

ULTRA HIGH SPEED HEX OPERATIONAL AMPLIFIER

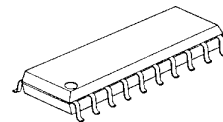
■ GENERAL DESCRIPTION

The **NJM2710** is an ultra high speed hex operational amplifier.

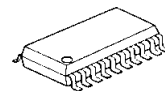
It can swings 260V/ μ s high slew rate and 1GHz gain band width product(10MHz typ. at 40dB) at 5V.

It is suitable for telecommunication related system, digital broadcasting system, high quality scanner and any other high speed signal processing system.

■ PACKAGR OUTLINE



NJM2710M



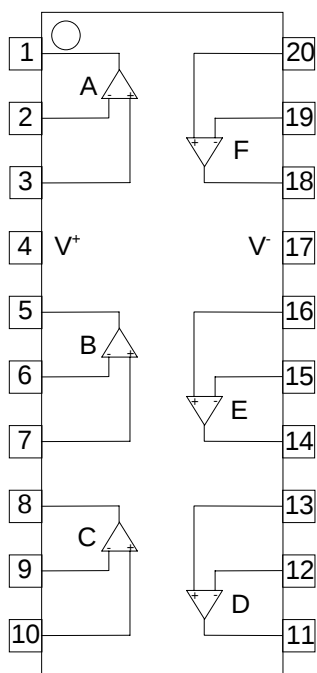
NJM2710V

■ FEATURES

- Operating Voltage (± 2.0 to ± 4.5 V)
- Operating Current (11.4mA typ. at $V^+/V^- = \pm 2.5$ V)
- High Slew Rate (260V/ μ s typ.)
- Gain Bandwidth Product (1GHz typ.)
- Bandwidth (10MHz typ. at 40dB)
- Unity Gain Bandwidth (180MHz typ.)
- Input Offset Voltage (7mV max.)
- Maximum Output Voltage (± 1.5 V typ. at $R_L = 1k\Omega$)
- Open Loop Voltage Gain (75dB typ.)
- Bipolar Technology
- Package Outline DMP20,SSOP20

■ PIN CONFIGURATION

NJM2710M,NJM2710V
(Top View)



PIN FUNCTION

1. A OUTPUT	11. D OUTPUT
2. A -INPUT	12. D -INPUT
3. A +INPUT	13. D +INPUT
4. V ⁺	14. E OUTPUT
5. B OUTPUT	15. E -INPUT
6. B -INPUT	16. E +INPUT
7. B +INPUT	17. V ⁻
8. C OUTPUT	18. F OUTPUT
9. C -INPUT	19. F -INPUT
10. C +INPUT	20. F +INPUT

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	10	V
Differential Input Voltage	V _{ID}	±2	V
Power Dissipation	P _D	(DMP20,SSOP20) 375	mW
Operating Temperature Range	T _{opr}	-40 to +85	°C
Storage Temperature Range	T _{stg}	-50 to +150	°C

■ ELECTRICAL CHARACTERISTICS

(V⁺/V⁻=±2.5V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating Voltage Range	V ⁺ /V ⁻		2.0	2.5	4.5	V
Operating Current	I _{CC}	No Signal	-	11.4	20.4	mA
Input Offset Voltage	V _{IO}		-	2.0	7.0	mV
Input Bias Current	I _B		-	2	7	μA
Input Offset Current	I _{IO}		-	350	900	nA
Open Loop Voltage Gain	A _v	R _L =2kΩ	65	75	-	dB
Input Common Mode Voltage Range	V _{ICM}		±1.3	±1.5	-	V
Common Mode Rejection	CMR	-1V≤V _{CM} ≤+1V	50	60	-	dB
Supply Voltage Rejection	+SVR	2.5V≤V ⁺ ≤5V, R _L =2kΩ	50	60	-	dB
	-SVR	-5V≤V ⁻ ≤-2.5V, R _L =2kΩ	50	60	-	dB
Maximum Output Voltage	V _{OM}	R _L =1kΩ	±1.2	±1.5	-	V
Slew Rate	+SR	A _v =6dB, R _f =1kΩ, R _g =1kΩ	-	260	-	V/μs
	-SR	R _L =∞, C _L =10pF	-	260	-	V/μs
Bandwidth	BW	A _v =40dB, R _f =1.98kΩ, R _L =∞ C _L =10pF	-	10	-	MHz
Unity Gain Bandwidth	f _T	A _v =40dB, R _g =20Ω, R _f =1.98kΩ R _L =∞, C _L =10pF	-	180	-	MHz
Phase Margin	φ _M	A _v =40dB, R _g =20Ω, R _f =1.98kΩ R _L =∞, C _L =10pF	-	38	-	deg
Equivalent Input Noise Voltage	V _{NO}		-	6.8	-	nV/√Hz

[CAUTION]

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