

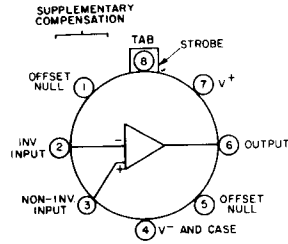
CA3160/..., CA3160A/...

1

High-Reliability BiMOS Operational Amplifiers

With MOSFET Input, CMOS Output

The CA3160 and CA3160A Slash (/) Series types are supplied in the 8-lead TO-5 style package.



92CS-27794

Functional diagram of the CA3160 Series.

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: CA3160 CA3160A	V_{IO}	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	40	25	40	mV
			-	-	-	20	12	20	
Input Offset Current: CA3160 CA3160A	I_{IO}	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	500	30	5000	pA
			-	-	-	300	20	3000	
Input Current: CA3160 CA3160A	I_I	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	50	0.05	50	nA
			-	-	-	40	0.03	40	
Large Signal Voltage Gain: CA3160 CA3160A	A_{OL}	$V_O = 10\text{ V}_{p-p}$	86	94	86	-	-	-	dB
			88	94	88	-	-	-	
Common-Mode Rejection Ratio: CA3160 CA3160A	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: CA3160 CA3160A	PSRR	$V^{\pm} = \pm 7.5\text{ V}$	-	-	-	400	320	400	$\mu\text{V/V}$
			-	-	-	200	150	200	
Maximum Output Voltage	V_{OM}^+ V_{OM}^-	$R_L = 2\text{ k}\Omega$	10	12	12	-	-	-	V
			-	-	-	0.05	0.01	0.05	
Maximum Output Voltage	V_{OM}^+ V_{OM}^-	$R_L = \infty$	14.95	14.99	14.95	-	-	-	V
			-	-	-	0.05	0.01	0.05	
Maximum Output Current	I_{OM}^+ I_{OM}^-	$V_O = 0\text{ V}$ $V_O = 15\text{ V}$	-	12	-	-	45	-	mA
			-	12	-	-	45	-	
Supply Current	I^+	$V_O = 7.5\text{ V}, R_L = \infty$ $V_O = 0\text{ V}, R_L = \infty$	-	-	-	-	15	-	mA
			-	-	-	-	3	-	

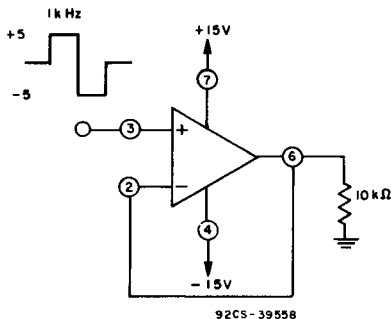
CA3160/..., CA3160A/...

TABLE B. DELTA LIMITS at $T_A = 25^\circ C$, $V^+ = +7.5 V$, $V^- = -7.5 V$ (/1 only)

CHARACTERISTIC	SYMBOL	LIMITS		UNITS
			MAX.Δ	
Input Offset Voltage	CA3160	V_{IO}	± 8	mV
	CA3160A		± 3	
Input Offset Current	CA3160	I_{IO}	± 15	pA
	CA3160A		± 8	
Input Current	CA3160	I_I	± 0.01	nA
	CA3160A		± 0.01	

TABLE C. GROUPS C AND D END-POINT TESTS at $T_A = 25^\circ C$

CHARACTERISTIC	SYMBOL	LIMITS		UNITS	
		MIN.	MAX.		
Input Offset Voltage	CA3160	V_{IO}	—	30	mV
	CA3160A		—	17	
Input Offset Current	CA3160	I_{IO}	—	30	pA
	CA3160A		—	20	
Input Current	CA3160	I_I	—	0.05	nA
	CA3160A		—	0.03	
Large Signal Voltage Gain	CA3160	AOL	91	—	dB
	CA3160A		91	—	



Burn-in and life test circuit.