



PRODUCT NAME : LM258 Dual Operational Amplifier

PRICE : Rs 20.00

SKU : RM1973



DESCRIPTION

Features

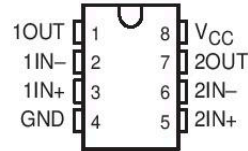
- Two Independent, High-Gain, Frequency Compensated Op-Amps
- Supply Voltage: 3V to 30V
- Input Offset Voltage: 3 mV
- Input Offset Current: 2 nA
- Input Bias Current: 20 nA
- Low Supply Current Drain: 0.7mA

**LM158, LM158A, LM258, LM258A
 LM358, LM358A, LM358Y, LM2904, LM2904Q
 DUAL OPERATIONAL AMPLIFIERS**

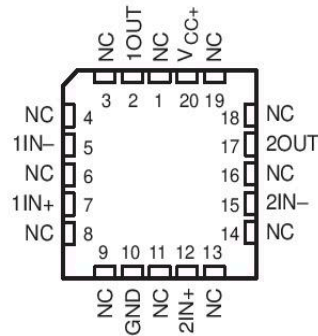
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- **Wide Range of Supply Voltages:**
 - Single Supply . . . 3 V to 30 V
 (LM2904 and LM2904Q . . . 3 V to 26 V) or
 - Dual Supplies
- **Low Supply-Current Drain Independent of Supply Voltage . . . 0.7 mA Typ**
- **Common-Mode Input Voltage Range Includes Ground, Allowing Direct Sensing Near Ground**
- **Low Input Bias and Offset Parameters:**
 - Input Offset Voltage . . . 3 mV Typ
 A Versions . . . 2 mV Typ
 - Input Offset Current . . . 2 nA Typ
 - Input Bias Current . . . 20 nA Typ
 A Versions . . . 15 nA Typ
- **Differential Input Voltage Range Equal to Maximum-Rated Supply Voltage . . . ±32 V
 (LM2904 and LM2904Q . . . ±26 V)**
- **Open-Loop Differential Voltage Amplification . . . 100 V/mV Typ**
- **Internal Frequency Compensation**

**D, JG, P, OR PW PACKAGE
 (TOP VIEW)**



**LM158, LM158A . . . FK PACKAGE
 (TOP VIEW)**



NC – No internal connection

description

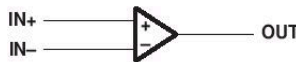
These devices consist of two independent, high-gain, frequency-compensated operational amplifiers designed to operate from a single supply over a wide range of voltages. Operation from split supplies also is possible if the difference between the two supplies is 3 V to 30 V (3 V to 26 V for the LM2904 and LM2904Q), and V_{CC} is at least 1.5 V more positive than the input common-mode voltage. The low supply-current drain is independent of the magnitude of the supply voltage.

Applications include transducer amplifiers, dc amplification blocks, and all the conventional operational amplifier circuits that now can be more easily implemented in single-supply-voltage systems. For example, these devices can be operated directly from the standard 5-V supply used in digital systems and easily provides the required interface electronics without additional ±5-V supplies.

The LM2904Q is manufactured to demanding automotive requirements.

The LM158 and LM158A are characterized for operation over the full military temperature range of –55°C to 125°C. The LM258 and LM258A are characterized for operation from –25°C to 85°C, the LM358 and LM358A from 0°C to 70°C, and the LM2904 and LM2904Q from –40°C to 125°C.

logic diagram (each amplifier)



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 On products compliant to ML-PRF-38535, all parameters are tested unless otherwise noted. On all other products, production processing does not necessarily include testing of all parameters.

**LM158, LM158A, LM258, LM258A
 LM358, LM358A, LM358Y, LM2904, LM2904Q
 DUAL OPERATIONAL AMPLIFIERS**

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absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

		LM158, LM158A LM258, LM258A LM358, LM358A	LM2904 LM2904Q	UNIT
Supply voltage, V_{CC} (see Note 1)		32	26	V
Differential input voltage, V_{ID} (see Note 2)		± 32	± 26	V
Input voltage, V_I (either input)		-0.3 to 32	-0.3 to 26	V
Duration of output short circuit (one amplifier) to ground at (or below) 25°C free-air temperature ($V_{CC} \leq 15$ V) (see Note 3)		Unlimited	Unlimited	
Continuous total power dissipation		See Dissipation Rating Table		
Operating free-air temperature range, T_A	LM158, LM158A	-55 to 125		°C
	LM258, LM258A	-25 to 85		
	LM358, LM358A	0 to 70		
	LM2904, LM2904Q		-40 to 125	
Storage temperature range, T_{stg}		-65 to 150	-65 to 150	°C
Case temperature for 60 seconds		FK package	260	°C
Lead temperature 1,6 mm (1/16 inch) from case for 60 seconds		JG package	300	°C
Lead temperature 1,6 mm (1/16 inch) from case for 10 seconds		D, P, or PW package	260	°C

- NOTES: 1. All voltage values, except differential voltages and V_{CC} specified for measurement of I_{OS} , are with respect to the network ground terminal.
 2. Differential voltages are at $IN+$ with respect to $IN-$.
 3. Short circuits from outputs to V_{CC} can cause excessive heating and eventual destruction.

DISSIPATION RATING TABLE

PACKAGE	$T_A \leq 25^\circ\text{C}$ POWER RATING	DERATING FACTOR ABOVE $T_A = 25^\circ\text{C}$	$T_A = 70^\circ\text{C}$ POWER RATING	$T_A = 85^\circ\text{C}$ POWER RATING	$T_A = 125^\circ\text{C}$ POWER RATING
D	725 mW	5.8 mW/°C	464 mW	377 mW	145 mW
FK	1375 mW	11.0 mW/°C	880 mW	715 mW	275 mW
JG	1050 mW	8.4 mW/°C	672 mW	546 mW	210 mW
P	1000 mW	8.0 mW/°C	640 mW	520 mW	200 mW
PW	525 mW	4.2 mW/°C	336 mW	273 mW	–

