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Please note: As part of the Fairchild Semiconductor integration, some of the Fairchild orderable part numbers will need to change in order to meet ON Semiconductor's system requirements. Since the ON Semiconductor product management systems do not have the ability to manage part nomenclature that utilizes an underscore (_), the underscore (_) in the Fairchild part numbers will be changed to a dash (-). This document may contain device numbers with an underscore (_). Please check the ON Semiconductor website to verify the updated device numbers. The most current and up-to-date ordering information can be found at www.onsemi.com. Please email any questions regarding the system integration to Fairchild_questions@onsemi.com.

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: $10^{12}\Omega$

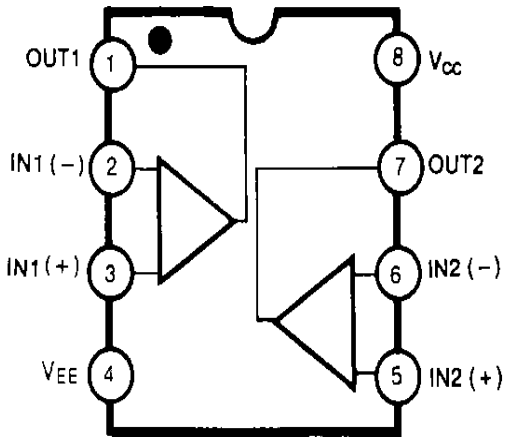
Description

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

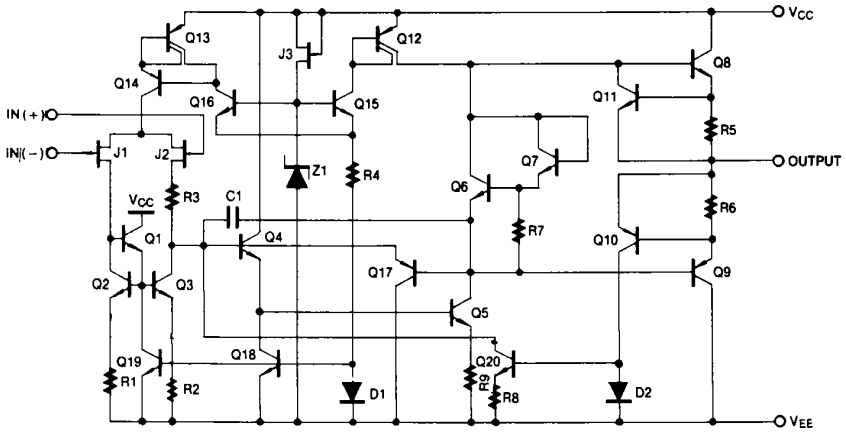
8-SOP

Internal Block Diagram



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

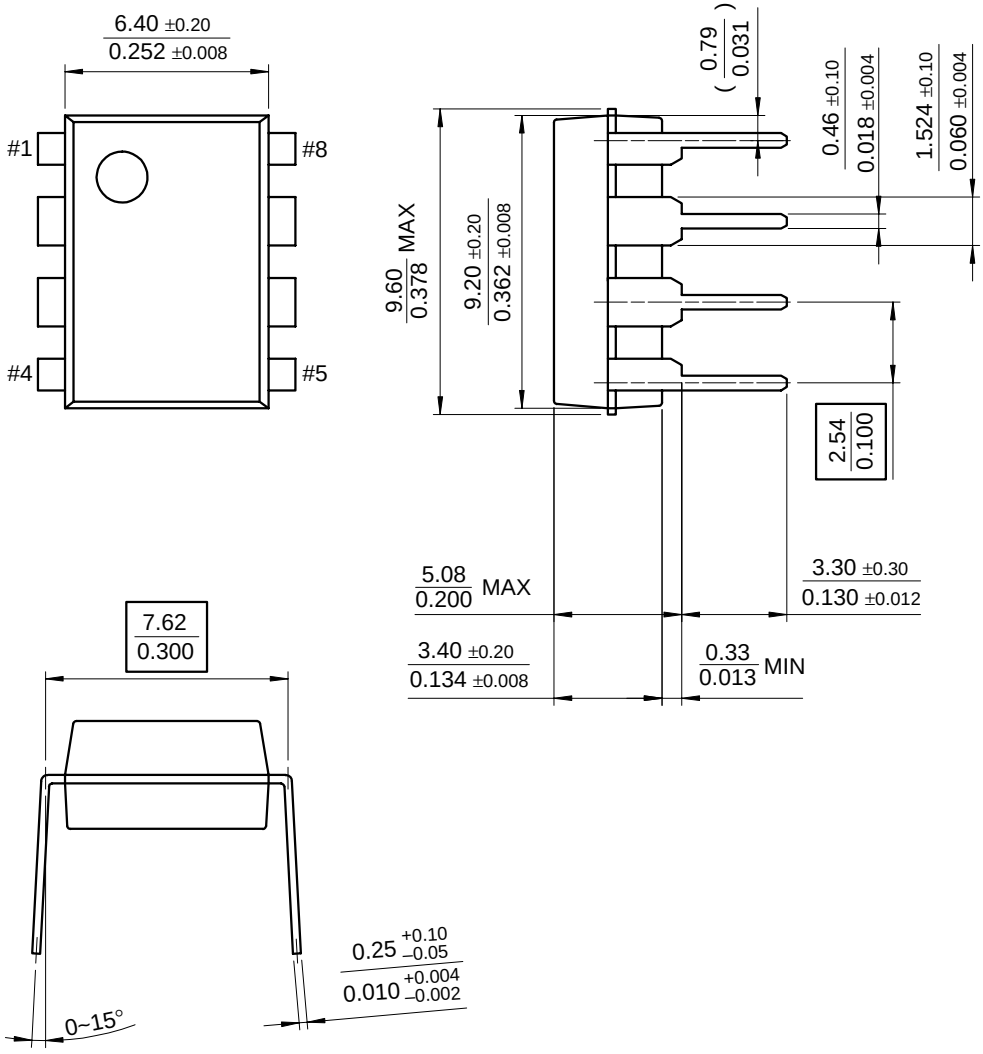
(V_{CC} =+15V, V_{EE}= -15V, T_A=25 °C, unless otherwise specified)

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

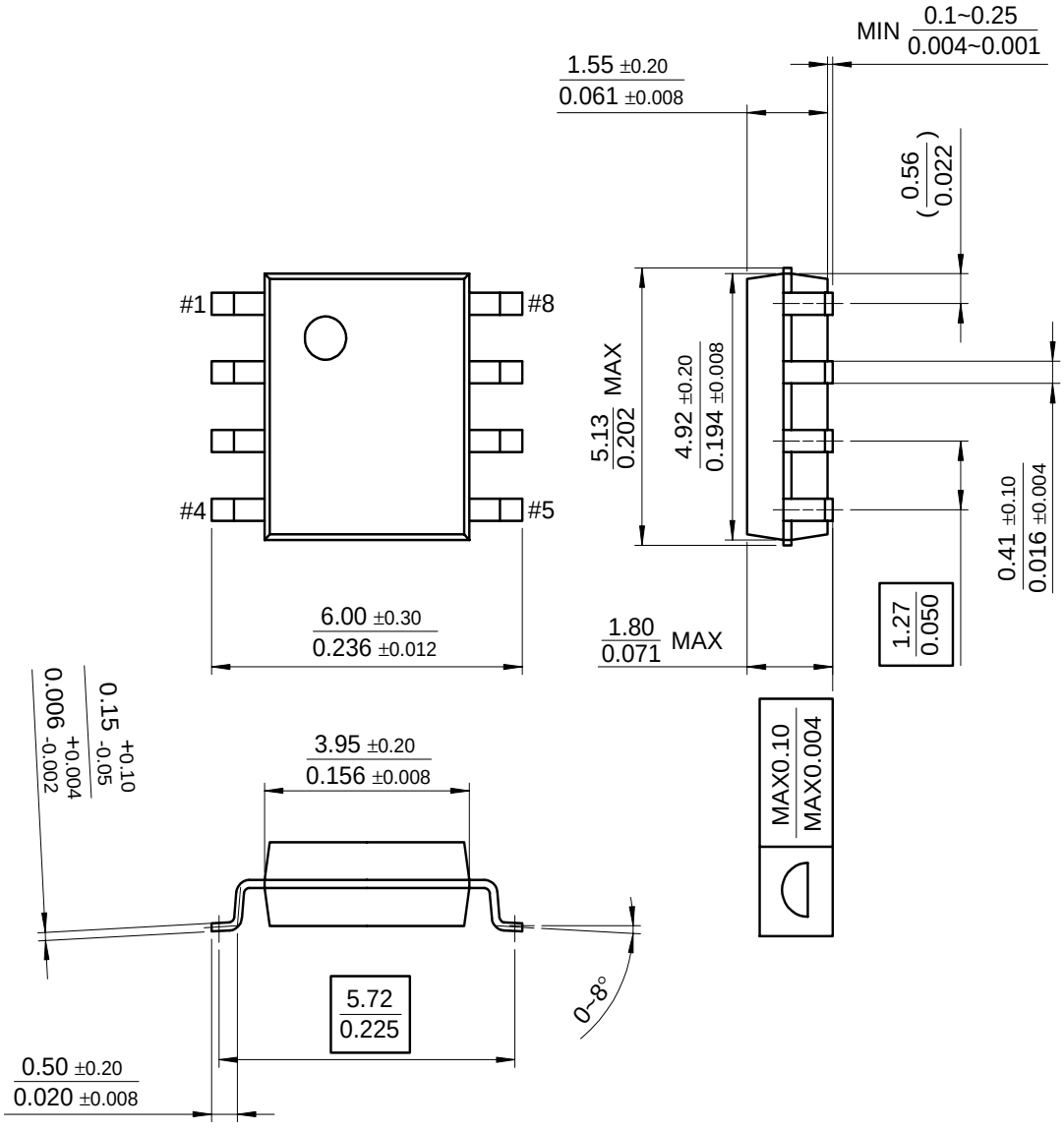
8-DIP



Mechanical Dimensions

Package

8-SOP



Ordering Information

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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
19521 E. 32nd Pkwy, Aurora, Colorado 80011 USA
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