Descriptions

The CA3140EZ 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 CA3140EZ 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 ±15V
  - Wide Common Mode Input Voltage Range (VICR)： - 15V～12V
- Large Swing of Output Voltage（VOPP）： - 14V～12V
- DIP-8 Package
- Operating Temperature Range:-40°C~85°C

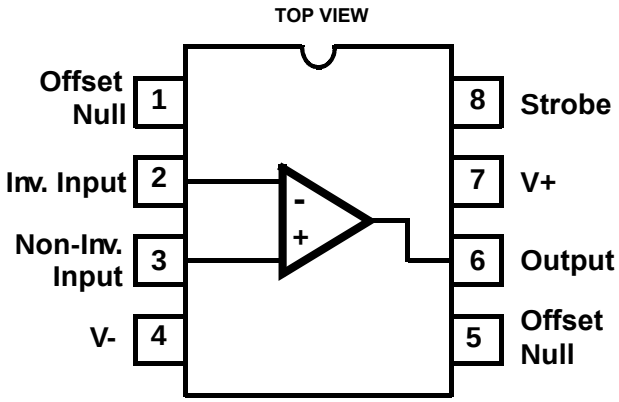
Applications

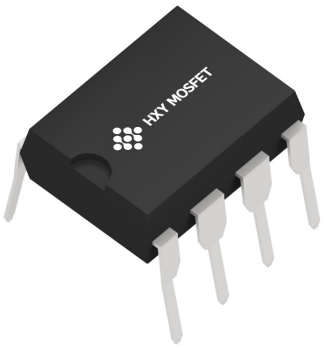
- Active Filter
- Compensation Amplifier
- Audio Preamplifier
- Electronic Instruments

Ordering Information

Product Model	Package Type	Packing	Packing Qty
CA3140EZ	DIP-8	Tube	50Pcs/Box

Pins Configiguration

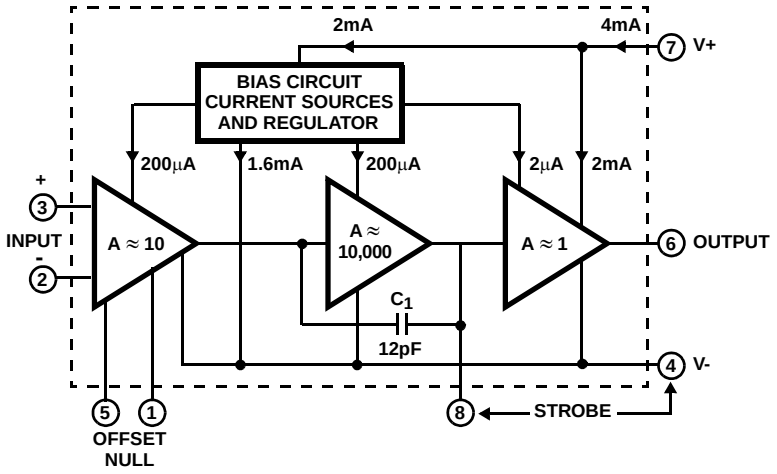




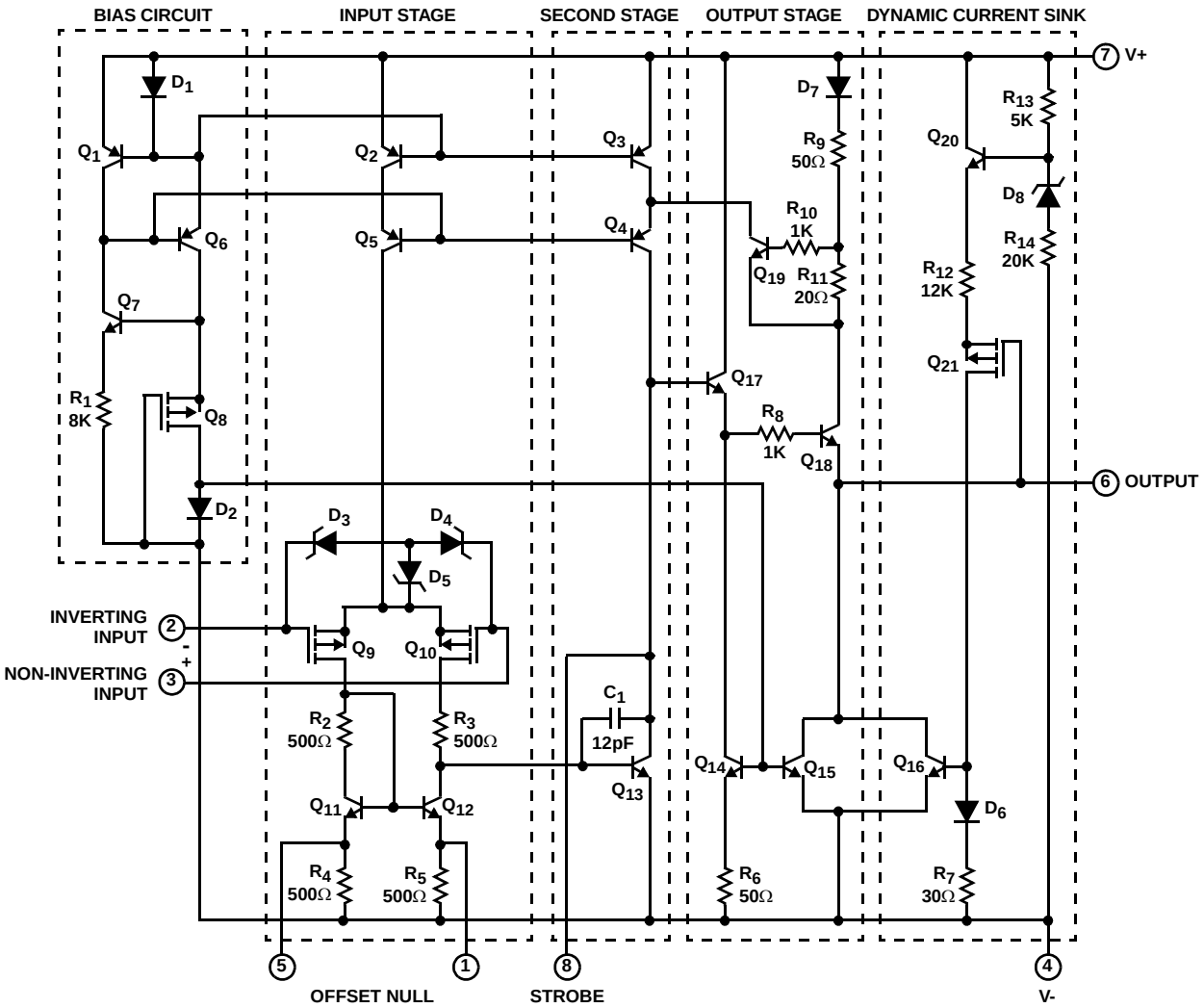
DIP-8

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



CA3140EZ Block Diagram



□A3140□□ Schematic Diagram

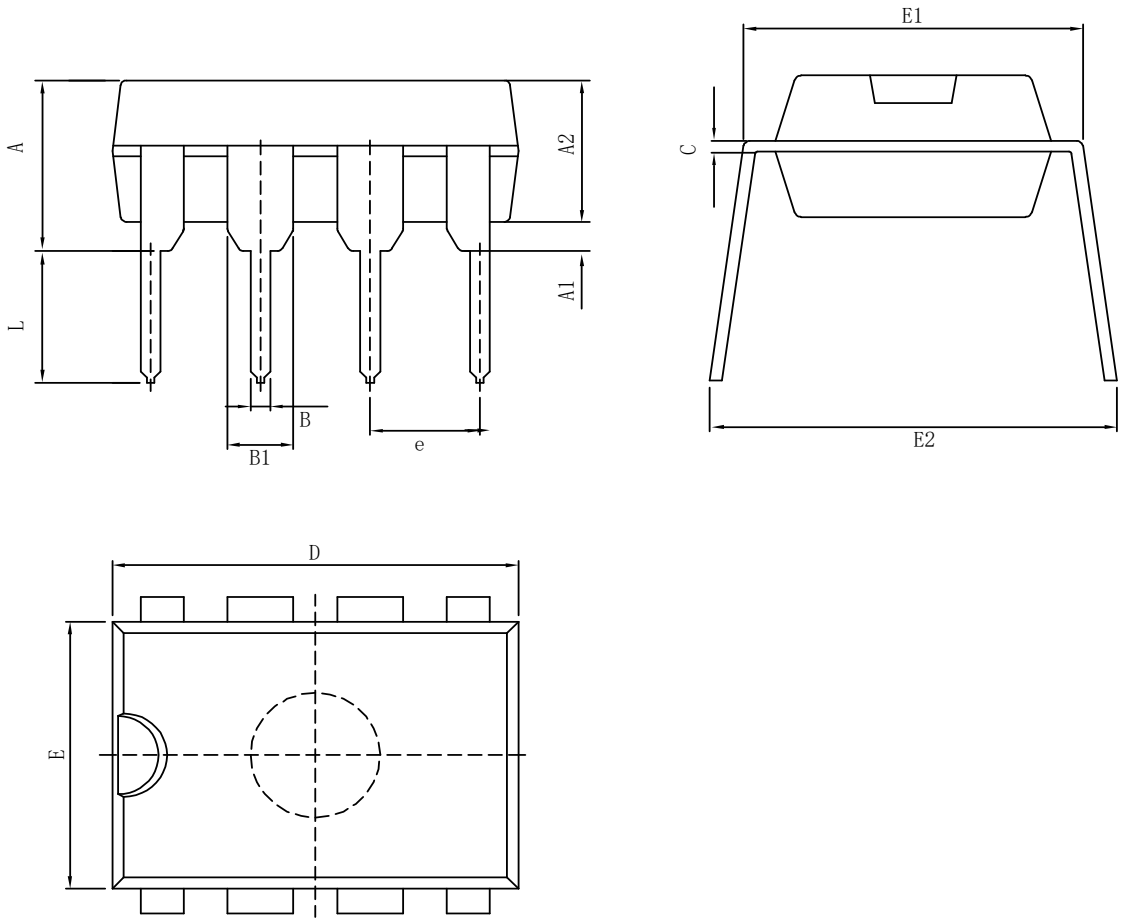
Electrical Characteristics

Vcc=6V， Tamb=25℃,unless otherwise specified.

Parameter	Symbol	Test Conditions（Unless otherwise specified，VS = ±15V, -40°C≤TA ≤85°C)	Value			Unit
			TA	CA3140EZ		
				Min.	Max.	
Input Offset Voltage	$\|V_{IO}\|$		25℃		5	mV
				-	6.5	
Input Offset Voltage Temperature Drift	$\|\alpha V_{IO}\|$			-	24	μV/℃
Input Offset Current	$\|I_{IO}\|$		25℃		20	pA
					1000	
Input Bias Current	$\|I_{IB}\|$		25℃		40	pA
				-	1500	
Open Loop Voltage Gain	A_{VO}	V_O = - 14V～12V, R_L=2k Ω	25℃	86	-	dB
				80		dB
Common Mode Rejection Ratio	K_{CMR}	V_{CM}=- 14V～11V	25℃	70		dB
				64		
Power Supply Rejection Ratio	K_{SVR}	V_S =±5V～±15V	25℃	76	-	dB
				70		
Output Voltage Peak	V_{OPP^+}	R_L=2k Ω	25℃	+12		V
				+11.5		
	V_{OPP^-}	R_L=2k Ω	25℃	-14	-	V
				- 13.5		
Gain-Bandwidth Product	$G \cdot BW$	R_L = 2kΩ	25℃	3.5		MHz
Slew Rate	S_R	R_L = 2kΩ	25℃	6.0		V/μs
Sink Current（Terminal 8）	I_{SINK8}	Terminal 8 to V-	25℃	160	-	μA
Supply Current	I_S	V_S =±15V, R_L = ∞			6	mA

Package Information

DIP-8



Symbol \ Size	Dimensions In Millimeters		Symbol \ Size	Dimensions In Inches	
	Min(mm)	Max(mm)		Min(in)	Max(in)
A	3.710	4.310	A	0.146	0.170
A1	0.510		A1	0.020	
A2	3.200	3.600	A2	0.126	0.142
B	0.380	0.570	B	0.015	0.022
B1	1.524(BSC)		B1	0.060(BSC)	
C	0.204	0.360	C	0.008	0.014
D	9.000	9.400	D	0.354	0.370
E	6.200	6.600	E	0.244	0.260
E1	7.320	7.920	E1	0.288	0.312
e	2.540(BSC)		e	0.100(BSC)	
L	3.000	3.600	L	0.118	0.142
E2	8.400	9.000	E2	0.331	0.354

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