PRELIMINARY

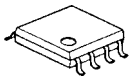
ULTRA HIGH SPEED SINGLE OPERATIONAL AMPLIFIER

■GENERAL DESCRIPTION

The **NJM2722** is an ultra high speed single operational amplifier. It can swing 1000V/μs high slew rate at supply voltage of ±2.5V.

It is suitable for pulse amplifiers, D/A current to voltage conversion, digital communication, video signal processing, line buffer, and cable drivers.

■PACKAGE OUTLINE



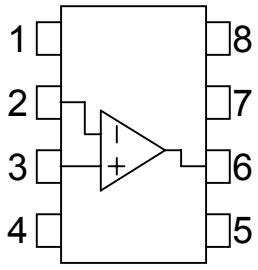
NJM2722E

■FEATURES

- ●Operating Voltage (±2.5V to ±5V)
- ●Supply Current (16.5mA Typ.)
- ●High Slew Rate (1000V/μs Typ.)
- ●Unity Gain Frequency (170MHz Typ.)
- ●Input Offset Voltage (5mV Typ.)
- ●Output Voltage (V_{OH}:+3.2V Typ. (@V^+/V^-=±4.5V, RL=1kΩ))
  (V_{OL}:–3.2V Typ. (@V^+/V^-=±4.5V, RL=1kΩ))
- ●Package Outline EMP8

■PIN CONFIGURATION

(Top View)



PIN FUNCTION

1.NC
2.-INPUT
3.+INPUT
4.V-
5.NC
6.VOUT
7.V^+
8.NC

PRELIMINARY

■ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	±5.5	V
Differential Voltage	V_{ID}	±3	V
Input Voltage	V_{ICM}	±5.5	V
Power Dissipation	P_D	300	mW
Operating Temperature Range	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-40 to +125	°C

■RECOMMENDED OPERATING CONDITION (Ta=25°C)

PARAMETER	SYMBOL	CONDITION	UNIT
Supply Voltage	V^+ / V^-	±2.5 to ±5	V

■ELECTRICAL CHARACTERISTICS

● DC CHARACTERISTICS (V^+/V^-=±2.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating Current	I_{CC}	No Signal	-	16.5	25.5	mA
Input Offset Voltage	V_{IO}		-	5	20	mV
Input Bias Current	I_B		-	25.5	70	μA
Input Offset Current	I_{IO}		-	0.3	1.7	μA
Voltage Gain	A_V	R_L=2kΩ	50	60	-	dB
Input Common Mode Voltage Range	V_{ICM}	V^+/V^-=±4.5V	+3.1	+3.5	-	V
			-2.7	-3.0	-	
Common Mode Rejection Ratio	CMR	-2.7V≦V_{ICM}≦+3.1V, V^+/V^-=±4.5V	60	80	-	dB
Supply Voltage Rejection Ratio	SVR	±2.5V≤V^+ / V^-≤±4.5V, R_L=2kΩ	50	60	-	dB
Maximum Output Voltage	V_{OH}	R_L=1kΩ, V^+/V^-=±4.5V	+2.9	+3.2	-	V
	V_{OL}	R_L=1kΩ, V^+/V^-=±4.5V	-2.9	-3.2	-	

● AC CHARACTERISTICS (V^+/V^-=±2.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Unity Gain Frequency	f_T	A_V=40dB, R_F=1.98kΩ, R_G=20Ω R_L=∞ C_L=5pF	-	170	-	MHz
Phase Margin	ΦM	A_V=40dB, R_F=1.98kΩ, R_G=20Ω R_L=∞, C_L=5pF	-	70	-	Deg

● TRANSIENT CHARACTERISTICS (V^+/V^-=±4.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Slew Rate	SR	A_V=0dB, R_F=0Ω, R_G=∞ R_L=1kΩ, C_L=5pF, Vin=4Vpp	-	1000	-	V/μs

[CAUTION]
The specifications on this databook are only given for information , without any guarantee as regards either mistakes or omissions. The application circuits in this databook are described only to show representative usages of the product and not intended for the guarantee or permission of any right including the industrial rights.