## LM324, LM324A, LM224, LM2902, LM2902V, NCV2902

MAXIMUM RATINGS (T<sub>A</sub> = +25°C, unless otherwise noted.)

Rating	Symbol	Value	Unit
Power Supply Voltages Single Supply Split Supplies	V <sub>CC</sub> V <sub>CC</sub> , V <sub>EE</sub>	32 ±16	Vdc
Input Differential Voltage Range (Note 1)	V <sub>IDR</sub>	±32	Vdc
Input Common Mode Voltage Range (Note 2)	V <sub>ICR</sub>	-0.3 to 32	Vdc
Output Short Circuit Duration	tsc	Continuous	
Junction Temperature	TJ	150	°C
Thermal Resistance, Junction-to-Air (Note 3)  Case 646  Case 751A  Case 948G	R <sub>BJA</sub>	118 156 190	°C/W
Storage Temperature Range	T <sub>stg</sub>	-65 to +150	°C
ESD Protection at any Pin Human Body Model Machine Model	Vesd	2000 200	٧
Operating Ambient Temperature Range  LM224  LM324, 324A  LM2902  LM2902V, NCV2902 (Note 4)	TA	-25 to +85 0 to +70 -40 to +105 -40 to +125	°C

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

- Split Power Supplies.
- 2. For supply voltages less than 32 V, the absolute maximum input voltage is equal to the supply voltage.
- 3. All R<sub>BJA</sub> measurements made on evaluation board with 1 oz. copper traces of minimum pad size. All device outputs were active.
- 4. NCV2902 is qualified for automitive use.