R&T BiCMOS

Low Noise, Cryogenic Differential Amplifier

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DESCRIPTION

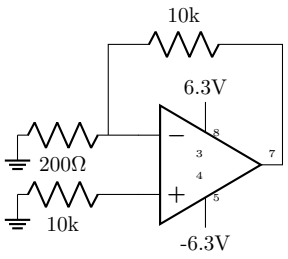
The RH6200 is an ultralow noise, rail-to-rail input and output unity-gain stable op amp that features $0.95nV/\sqrt{Hz}$ noise voltage. This amplifier combines very low noise with a 165MHz gain bandwidth, $50V/\mu s$ slew rate and is optimized for low voltage signal conditioning systems. A shutdown pin reduces supply current during standby conditions and thermal shutdown protects the part from overload conditions. The RH6200 maintains its pre-irradiation performance for supplies from 4.5V to 12.6V and is specified pre- and post-radiation at 5V and ±5V.

ABSOLUTE MAXIMUM RATINGS

(Note 1)

Total Supply Voltage (V^+ to V^-)	12.6V
Input Current (Note 2)	±40mA
Output Short-Circuit Duration (Note 3)	Indefinite
Pin Current While Exceeding Supplies (Note 4)	±30mA
Operating Junction Temperature Range (Note 5)	−55°C to 125°C
Storage Temperature Range	−65°C to 150°C
Lead Temperature (Soldering, 10 sec)	300°C

BURN-IN CIRCUIT



RH6200M F01

PACKAGE/ORDER INFORMATION

ORDER PART NUMBER

RH6200MW

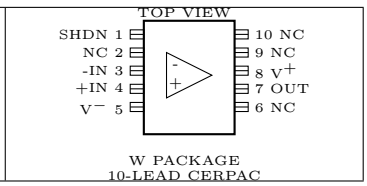


TABLE 1: ELECTRICAL CHARACTERISTICS

Table 1: Table Fitted to Column Width

SYMBOL	PARAMETER	CONDITIONS	NOTES	$T_A = 25°C$ MIN	TYP	MAX	SUB-GROUP	$-55°C \leq T_A \leq 125°C$ MIN	TYP	MAX	SUB-GROUP	UNITS
V_{OS}	Input Offset	$V_S = 5V, 0V; V_{CM} = V^-$ to V^+			0.6	2	1			4	2,3	mV
	Voltage	$V_S = \pm 5V; V_{CM} = V^-$ to V^+			2.5	6	1			9	2,3	mV
I_B	Input Bias Current	$V_S = 5V, 0V; V_{CM} = V^+$			8	18	1			20	2,3	μA
		$V_S = 5V, 0V; V_{CM} = V^-$		-50	-23		1	-100			2,3	μA