

UTC M2136 LINEAR INTEGRATED CIRCUIT

ULTRA WIDE BAND, HIGH SLEW RATE SINGLE OPERATIONAL AMPLIFIER

DESCRIPTION

The UTC M2136 is an ultra wide band, high slew rate single operational amplifier operated from low voltage ($\pm 1.35V$).

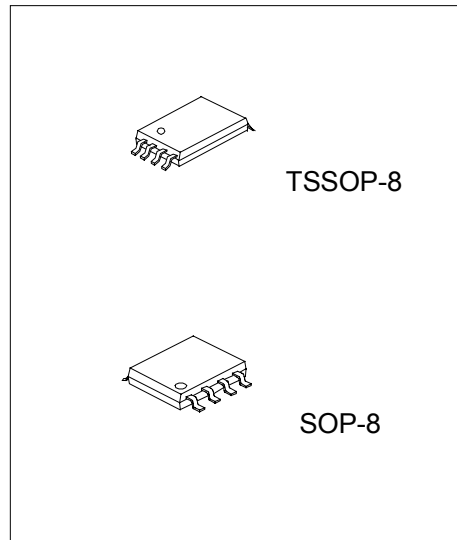
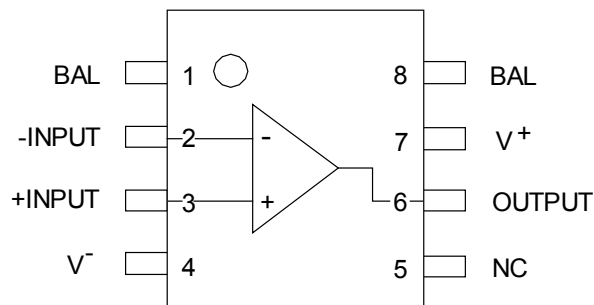
It can apply to active filter, high speed analog and digital signal processor, line driver, HDTV, industrial measurement equipment and others.

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

FEATURES

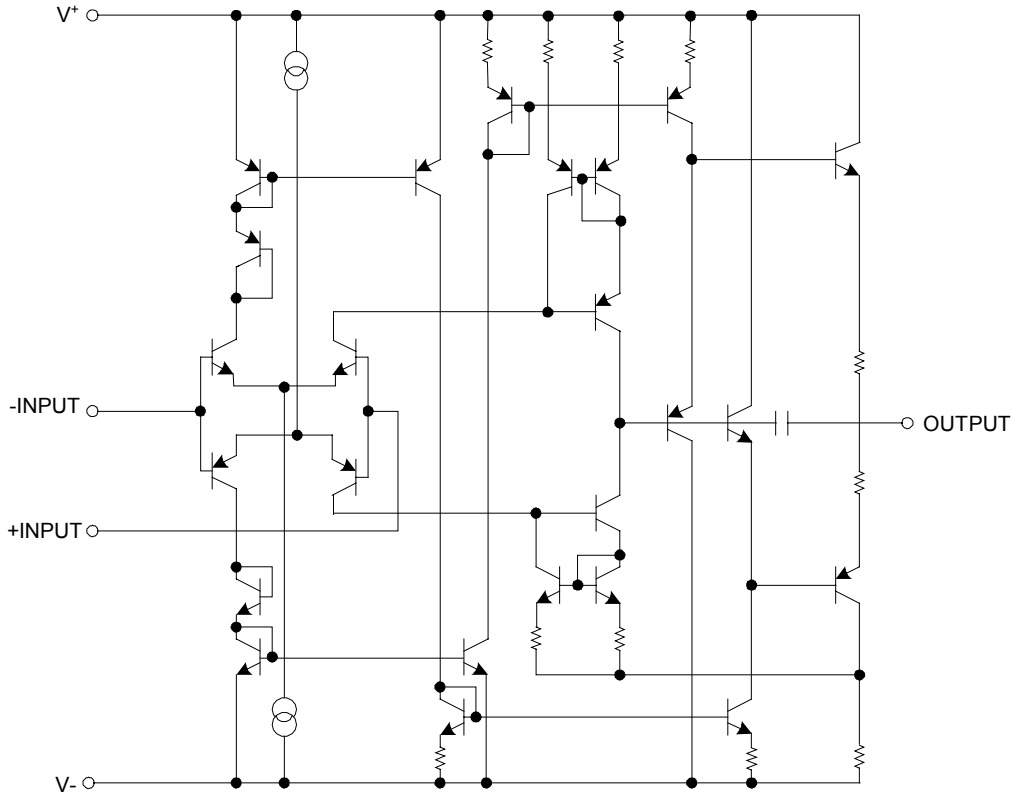
- *Input Offset Voltage Balance
- *Operating Voltage: $\pm 1.35V \sim \pm 6V$
- *Ultra Wide Band: 200MHz typ.
- *High Slew Rate: $45V/\mu s$ typ.
- *Low Operating Current: 0.63mA typ.

PIN CONFIGURATION



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EQUIVALENT CIRCUIT



ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

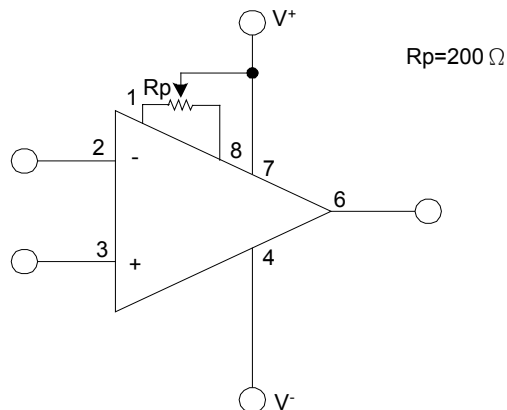
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺ V	±6.75	V
Differential Input Voltage	V _{ID}	±3	V
Power Dissipation	P _D	250 300	mW
Operating Temperature Range	T _{opr}	-40~+85	°C
Storage Temperature Range	T _{stg}	-50~+125	°C

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ELECTRICAL CHARACTERISTICS ($V^+V^- = \pm 2.5V, T_a = 25^\circ C$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V^+V^-		± 1.35	± 2.50	± 6.00	V
Input Offset Voltage	V_{IO}	$R_s \leq 0 \Omega$		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	$R_L \geq 10k \Omega$	65	75		dB
Input Common Mode Voltage Range	V_{ICM}		1.2	1.5		V
			-1.2	-1.5		
Common Mode Rejection Ratio	CMR	$-1V \leq V_{cm} \leq +1V$	45	60		dB
Supply Voltage Rejection Ratio	+SVR		70	100		dB
			-SVR	50	60	
Maximum Output Voltage Swing	V_{OM}	$R_L = 1k \Omega$	1.1	1.4		V
			-0.9	-1.2		
Operating Current	I_{CC}	$R_L = \infty$ (all Amp.)		0.63	0.82	mA
Slew Rate	SR	$A_v = 0dB$		45		V/ μs
Gain-Bandwidth Product	GB	60dB \cdot 500kHz	120	200		MHz
Phase Margin	Φ_M	40dB		25		deg
Unity Gain-Bandwidth	f_t	40dB		40		MHz

OFFSET ADJUSTMENT METHOD



note: The electrical characteristics change a little, in case the R_p is connected.

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