Index of /ds/LF/

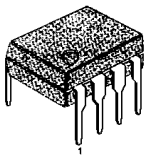
Name	Last modified	Size	Description
Parent Directory			
LF353.pdf	22-Dec-99 00:11	49K	
LF353M.pdf	22-Dec-99 00:11	49K	
LF353N.pdf	22-Dec-99 00:11	49K	
LF353S.pdf	22-Dec-99 00:11	49K	

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

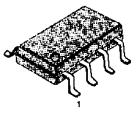
DUAL OPERATIONAL AMPLIFER

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



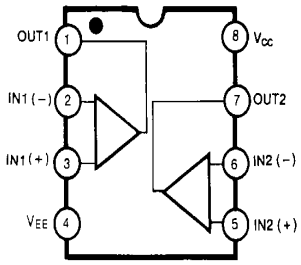
8 SOP



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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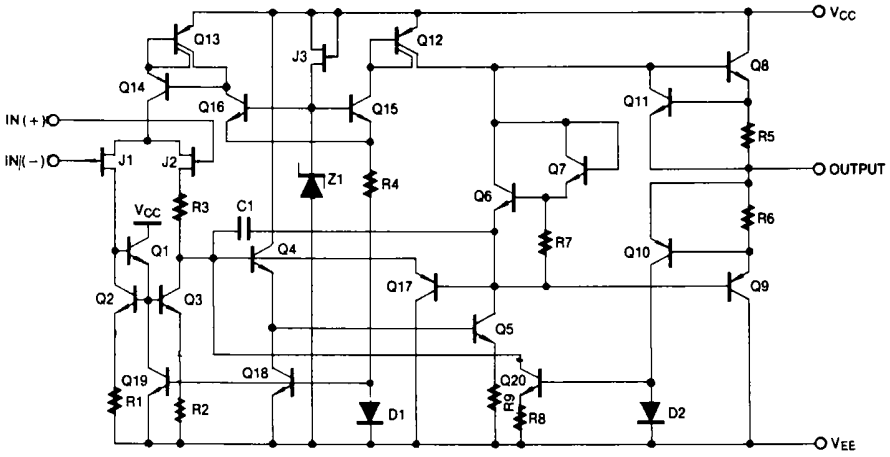
ORDERING IN FORMATION

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

SCHEMATIC DIAGRAM (One Section Only)



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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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.