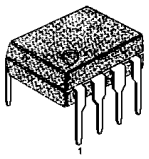
LF353 (LM353, KA353) DUAL OPERATIONAL AMPLIFIER (JFET)

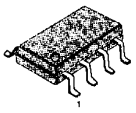
DUAL OPERATIONAL AMPLIFER

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

8 DIP



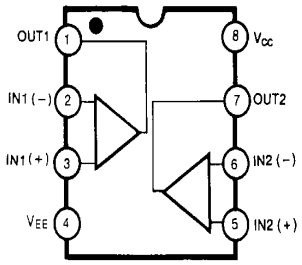
8 SOP



FEATURES

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

BLOCK DIAGRAM



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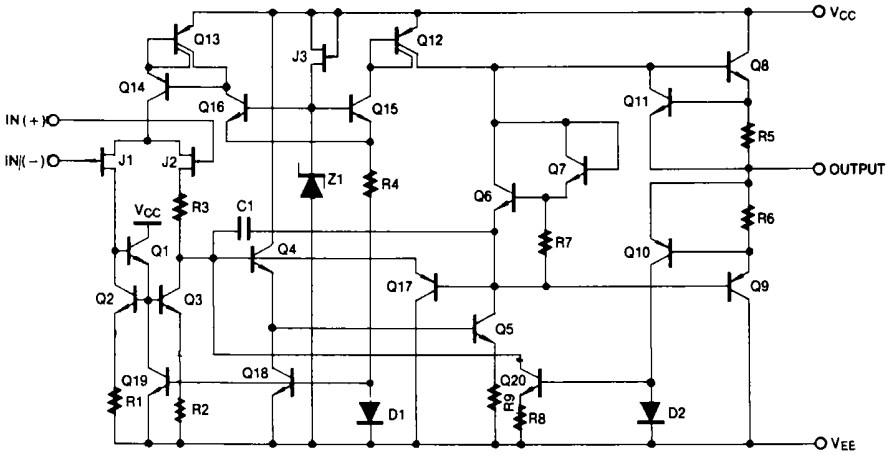
ORDERING IN FORMATION

Device	Package	Operating Temperature
LF353N	8 DIP	0 ~ + 70°C
LF353M	8 SOP	
LF353S	9 SIP	

SCHEMATIC DIAGRAM (One Section Only)



Rev. B

FAIRCHILD SEMICONDUCTOR TM

ABSOLUTE MAXIMUM RATINGS

Characteristics	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)

Characteristic	Symbol	Test 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	$V_{O(P-P)}$ = ±0V	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	GBM			4		MHz
Channel Seperation	CS	f = 1Hz ~ 20Khz (Input referenced)	120	120		dB
Equivalent Input Noise Voltage	V_{NI}	R_S = 100Ω f = 1KHz	16	16		nV/√Hz
Equivalent Input Noise Current	I_{NI}	f = 1KHz	0.01	0.01		pA/√Hz

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