

# LF353

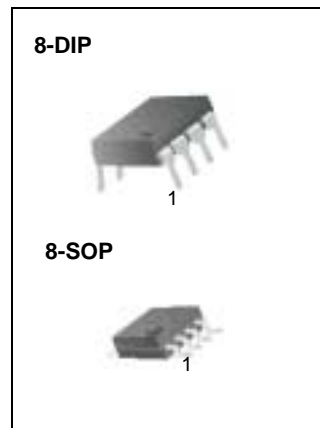
## Dual Operational Amplifier (JFET)

### Features

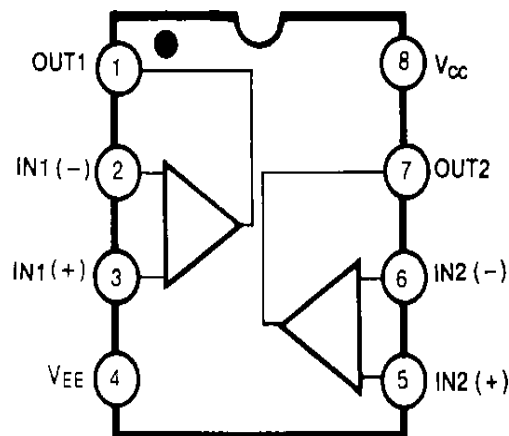
- Internally trimmed offset voltage: 10mV
- Low input bias current: 50pA
- Wide gain bandwidth: 4MHz
- High slew rate: 13V/μs
- High Input impedance:  $10^{12}\Omega$

### 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.

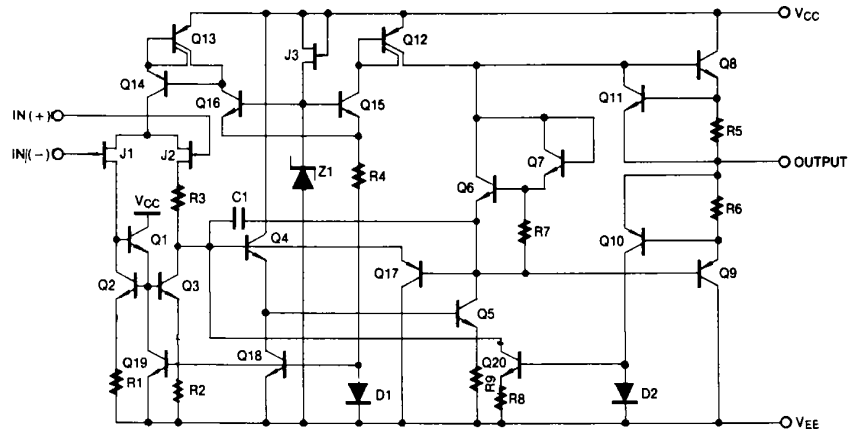


### Internal Block Diagram



## Schematic Diagram

(One Section Only)



## Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Power Supply Voltage	VCC	±18	V
Differential Input Voltage	V <sub>I(DIFF)</sub>	30	V
Input Voltage Range	V <sub>I</sub>	±15	V
Output Short Circuit Duration	-	Continuous	-
Power Dissipation	PD	500	mW
Operating Temperature Range	TOPR	0 ~ +70	°C
Storage Temperature Range	TSTG	-65 ~ +150	°C

## Electrical Characteristics

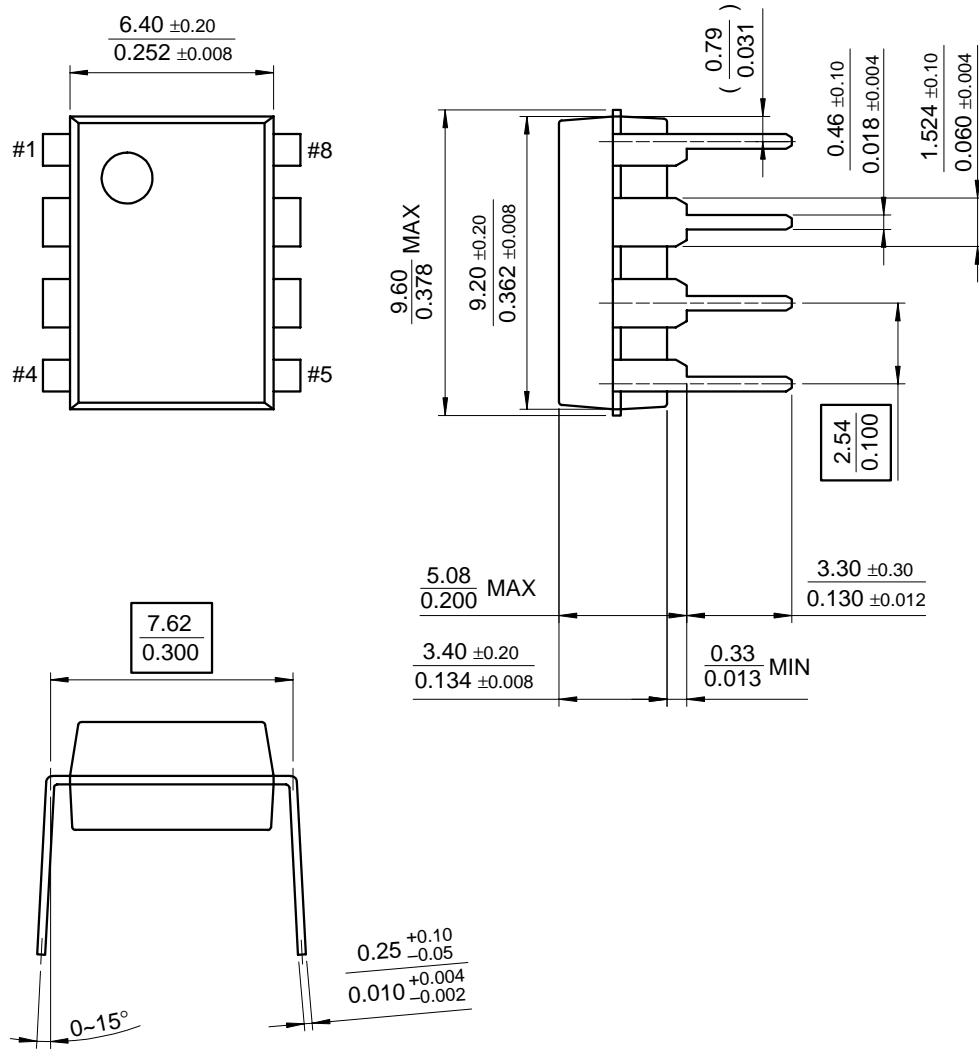
( $V_{CC} = +15V$ ,  $V_{EE} = -15V$ ,  $T_A = 25\text{ }^\circ\text{C}$ , unless otherwise specified)

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

# Mechanical Dimensions

## Package

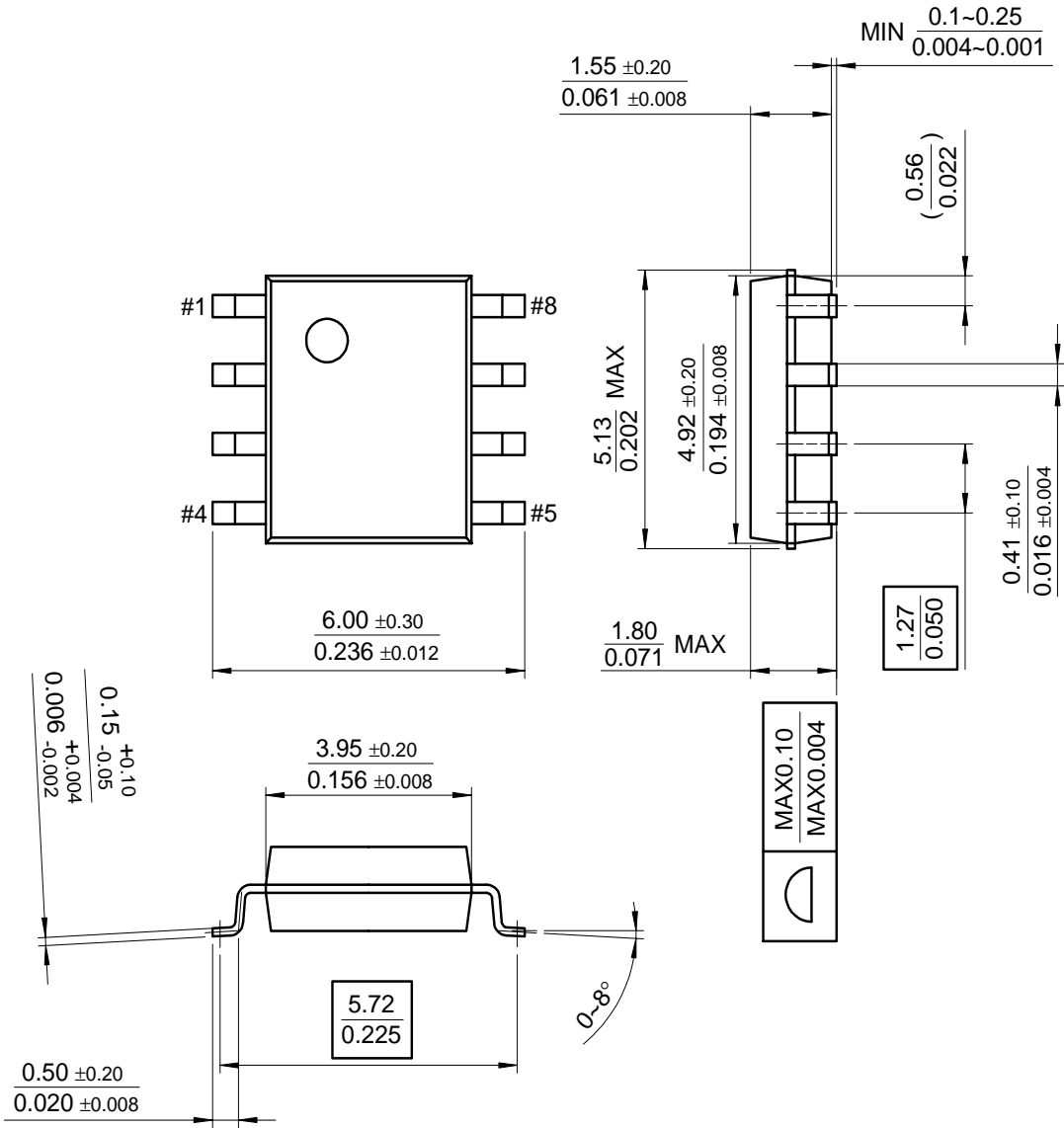
### 8-DIP



# 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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