINOUT



PACKAGE DRAWING

