

CA3080, CA3080A

Absolute Maximum Ratings

Supply Voltage (Between V+ and V- Terminal)	36V
Differential Input Voltage	5V
Input Voltage	V+ to V-
Input Signal Current	1mA
Amplifier Bias Current (I_{ABC})	2mA
Output Short Circuit Duration (Note 1)	No Limitation

Thermal Information

Thermal Resistance (Typical, Note 2)	θ_{JA} ($^{\circ}\text{C}/\text{W}$)	θ_{JC} ($^{\circ}\text{C}/\text{W}$)
PDIP Package	130	N/A
SOIC Package	170	N/A
Maximum Junction Temperature (Plastic Package)	150 $^{\circ}\text{C}$	
Maximum Storage Temperature Range	-65 $^{\circ}\text{C}$ to 150 $^{\circ}\text{C}$	
Maximum Lead Temperature (Soldering 10s)	300 $^{\circ}\text{C}$	
(SOIC - Lead Tips Only)		

Operating Conditions

Temperature Range	
CA3080	0 $^{\circ}\text{C}$ to 70 $^{\circ}\text{C}$
CA3080A	-55 $^{\circ}\text{C}$ to 125 $^{\circ}\text{C}$

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

NOTES:

- Short circuit may be applied to ground or to either supply.
- θ_{JA} is measured with the component mounted on an evaluation PC board in free air.

Electrical Specifications For Equipment Design, $V_{\text{SUPPLY}} = \pm 15\text{V}$, Unless Otherwise Specified

PARAMETER	TEST CONDITIONS	TEMP	CA3080			CA3080A			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	
Input Offset Voltage	$I_{ABC} = 5\mu\text{A}$	25	-	0.3	-	-	0.3	2	mV
	$I_{ABC} = 500\mu\text{A}$	25	-	0.4	5	-	0.4	2	mV
		Full	-	-	6	-	-	5	mV
Input Offset Voltage Change	$I_{ABC} = 500\mu\text{A}$ to $5\mu\text{A}$	25	-	0.2	-	-	0.1	3	mV
Input Offset Voltage Temp. Drift	$I_{ABC} = 100\mu\text{A}$	Full	-	-	-	-	3.0	-	$\mu\text{V}/^{\circ}\text{C}$
Input Offset Voltage Sensitivity	Positive	$I_{ABC} = 500\mu\text{A}$	25	-	-	150	-	-	$\mu\text{V}/\text{V}$
	Negative		25	-	-	150	-	-	$\mu\text{V}/\text{V}$
Input Offset Current	$I_{ABC} = 500\mu\text{A}$	25	-	0.12	0.6	-	0.12	0.6	μA
Input Bias Current	$I_{ABC} = 500\mu\text{A}$	25	-	2	5	-	2	5	μA
		Full	-	-	7	-	-	15	μA
Differential Input Current	$I_{ABC} = 0$, $V_{\text{DIFF}} = 4\text{V}$	25	-	0.008	-	-	0.008	5	nA
Amplifier Bias Voltage	$I_{ABC} = 500\mu\text{A}$	25	-	0.71	-	-	0.71	-	V
Input Resistance	$I_{ABC} = 500\mu\text{A}$	25	10	26	-	10	26	-	k Ω
Input Capacitance	$I_{ABC} = 500\mu\text{A}$, $f = 1\text{MHz}$	25	-	3.6	-	-	3.6	-	pF
Input-to-Output Capacitance	$I_{ABC} = 500\mu\text{A}$, $f = 1\text{MHz}$	25	-	0.024	-	-	0.024	-	pF
Common-Mode Input-Voltage Range	$I_{ABC} = 500\mu\text{A}$	25	12 to -12	13.6 to -14.6	-	12 to -12	13.6 to -14.6	-	V
Forward Transconductance (Large Signal)	$I_{ABC} = 500\mu\text{A}$	25	6700	9600	13000	7700	9600	12000	μS
		Full	5400	-	-	4000	-	-	μS
Output Capacitance	$I_{ABC} = 500\mu\text{A}$, $f = 1\text{MHz}$	25	-	5.6	-	-	5.6	-	pF
Output Resistance	$I_{ABC} = 500\mu\text{A}$	25	-	15	-	-	15	-	M Ω
Peak Output Current	$I_{ABC} = 5\mu\text{A}$, $R_L = 0\Omega$	25	-	5	-	3	5	7	μA
	$I_{ABC} = 500\mu\text{A}$, $R_L = 0\Omega$	25	350	500	650	350	500	650	μA
		Full	300	-	-	300	-	-	μA