

## Product Overview

### MC33172: Operational Amplifier, Single Supply 3.0 V to 44 V, Low Power, Dual

For complete documentation, see the data sheet.

Quality bipolar fabrication with innovative design concepts are employed for the MC33171/72/74 series of monolithic op-amps. These devices operate at 180 A per amplifier and offer 1.8 MHz of gain bandwidth product and 2.1 V/s slew rate without the use of JFET device technology. Although this series can be operated from split supplies, it is particularly suited for single supply operation, since the common mode input voltage includes ground potential (VEE). With a Darlington input stage, these devices exhibit high input resistance, low input offset voltage and high gain. The all NPN output stage, characterized by no deadband crossover distortion and large output voltage swing, provides high capacitance drive capability, excellent phase and gain margins, low open loop high frequency output impedance and symmetrical source/sink AC frequency response. The MC33171/72/74 are specified over the industrial / automotive temperature ranges. The complete series of single, dual and quad op-amps are available in plastic as well as the surface mount packages.

### Features

- Low Supply Current: 180  $\mu$ A (Per Amplifier)
- Wide Supply Operating Range: 3.0 V to 44 V or +/-1.5 V to +/- 22 V
- Wide Input Common Mode Range, Including Ground (VEE)
- Wide Bandwidth: 1.8 MHz
- High Slew Rate: 2.1 V/ $\mu$ s
- Low Input Offset Voltage: 2.0 mV
- Large Output Voltage Swing: -14.2 V to +14.2 V (with +/-15 V Supplies)
- Large Capacitance Drive Capability: 0 pF to 500 pF
- Low Total Harmonic Distortion: 0.03%
- Excellent Phase Margin: 60 C°

For more features, see the data sheet

### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Rail to Rail	Channels	V <sub>S</sub> Min (V)	V <sub>S</sub> Max (V)	I <sub>q</sub> Typ (mA)	V <sub>OS</sub> Max (mV)	GB W Typ (MHz)	SR Typ (V/ $\mu$ s)	I <sub>O</sub> Typ (mA)	$\Delta V_{O}$ s/ $\Delta T$ ( $\mu$ V/C)	e <sub>N</sub> (nV/ $\sqrt$ Hz)	I <sub>bias</sub> Typ (pA)	CM RR Typ (dB)	Architecture	Temperature Range (°C)	Package Type
MC33172DR2G	0.3015	Pb-free	Active	No	2	3	44	0.4	4.5	1.8	2.1	5	10	32	2000	90	Bipolar	-40 to 85	SOIC-8
		Halide free						0.2											
MC33172VDR2G	0.2576	Pb-free	Active	No	2	3	44	0.4	4.5	1.8	2.1	5	10	32	2000	90	Bipolar	-40 to 85	SOIC-8
		Halide free						0.2											
NCV33172DR2G	0.444	AEC Qualified	Active	No	2	3	44	0.2	4.5	1.8	2.1	5	10	32	2000	90	Bipolar	-40 to 125	SOIC-8
		PPAP Capable						0.4											
		Pb-free						0.4											
		Halide free						0.4											

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