ULTRA WIDE BAND, HIGH SLEW RATE SINGLE OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM2136 is an ultra wide band, high slew rate single operational amplifier operated from low voltage (±1.35V).

It can apply to active filter, high speed analog and digital signal processor, line driver, HDTV, industrial measurement equipment and others.

It can also apply to portable communication items because of low operating voltage and low operating current.

■ PACKAGE OUTLINE

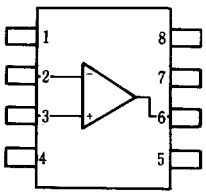
NJM2136V

NJM2136M

■ FEATURES

- Input Offset Voltage Balance
- Operating Voltage (±1.35V～±6V)
- Ultra Wide Band (200MHz typ.)
- High Slew Rate (45V/μs typ.)
- Low Operating Current (0.63mA typ.)
- Bipolar Technology
- Package Outline SSOP8, DMP8

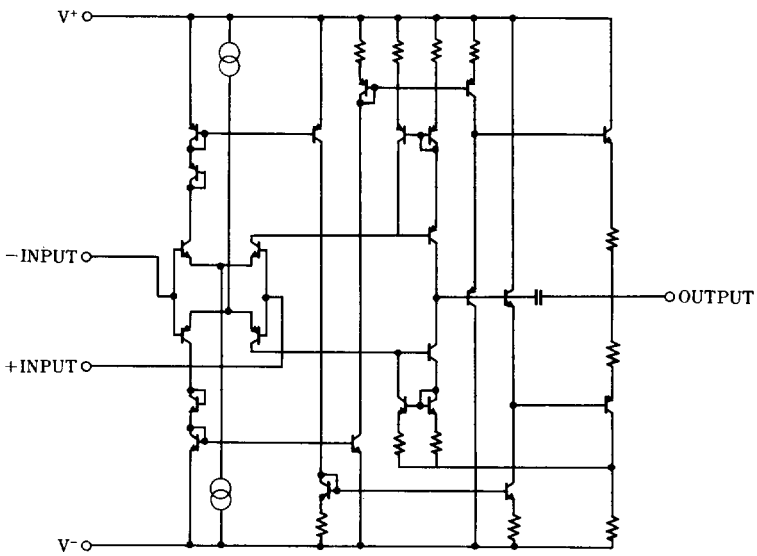
■ PIN CONFIGURATION



NJM2136M
NJM2136V

PIN FUNCTION
1. BAL
2. −INPUT
3. +INPUT
4. V^-
5. NC
6. OUTPUT
7. V^+
8. BAL

■ EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25℃)

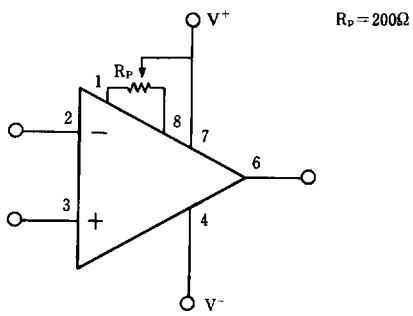
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+/V^-	±6.75	V
Differential Input Voltage	V_{ID}	±3	V
Power Dissipation	P_D	(SSOP-8) 250 (DMP-8) 300	mV
Operating Temperature Range	T_{opr}	−40～+85	℃
Storage Temperature Range	T_{stg}	−50～+125	℃

■ ELECTRICAL CHARACTERISTICS

(V^+/V^-=±2.5V, Ta=25℃)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V^+/V^-		±1.35	±2.50	±6.00	V
Input Offset Voltage	V_{IO}	$R_S \leqq 0\Omega$	−	1.0	5.0	mV
Input Bias Current	I_B		−	0.5	2.0	μA
Input Offset Current	I_{IO}		−	20	200	nA
Large Signal Voltage Gain	A_V	$R_L \geqq 10k\Omega$	65	75	−	dB
Input Common Mode Voltage Range	V_{ICM}		1.2	1.5	−	V
			−1.2	−1.5	−	
Common Mode Rejection Ratio	CMR	$-1V \leqq V_{cm} \leqq +1V$	45	60	−	dB
Supply Voltage Rejection Ratio	+SVR		70	100	−	dB
	−SVR		50	60	−	
Maximum Output Voltage	V_{OM}	R_L=1kΩ	1.1	1.4	−	V
			−0.9	−1.2	−	
Opreating Current	I_{CC}	R_L=∞(all Amp.)	−	0.63	0.82	mA
Slew Rate	SR	A_V=0dB	−	45	−	V/μs
Gain Bandwidth Product	GB	60dB · 500kHz	120	200	−	MHz
Phase Margin	ϕ_M	40dB	−	25	−	deg
Unity Gain Frequency	f_T	40dB	−	40	−	MHz

■ OFFSET ADJUSTMENT METHOD



R_P = 200Ω

(note) The electrical charactristcs change a little, in case the Rp is connected.