

# LM358

## Operational Amplifier, Single Supply, Dual

### Product Overview

For complete documentation, see the data sheet.

Utilizing the circuit designs perfected for quad op-amps, this dual op-amp features low power drain, a common mode input voltage range extending to ground/VEE, and single supply or split supply operation. The LM358 series is equivalent to one-half of an LM324. These amplifiers have several distinct advantages over standard operational amplifier types in single supply applications. They can operate at supply voltages as low as 3.0 V or as high as 32 V, with quiescent currents about one-fifth of those associated with the MC1741 (on a per amplifier basis). The common mode input range includes the negative supply, thereby eliminating the necessity for external biasing components in many applications. The output voltage range also includes the negative power supply voltage.

### Features

- Short Circuit Protected Outputs
- True Differential Input Stage
- Single Supply Operation: 3.0 V to 32 V
- Low Input Bias Currents
- Internally Compensated
- Common Mode Range Extends to Negative Supply
- Single and Split Supply Operation
- ESD Clamps on the Inputs Increase Ruggedness of the Device without Affecting Operation
- Pb-Free Packages are Available

### 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)	GBW Typ (MHz)	SR Typ (V/μs)	I <sub>O</sub> Typ (mA)	ΔV <sub>OS</sub> /ΔT (μV/°C)	e <sub>N</sub> (nV/√Hz)	I <sub>bias</sub> Typ (pA)	CMRR Typ (dB)	Arc Hit Structure	Temperature Range (°C)	Package Type
LM358ADR2G	0.1099		Active	No	2	3	32	0.75	5	1	0.6	40	7	-	45000	85	Bipolar	0 to 70	SOIC-8
LM358DMR2G	0.1124		Active	No	2	3	32	0.75	7	1	0.6	40	7	-	45000	70	Bipolar	0 to 70	Micro8
LM358DR2G	0.0691		Active	No	2	3	32	0.75	7	1	0.6	40	7	-	45000	70	Bipolar	0 to 70	SOIC-8
LM358EDR2G	0.0712		Active	No	2	3	32	0.75	5	1	0.6	40	7	-	45000	85	Bipolar	0 to 70	SOIC-8