Solid Circuit* Semiconductor Networks†

Series 52 and Series 72 Operational/Differential Amplifiers

Very low input and output offset characteristics ■ High common-mode input capability ■ Standard TO-84 and TO-89 flat packages and multilead TO-5

SN521A

Operational Amplifier

TYPICAL CHARACTERISTICS

Voltage gain	1200
Input impedance	12 kΩ
Output impedance	10 kΩ
D-c drift referred to input	8 μv/°C
Output signal swing	±4·7 v
Common-mode rejection	60 db
Temperature range	−55° to+125°C

SN522A

Operational Amplifier

TYPICAL CHARACTERISTICS

Voltage gain	1200
Input impedance	12 kΩ
Output impedance	160Ω
D-c drift referred to input	8 μv/°C
Output signal swing	±3·7 v
Common-mode rejection	60 db
Temperature range	−55° to+125°C

SN523A/SN723

General-purpose Differential Amplifier

TYPICAL CHARACTERISTICS

Voltage gain (differential)	2500
Input impedance	10 kΩ
Input offset voltage	2 mv
D-c drift referred to input	5 μv/°C
Output signal swing, single-ended	±6·5 v
Common-mode rejection	90 db
Temperature range SN523L‡, SN1523A SN723L‡, SN1723	 −55° to+125°C 0°C to+70°C

SN524A/SN724

General-purpose Operational Amplifier

TYPICAL CHARACTERISTICS

Voltage gain	1200
Input impedance	1 megohm
Input offset voltage	12 mv
D-c drift referred to input	20 μv/°C
Output signal swing, single ended	±7·5 v
Common-mode rejection	55 db
Temperature range SN524AL‡, SN524A SN724L‡, SN724	 −55° to+125°C 0°C to+70°C

SN525/SN725

High-performance Differential Amplifier

TYPICAL CHARACTERISTICS

Voltage gain (differential)	50,000
Input impedance	100 kΩ
Input offset voltage	1 mv
D-c drift referred to input	5 μv/°C
Output signal swing, single-ended	±9 v
Common-mode rejection	100 db
Temperature range SN525 SN725	 −55° to+125°C 0° to+70°C

SN526/SN726

High-performance Operational Amplifier

TYPICAL CHARACTERISTICS

Voltage gain	1200
Input impedance	1 megohm
Input offset voltage	3 mv
D-c drift referred to input	15 μv/°C
Output signal swing, single-ended	±6 v (R_L=600Ω)
Common-mode rejection	80 db
Temperature range SN526 SN726	 −55° to+125°C 0° to+70°C

Series 53 and 73 Modified-DTL Digital

Multiple circuit functions per package, lowest cost ■ Full saturated NAND/NOR logic flexibility ■ Standard TO-84 and TO-89 flat package (optional plug-in package for Series 73)

TYPICAL CHARACTERISTICS

Parameter	Basic AND Gate	Basic NAND Gate	Flip-flop
Propagation delay	5 nsec	25 nsec	45 nsec
Power dissipation	10 mw	10 mw	27 mw
D-c noise margin	400 mv	400 mv	400 mv
Fan-out	4N+ & 4N−	10N+ & 10N−	10N+ & 10N−
Supply voltage	3 to 4 v	3 to 4 v	3 to 4 v
Temperature range Series 53 Series 73	 −55° to+125°C ——	 −55° to+125°C 0° to+70°C	 −55° to+125°C 0° to+70°C

*Trademark
†Patented by Texas Instruments Inc.
‡Multilead TO-5 package

SN530/SN7300 — Single-phase J-K Flip-flop with Preset
SN5301/SN7301/SN7301N — J-K Flip-flop with Preset and Clear
SN5302/SN7302/SN7302N — Dual J-K Flip-flop with Preset
SN5304/SN7304/SN7304N — Dual J-K Flip-flop with Preset and Clear
SN531/SN7310 — 5-input Expandable NAND/NOR Gate
SN5311/SN7311/SN7311N — Dual 5-input NAND/NOR Gate
SN5315/SN7315/SN7315N — 10-input Expandable NAND/NOR Gate
SN532/SN7320/SN7320N — 5-input AND/OR Gate or Expander**
SN533/SN7330 — Dual 3-input NAND/NOR Gate
SN5331/SN7331/SN7331N — Triple 3-input NAND/NOR Gate
SN534 — Dual AND/OR Gate (2 and 3 Inputs)
SN535/SN7350/SN7350N — Quadruple Inverter/Driver
SN5360/SN7360/SN7360N — Quadruple 2-input NAND/NOR Gate
SN5370/SN7370/SN7370N — Dual EXCLUSIVE-OR Gate
SN5380/SN7380/SN7380N — "One Shot" Monostable Multivibrator

**SN7320 is Expander only.
The suffix N denotes plug-in package.