



1.1 Scope.

This specification covers the detail requirements for a voltage-to-frequency converter with a full scale range of 500kHz.

1.2 Part Number.

The complete part number per Table 1 of this specification is as follows:

Device	Part Number
- 1	ADVFC32SH/883B

1.2.3 Case Outline.

See Appendix 1 of General Specification ADI-M-1000: package outline: H-10A

1.3 Absolute Maximum Ratings. ($T_A = +25^{\circ}\text{C}$ unless otherwise noted)

V_{CC} to GND	+ 18V
V_{EE} to GND	- 18V
Input Voltage Range Pin 1 & 2	+ V_{CC}
Diff. Input Voltage Range Pin 1 & 2	- V_{EE}
Output Pullup Supply	+ 30V
Comparator Input Voltage	- V_{EE} to + V_{CC}
Storage Temperature Range	- 65°C to + 150°C
Lead Temperature (Soldering 10sec)	+ 300°C

1.5 Thermal Characteristics.

Thermal Resistance θ_{JC}	= 70°C/W
θ_{JA}	= 150°C/W

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Table 1.

Test	Symbol	Device	Design Limit @ +25°C	Sub Group 1	Sub Group 2, 3	Sub Group 4	Test Condition ¹	Units
Linearity	L _E	– 1	0.01				f _{FS} = 10kHz	± % of FSR max
			0.1	0.1			f _{FS} = 100kHz 10mV < V _{IN} < 10V	± % of FSR max
			0.2				f _{FS} = 500kHz 10mV < V _{IN} < 10V	± % of FSR max
Input Offset Voltage ²	V _{OS}	– 1	4	4			V _{IN} = 20mV f _{FS} = 100kHz	± mV max
Input Offset Drift	TC _{VOS}	– 1	30		30		f _{FS} = 10kHz 25°C to 125°C	± μV/°C max
					30		– 55°C to 25°C	
			30		30		f _{FS} = 200kHz 25°C to 125°C	± μV/°C max
					30		– 55°C to 25°C	
Gain Error ²	A _E	– 1	10	10			f _{FS} = 100kHz V _{IN} = 10V	± % max
Gain Drift	TC _{AE}	– 1			+ 150 – 150 + 150 – 150 + 150 – 150 + 0 – 400		V _{IN} = 10V f _{FS} = 10kHz	ppm/°C max
							25°C to 125°C	
							f _{FS} = 10kHz	
							– 55°C to 25°C	
							f _{FS} = 200kHz	
							25°C to + 125°C	
							f _{FS} = 200kHz	
							– 55°C to 25°C	
Power Supply Rejection	PSRR	– 1	0.015	0.015			f _{FS} = 100kHz	% of FS/% max
Input Bias Current	I _{BS}	– 1	250	250			V _{IN} = 200mV Noninverting Input	± nA max
			100	100			V _{IN} = 50mV Inverting input	
Low Level Output Voltage	V _{OL}	– 1	0.4	0.4			V _{IN} = – 0.1V I _{SINK} = 8mA	V max
Leakage Current	I _{OH}	– 1	1	1			V _{OUT} = 15V Logic 1	μA max
Quiescent Current	I _S	– 1	8	8				mA max
Settling Time	t _{SL}	– 1	See Note 3				Full Scale Step Input	max

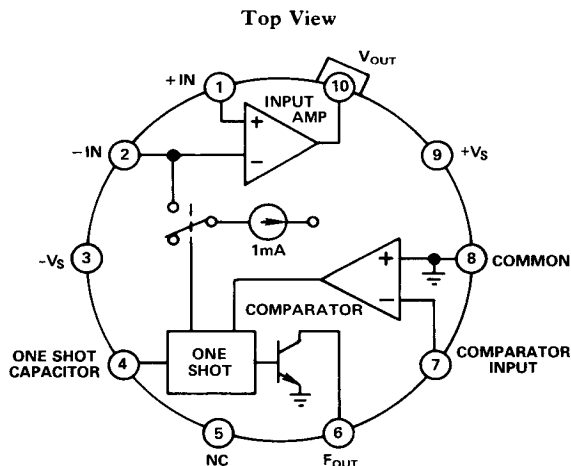
NOTES

¹V_S = ± 15V, T_A = + 25°C, unless otherwise specified.

²Adjustable to zero.

³1 pulse of new frequency plus 1μs.

3.2.1 Functional Block Diagram and Pin Assignments.



3.2.4 Microcircuit Technology Group.

This microcircuit is covered by technology group (57).

4.2.1 Life Test/Burn-In Circuit.

Steady state life test is per MIL-STD-883 Method 1005. Burn-in is per MIL-STD-883 Method 1015 test condition (B).

