



Descriptions

The CA3140AMZ96 is integrated circuit operational amplifiers that combine the advantages of high voltage PMOS transistors with high voltage bipolar transistors on a single monolithic chip. The CA3140AMZ96 features gate protected MOSFET (PMOS) transistors in the input circuit to provide very high input impedance, very low input current, and high speed performance.

The use of PMOS field effect transistors in the input stage results in a wide common mode input voltage capability and an important attribute for single supply applications. These products are widely used in civil, commercial and industrial applications. Such as accelerometers signal processing, integrators, medical monitors, visible light photometers, single power amplifiers, sampling and holding amplifiers, photocurrent meters, active filters, interface circuits, handheld instruments, alarms, peak detectors, comparators, integrators, multi-frequency oscillators, function generators and all other standard amplifier applications.

Feature

- Applied Advanced BiMOS Technology
- MOSFET Input Stage
 - Very High Input Impedance (ZIN) 1.5TΩ (Typ)
 - Very Low Input Current (IIO) -10pA (Typ) at $\pm 15V$
 - Wide Common Mode Input Voltage Range (VICR) : - 15V~12V
- Large Swing of Output Voltage (VOPP) : - 14V~12V
- SOP-8(SOIC-8) Package
- Operating Temperature Range:-40°C~85°C

Applications

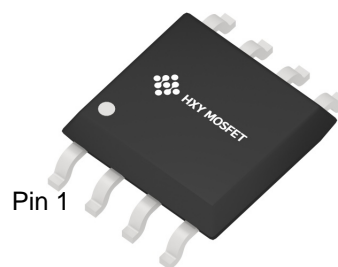
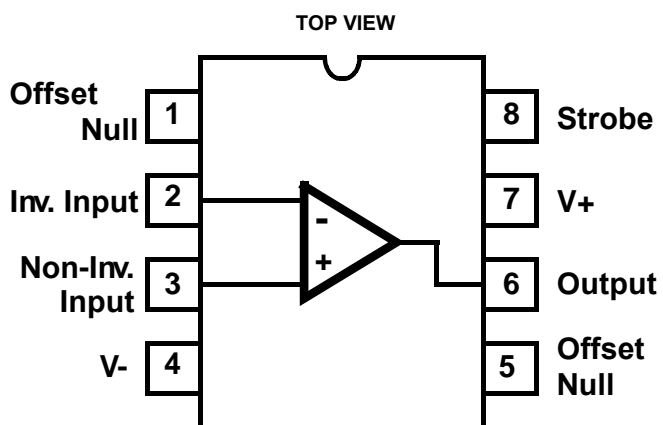
- Active Filter
- Compensation Amplifier
- Audio Preamplifier
- Electronic Instruments

Ordering Information

Product Model	Package Type	Packing	Packing Qty
CA3140AMZ96	SOP-8(SOIC-8)	Tape	2500Pcs/Reel



Pins Configuration

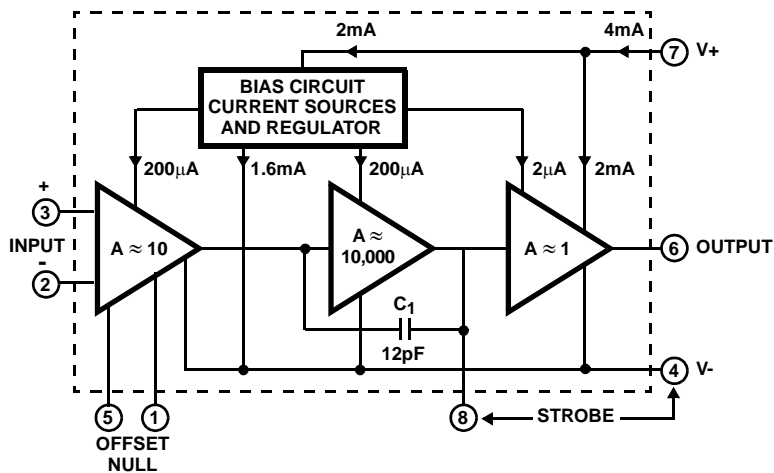


SOP-8(SOIC-8)

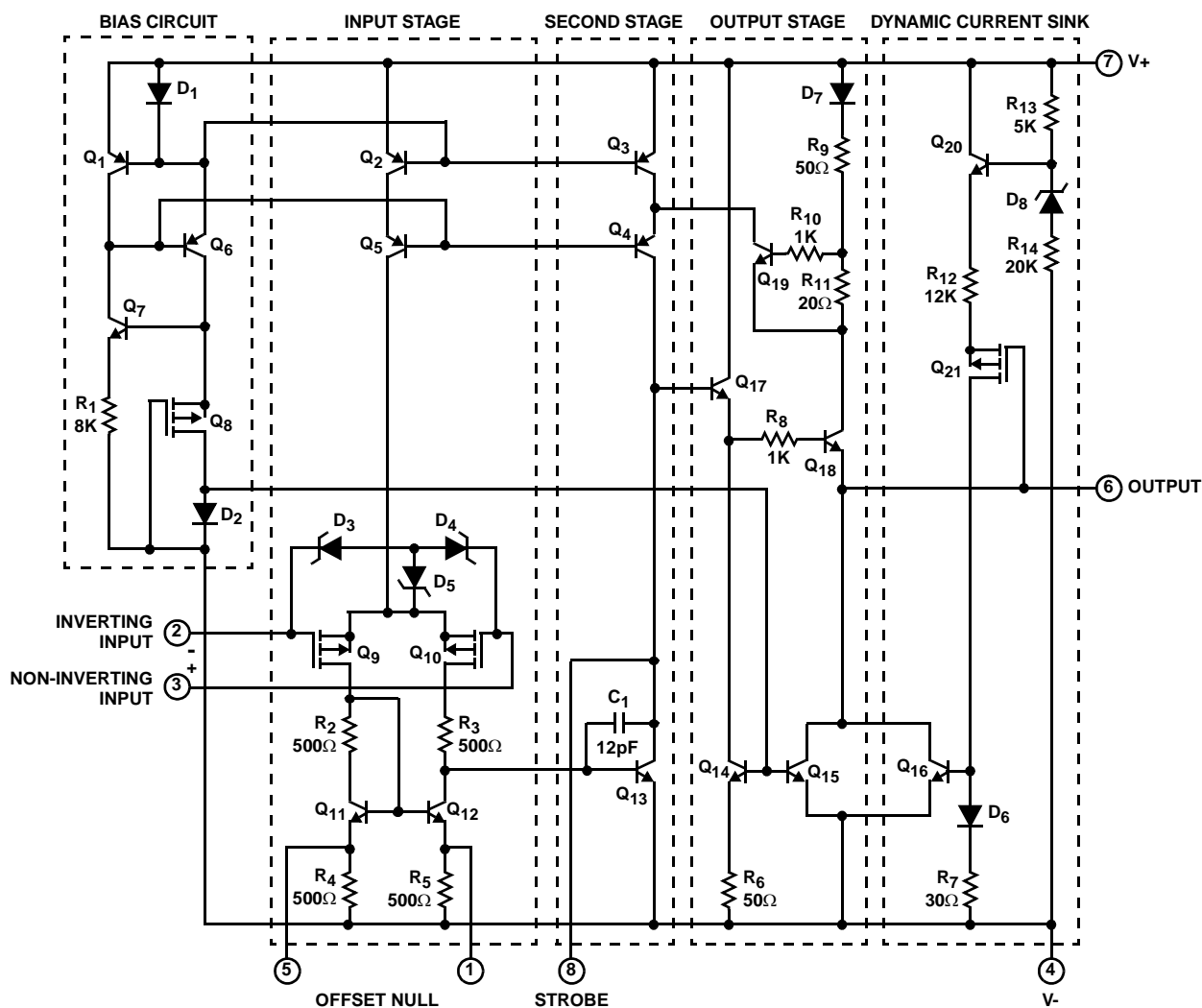
No.	Symbol	Function
1	OA1	Offset Null
2	IN-	Inverting Input
3	IN+	Noninverting Input
4	V-	Negative Power Supply
5	OA2	Offset Null
6	OUT	Output
7	V+	Positive Power Supply
8	ST	Strobe



Schematic Diagram



CA3140AMZ96 Block Diagram



CA3140AMZ96 Schematic Diagram



Electrical Characteristics

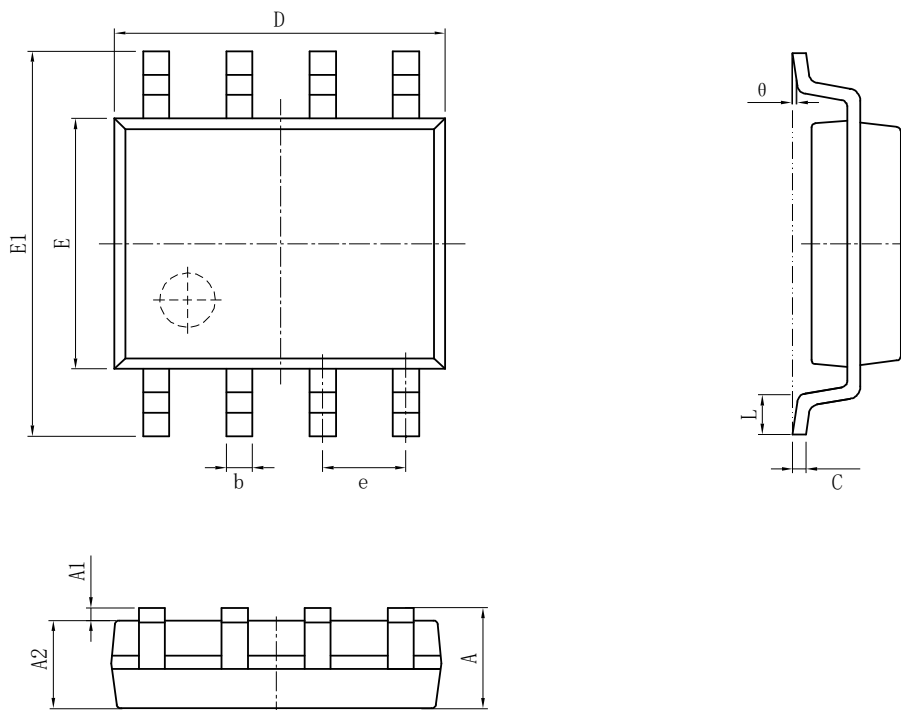
V_{cc}=6V , T_{amb}=25°C, unless otherwise specified.

Parameter	Symbol	Test Conditions (Unless otherwise specified, VS = ±15V, -40°C≤TA ≤85°C)	Value			Unit
			TA	CA3140AMZ96		
				Min.	Max.	
Input Offset Voltage	V _{IO}		25°C		5	mV
				-	6.5	
Input Offset Voltage Temperature Drift	αV _{IO}			-	24	μV/°C
Input Offset Current	I _{IO}		25°C		20	pA
					1000	
Input Bias Current	I _B		25°C		40	pA
				-	1500	
Open Loop Voltage Gain	A _{VO}	V _O = - 14V~12V, R _L =2k Ω	25°C	86	-	dB
				80		dB
Common Mode Rejection Ratio	K _{CMR}	V _{CM} =- 14V~11V	25°C	70		dB
				64		
Power Supply Rejection Ratio	K _{SVR}	V _S =±5V ~±15V	25°C	76	-	dB
				70		
Output Voltage Peak	V _{OPP} ⁺	R _L =2k Ω	25°C	+12		V
				+11.5		
	V _{OPP} ⁻	R _L =2k Ω	25°C	- 14	-	V
				- 13.5		
Gain-Bandwidth Product	G • BW	R _L = 2kΩ	25°C	3.5		MHz
Slew Rate	SR	R _L = 2kΩ	25°C	6.0		V/μs
Sink Current (Terminal 8)	I _{SINK8}	Terminal 8 to V-	25°C	160	-	μA
Supply Current	I _S	V _S =±15V, R _L = ∞			6	mA



Package Information

SOP-8(SOIC-8)



Size Symbol	Dimensions In Millimeters		Size Symbol	Dimensions In Inches	
	Min(mm)	Max(mm)		Min(in)	Max(in)
A	1.350	1.750	A	0.053	0.069
A1	0.100	0.250	A1	0.004	0.010
A2	1.350	1.550	A2	0.053	0.061
b	0.330	0.510	b	0.013	0.020
c	0.170	0.250	c	0.006	0.010
D	4.700	5.100	D	0.185	0.200
E	3.800	4.000	E	0.150	0.157
E1	5.800	6.200	E1	0.228	0.224
e	1.270(BSC)		e	0.050(BSC)	
L	0.400	1.270	L	0.016	0.050
θ	0°	8°	θ	0°	8°



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