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LF353

Dual Operational Amplifier (JFET)

Features

- Internally trimmed offset voltage: 10mV
- Low input bias current: 50pA
- Wide gain bandwidth: 4MHz
- High slew rate: 13V/μs
- High Input impedance: $10^{12}\Omega$

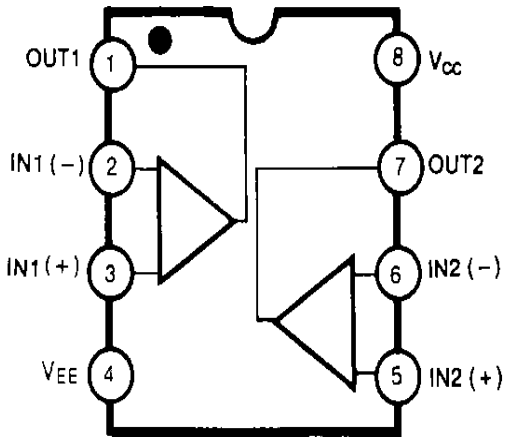
Description

The LF353 is a JFET input operational amplifier with an internally compensated input offset voltage. The JFET input device provides wide bandwidth, low input bias currents and offset currents.

8-DIP

8-SOP

Internal Block Diagram



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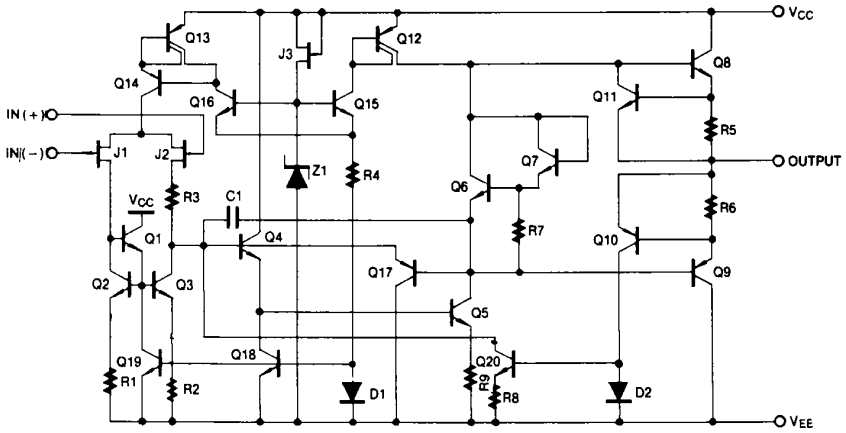
Schematic Diagram

(One Section Only)



Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Power Supply Voltage	V_{CC}	±18	V
Differential Input Voltage	$V_{I(DIFF)}$	30	V
Input Voltage Range	V_I	±15	V
Output Short Circuit Duration	-	Continuous	-
Power Dissipation	P_D	500	mW
Operating Temperature Range	T_{OPR}	0 ~ +70	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Electrical Characteristics

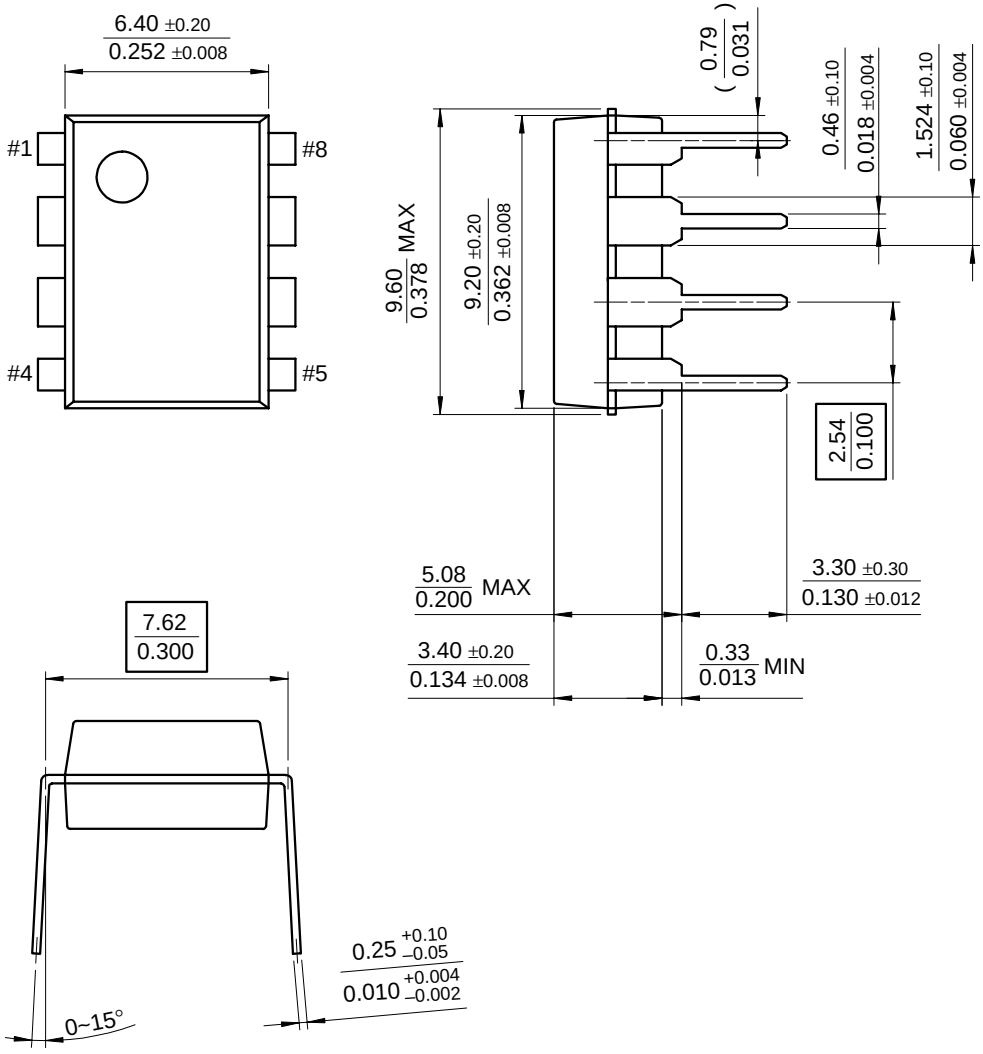
(V_{CC} =+15V, V_{EE}= -15V, T_A=25 °C, unless otherwise specified)

Parameter	Symbol	Conditions		Min.	Typ.	Max.	Unit
Input Offset Voltage	V_{IO}	R_S=10KΩ		-	5.0	10	mV
			0 °C≤T_A≤+70 °C	-	-	-	-
Input Offset Voltage Drift	$\Delta V_{IO}/\Delta T$	R_S=10KΩ	0 °C≤T_A≤+70 °C	-	10	-	μV/ °C
Input Offset Current	I_{IO}			-	25	100	pA
			0 °C≤T_A≤+70 °C	-	-	4	nA
Input Bias Current	I_{BIAS}			-	50	200	pA
			0 °C≤T_A≤+70 °C	-	-	8	nA
Input Resistance	R_I	-		-	10^{12}	-	Ω
Large Signal Voltage Gain	G_V	$V_{O(P-P)}$ = ±10V		25	100	-	V/mV
		R_L = 2KΩ	0 °C≤T_A≤+70 °C	15	-	-	-
Output Voltage Swing	$V_{O(P_P)}$	R_L = 10KΩ		±12	±13.5	-	V
Input Voltage Range	$V_{I(R)}$	-		±11	±15/-12	-	V
Common Mode Rejection Ratio	CMRR	R_S ≤ 10KΩ		70	100	-	dB
Power Supply Rejection Ratio	PSRR	R_S ≤ 10KΩ		70	100	-	dB
Power Supply Current	I_{CC}	-		-	3.6	6.5	mA
Slew Rate	SR	G_V = 1		-	13	-	V/μS
Gain-Bandwidth Product	GBW	-		-	4	-	MHz
Channel Seperation	CS	f = 1Hz ~ 20KHz (Input referenced)		-	120	-	dB
Equivalent Input Noise Voltage	V_{NI}	R_S = 100Ω f = 1KHz		-	16	-	nV/$\sqrt{Hz}$
Equivalent Input Noise Current	I_{NI}	f = 1KHz		-	0.01	-	pA/$\sqrt{Hz}$

Mechanical Dimensions

Package

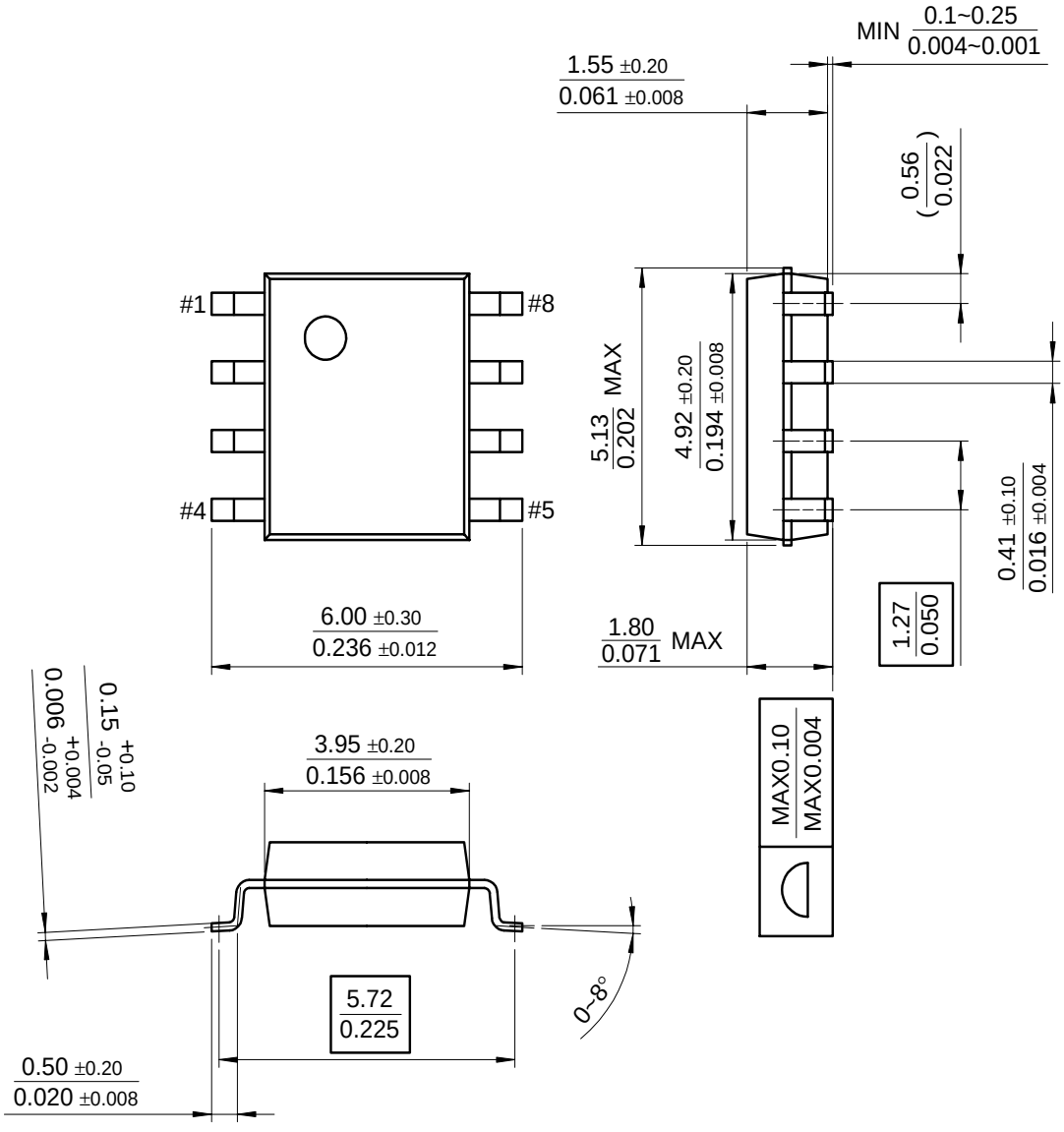
8-DIP



Mechanical Dimensions

Package

8-SOP



Ordering Information

Product Number	Package	Operating Temperature
LF353N	8-DIP	0 ~ + 70°C
LF353M	8-SOP	

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