

# CA3130/..., CA3130A/...

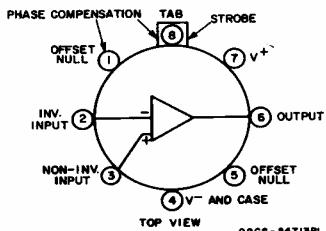
## High-Reliability BiMOS Operational Amplifiers

With MOSFET Input, CMOS Output

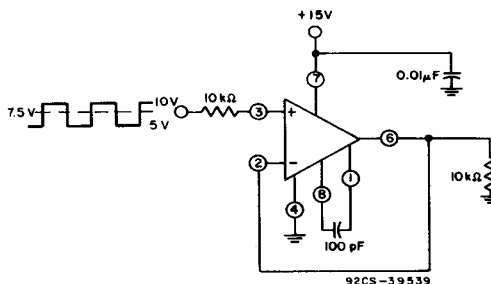
The CA3130 and CA3130A Slash (/) Series types are supplied in the 8-lead TO-5 style package.

TABLE A. POST BURN-IN, FINAL ELECTRICAL AND GROUP A SAMPLING TESTS

CHARACTERISTIC	SYMBOL	TEST CONDITIONS $V^+ = +15\text{ V}$ , $V^- = 0\text{ V}$ Unless Otherwise Specified	LIMITS						UNITS
			MINIMUM			MAXIMUM			
			-55	+25	+125	-55	+25	+125	
Input Offset Voltage: CA3130 CA3130A	$V_{IO}$	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	40	25	40	mV
			-	-	-	20	12	20	
Input Offset Current: CA3130 CA3130A	$I_{IO}$	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	500	30	5000	pA
			-	-	-	300	20	3000	
Input Current: CA3130 CA3130A	$I_I$	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	50	0.05	50	nA
			-	-	-	40	0.03	40	
Large Signal Voltage Gain: CA3130 CA3130A	$A_{OL}$	$V_O = 8\text{ V}_{p-p}$ (-55, +125°C) $V_O = 10\text{ V}_{p-p}$ (25°C)	86	94	86	-	-	-	dB
			88	94	88	-	-	-	
Common-Mode Rejection Ratio: CA3130 CA3130A	CMRR		64	70	64	-	-	-	dB
			74	80	74	-	-	-	
Common-Mode Input Voltage Range	$V_{ICR}$		0	0	0	10	10	10	V
Power Supply Rejection Ratio: CA3130 CA3130A	PSRR	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	400	320	400	$\mu\text{V/V}$
			-	-	-	200	150	200	
Maximum Output Voltage	$V_{OM}^+$	$R_L = 2\text{ k}\Omega$	10	12	10	-	-	-	V
	$V_{OM}^-$		-	-	-	0.05	0.01	0.05	
Maximum Output Voltage	$V_{OM}^+$	$R_L = \infty$	14.95	14.99	14.95	-	-	-	V
	$V_{OM}^-$		-	-	-	0.05	0.01	0.05	
Maximum Output Current	$I_{OM}^+$	$V_O = 0\text{ V}$	-	12	-	-	45	-	mA
	$I_{OM}^-$	$V_O = 15\text{ V}$	-	12	-	-	45	-	
Supply Current	$i^+$	$V_O = 7.5\text{ V}, R_L = \infty$	-	-	-	-	15	-	mA
		$V_O = 0\text{ V}, R_L = \infty$	-	-	-	-	3	-	



Functional diagram of the CA3130 Series.



Burn-In and Life Test Circuit.

**CA3130/..., CA3130A/...**

**TABLE B. DELTA LIMITS** at  $T_A = 25^\circ\text{C}$ ,  $V^+ = 7.5\text{ V}$ ,  $V^- = -7.5\text{ V}$  (I1 only)

CHARACTERISTIC	SYMBOL	LIMITS		UNITS	
		MAX.Δ			
Input Offset Voltage	CA3130	$V_{IO}$	±8		mV
	CA3130A		±3		
Input Offset Current	CA3130	$I_{IO}$	±15		pA
	CA3130A		±8		
Input Current	CA3130	$I_I$	±0.01		nA
	CA3130A		±0.01		

**TABLE C. GROUPS AND D END-POINT TESTS** at  $T_A = 25^\circ\text{C}$ ,  $V^+ = +15\text{ V}$ ,  $V^- = -15\text{ V}$

CHARACTERISTIC	SYMBOL	LIMITS		UNITS	
		MIN.	MAX.		
Input Offset Voltage	CA3130	$V_{IO}$	-	30	mV
	CA3130A		-	17	
Input Offset Current	CA3130	$I_{IO}$	-	30	pA
	CA3130A		-	20	
Input Current	CA3130	$I_I$	-	0.05	nA
	CA3130A		-	0.03	
Large Signal Voltage Gain	CA3130	AOL	91	-	dB
	CA3130A		91	-	

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Datasheets for electronic components.