

BUYERS' GUIDE

for Low Cost IC Operational Amplifiers

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The Electronic Engineer

The op amp has become as ubiquitous in today's electronic equipment as the vacuum tube and transistor in their days of glory. And, as the popularity of the op amp has grown, so has the number of models available from the various manufacturers.

On the following pages, you will find a list of just about 1000 different op amps. It includes all integrated circuit op amps, both hybrid and monolithic, that you can buy for less than \$30.00 each in quantities of 100.

The list is arranged in order of ascending price, beginning with a plastic-packaged 709 for 46¢ from TI and continuing on up to the AD508L, a \$30.00 hybrid device from Analog Devices. All in all, 24 dif-

ferent manufacturers are represented.

In addition to the model number, price, and manufacturer, the list includes typical values for input bias current, offset voltage drift, and slew rate. If you're looking for ultra high performance in one of these areas, the list may also be of help. Op amps with an input bias current of 10 pA or less are identified by a color tint in the bias current column. If offset voltage drift is your thing, the color tint identifies those which boast of 1 $\mu\text{V}/^\circ\text{C}$ or less. Finally, if you happen to be a speed freak, color in the slew rate column indicates slew rates of 100 $\text{V}/\mu\text{s}$ or greater.

For more information on a specific device, we recommend that you contact the manufacturers directly at the addresses listed. For general information use the Reader Service Number. ■

Advanced Micro Devices 901 Thompson Place Sunnyvale, CA 94086	RSN #250	ITT Semiconductors 3301 Electronics Way West Palm Beach, FL 33407	RSN #258	Silicon General Inc. 7382 Bolsa Ave. Westminster, CA 92683	RSN #266
Amperex Electronic Corp. Hybrid Integrated Circuits 99 Bald Hill Rd. Cranston, RI 02920	RSN #251	Motorola Semiconductor Products Inc. 5005 E. McDowell Rd. Phoenix, AZ 85008	RSN #259	Siliconix 2201 Laurelwood Rd. Santa Clara, CA 95054	RSN #267
Analog Devices Rte. One Industrial Park Box 280 Norwood, MA 02062	RSN #252	National Semiconductor 2900 Semiconductor Dr. Santa Clara, CA 95051		Sprague Electric Co. 551 Marshall St. North Adams, MA 01248	RSN #268
Bell & Howell Control Products Div. 706 Bostwick Ave. Bridgeport, CT 06605	RSN #253	Optical Electronics Inc. Box 11140 Tucson, AZ 85706	RSN #261	Teledyne Philbrick Allied Dr. at Rte. 128 Dedham, MA 02026	RSN #269
Burr-Brown Research Corp. International Airport Ind. Park Tucson, AZ 85706	RSN #254	Precision Monolithics Inc. 1500 Space Park Dr. Santa Clara, CA 95050	RSN #262	Teledyne Semiconductor 1400 Terra Bella Ave. Mountain View, CA 94040	RSN #270
Fairchild Semiconductor 464 Ellis St. Mountain View, CA 94040	RSN #255	Raytheon 350 Ellis St. Mountain View, CA 94040	RSN #263	Texas Instruments Inc. Box 5012 MS/84 13500 N. Central Expwy. Dallas, TX 75222	RSN #271
Harris Semiconductor Box 883 Melbourne, FL 32901	RSN #256	RCA Solid State Div. Route 202 Somerville, NJ 08876	RSN #264	Transitron Electronic Corp. 168 Albion St. Wakefield, MA 01880	RSN #272
Intersil Inc. 10900 N. Tantau Ave. Cupertino, CA 95014	RSN #257	Signetics 811 E. Arques Ave. Sunnyvale, CA 94086	RSN #265	Zeltex Inc. 1000 Chalomar Rd. Concord, CA 94520	RSN #273

MODEL	H/M	BIAS	SLEW	DRIFT	COST	MANUFACTURER
		nA	V/μs	μV/°C	\$/100	
SN72709P	M	1500+00000	0.30	6.0	0.46	TEXAS INSTRUMENTS
MC1709CP1	M	300+00000	0.25	3.0	0.50	MOTOROLA
SN72709N	M	1500+00000	0.30	6.0	0.54	TEXAS INSTRUMENTS
LM709CN	M	500+00000	0.30	6.0	0.55	NATIONAL SEMICONDUCTOR
741C	M	200+00000	0.50	6.0	0.55	INTERSIL
746C	M	120+00000	0.50	3.0	0.55	INTERSIL
SN72741P	M	500+00000	0.50	7.0	0.56	TEXAS INSTRUMENTS
MC1741CP1	M	200+00000	0.80	3.0	0.56	MOTOROLA
RC709DP	M	1500+00000	0.40	6.0	0.58	RAYTHEON
MC1709CP2	M	300+00000	0.25	3.0	0.58	MOTOROLA
CA3029	M	5300+00000	3.00	1.2	0.59	RCA
SN72301A	M	250+00000	0.50	6.0	0.60	TEXAS INSTRUMENTS
SN72307P	M	250+00000	0.50	6.0	0.60	TEXAS INSTRUMENTS
SN72748P	M	500+00000	0.50	7.0	0.60	TEXAS INSTRUMENTS
LM709CH	M	500+00000	0.30	6.0	0.60	NATIONAL SEMICONDUCTOR
LM301AN	M	30+00000	0.50	30.0	0.60	NATIONAL SEMICONDUCTOR
MCC170902	M	300+00000	0.25	3.0	0.60	MOTOROLA
MLM301API	M	70+00000	10.00	6.0	0.60	MOTOROLA
MC1709CL	M	300+00000	0.25	3.0	0.61	MOTOROLA
MC1709CG	M	300+00000	0.25	3.0	0.61	MOTOROLA
TA0301A	M	70+00000	*****	6.0	0.63	TRANSITRON
TA0307	M	70+00000	*****	6.0	0.63	TRANSITRON
SN72741N	M	500+00000	0.30	5.0	0.64	TEXAS INSTRUMENTS
MC1741CP2	M	200+00000	0.80	3.0	0.64	MOTOROLA
TOA2741	M	80+00000	0.50	*****	0.65	TRANSITRON
CA3010	M	5300+00000	3.00	1.2	0.65	RCA
LM301AH	M	30+00000	0.50	30.0	0.65	NATIONAL SEMICONDUCTOR
MLM307G	M	70+00000	*****	6.0	0.65	MOTOROLA
MLM301AG	M	70+00000	10.00	6.0	0.65	MOTOROLA
MC1741CG	M	200+00000	0.80	3.0	0.68	MOTOROLA
MC1741CL	M	200+00000	0.80	3.0	0.68	MOTOROLA
CA3741CT	M	80+00000	0.50	2.0	0.69	RCA
MCC1748C2	M	80+00000	0.80	3.0	0.70	MOTOROLA
CA3080	M	120+00000	50.00	1.0	0.71	RCA
RC741T	M	500+00000	0.50	6.0	0.71	RAYTHEON
CA3029A	M	2500+00000	3.00	1.2	0.71	RCA
RC748T	M	500+00000	0.50	6.0	0.71	RAYTHEON
301A	M	70+00000	0.50	6.0	0.72	INTERSIL
MCC1741C2	M	200+00000	0.80	3.0	0.75	MOTOROLA
MC3401	M	50+00000	0.60	*****	0.75	MOTOROLA
CA3010A	M	2500+00000	3.00	1.2	0.78	RCA
MC3301	M	50+00000	0.60	*****	0.80	MOTOROLA
SG741CN	M	500+00000	0.50	10.0	0.85	SILICON GENERAL
TOA2709	M	300+00000	0.50	*****	0.85	TRANSITRON
SG301AM	M	250+00000	0.50	30.0	0.85	SILICON GENERAL
SG741CM	M	500+00000	0.50	10.0	0.85	SILICON GENERAL
SG307M	M	250+00000	0.50	30.0	0.85	SILICON GENERAL
TOA2748	M	80+00000	5.00	*****	0.85	TRANSITRON
HC4558DN	M	200+00000	0.50	6.0	0.88	RAYTHEON
709CE	M	1500+00000	0.30	50.0	0.90	TELEDYNE SEMICONDUCTOR
MU709C	M	1500+00000	0.30	10.0	0.90	FAIRCHILD
SG310AT	M	250+00000	0.50	30.0	0.95	SILICON GENERAL
SG741CT	M	500+00000	0.50	10.0	0.95	SILICON GENERAL
SG307T	M	250+00000	0.50	30.0	0.95	SILICON GENERAL
SG748CM	M	500+00000	0.50	10.0	0.95	SILICON GENERAL
CA3748CT	M	80+00000	0.50	2.0	0.95	RCA
SN72702N	M	4000+00000	1.70	5.0	0.96	TEXAS INSTRUMENTS
LN308N	M	*****	0.30	6.0	0.96	NATIONAL SEMICONDUCTOR
RC101AT	M	275+00000	0.50	6.0	1.00	RAYTHEON
RC101T	M	250+00000	0.50	15.0	1.00	RAYTHEON
RC4558T	M	200+00000	0.50	6.0	1.00	RAYTHEON
TOA3709	M	200+00000	0.50	3.0	1.00	TRANSITRON
AD741C	M	80+00000	0.50	*****	1.00	ANALOG DEVICES
AD301A	M	70+00000	0.50	6.0	1.00	ANALOG DEVICES
LM741CN	M	200+00000	0.50	*****	1.05	NATIONAL SEMICONDUCTOR
SG748CT	M	500+00000	0.50	10.0	1.10	SILICON GENERAL
MCC1349Z?	M	200+00000	4.20	3.0	1.10	MOTOROLA
HA2301A5	M	250+00000	0.50	3.0	1.10	HARRIS
HA23075	M	250+00000	0.50	3.0	1.10	HARRIS
MU748C	M	500+00000	0.50	7.0	1.10	FAIRCHILD
LN301A	M	250+00000	0.50	6.0	1.10	FAIRCHILD
SN72558P	M	500+00000	0.50	7.0	1.14	TEXAS INSTRUMENTS
SN52741L	M	500+00000	0.50	7.0	1.15	TEXAS INSTRUMENTS
SN52748L	M	500+00000	0.50	7.0	1.15	TEXAS INSTRUMENTS
MC1456CG	M	15+00000	2.50	*****	1.19	MOTOROLA
TOA1558	M	80+00000	0.50	*****	1.20	TRANSITRON
TOA2747	M	80+00000	0.50	*****	1.20	TRANSITRON
CA3458T	M	80+00000	0.50	2.0	1.20	RCA
MCC170902	M	300+00000	0.25	3.0	1.20	MOTOROLA
MC1458CG	M	200+00000	0.80	*****	1.23	MOTOROLA
SN52702L	M	4000+00000	1.70	10.0	1.25	TEXAS INSTRUMENTS
SG3217CT	M	500+00000	0.50	10.0	1.25	SILICON GENERAL
MU709DP	M	1500+00000	0.40	6.0	1.25	RAYTHEON
LN741CN14	M	200+00000	0.50	*****	1.25	NATIONAL SEMICONDUCTOR
MC1748CG	M	80+00000	0.80	3.0	1.25	MOTOROLA
MIC741	M	100+00000	0.50	3.0	1.25	ITT
MU741C	M	500+00000	0.50	7.0	1.25	FAIRCHILD
LM201M	M	500+00000	0.50	7.0	1.25	FAIRCHILD
CA3030	M	9600+00000	7.00	3.5	1.32	RCA
RM741T	M	500+00000	0.50	6.0	1.33	RAYTHEON
LM201H	M	500+00000	0.50	6.0	1.35	NATIONAL SEMICONDUCTOR
MC1458M	M	200+00000	0.80	*****	1.35	MOTOROLA
301M	M	250+00000	0.50	15.0	1.35	ADVANCED MICRO DEVICES
TOA2809	M	300+00000	0.50	*****	1.38	TRANSITRON
SS5741CJ	M	45+00000	1.50	4.5	1.40	PRECISION MONOLITHICS
SSS301AJ	M	60+00000	0.40	7.0	1.40	PRECISION MONOLITHICS
SSS307J	M	60+00000	0.40	7.0	1.40	PRECISION MONOLITHICS
MU749C	M	1000+00000	1.50	3.0	1.40	FAIRCHILD
741CE	M	500+00000	0.50	30.0	1.45	TELEDYNE SEMICONDUCTOR
MC1439G	M	200+00000	4.20	3.0	1.45	MOTOROLA
CA3747CE	M	80+00000	0.50	2.0	1.50	RCA
SG1660	M	15+00000	0.10	10.0	1.50	SILICON GENERAL
SG201T	M	1500+00000	0.50	6.0	1.50	SILICON GENERAL
CA3747CT	M	80+00000	0.50	2.0	1.50	RCA
CA3748T	M	50+00000	0.50	2.0	1.50	RCA
TOA8741	M	20+00000	1.00	*****	1.50	TRANSITRON
TOA8748	M	20+00000	10.00	*****	1.50	TRANSITRON
LM751CH	M	200+00000	0.50	*****	1.50	NATIONAL SEMICONDUCTOR
MC1709CF	M	200+00000	0.25	3.0	1.50	MOTOROLA
MC1437P	M	400+00000	0.25	1.5	1.50	MOTOROLA
MC1435L	M	1200+00000	0.67	3.0	1.50	MOTOROLA

MODEL	H/M	BIAS	SLEW	DRIFT	COST	MANUFACTURER
		nA	V/μs	μV/°C	\$/100	
MC1458-2	M	200+00000	0.80	*****	1.50	MOTOROLA
741C-LN	M	80+00000	0.40	2.50	1.50	INTERSIL
SN72747N	M	500+00000	0.50	7.0	1.55	TEXAS INSTRUMENTS
CA3015	M	9600+00000	7.00	3.5	1.56	RCA
ULN2158M	M	70+00000	0.60	15.0	1.58	SPRAGUE
ULN2158D	M	70+00000	0.60	15.0	1.58	SPRAGUE
RC4131T	M	50+00000	2.50	5.0	1.60	RAYTHEON
LM1303N	M	400+00000	0.50	10.0	1.60	NATIONAL SEMICONDUCTOR
MC1439L	M	200+00000	4.20	3.0	1.60	MOTOROLA
RW709T	M	300+00000	0.40	4.0	1.63	RAYTHEON
N5709	M	200+00000	*****	6.0	1.65	SIGNETICS
SN52709L	M	500+00000	0.30	6.0	1.70	TEXAS INSTRUMENTS
LH709H	M	1500+00000	0.30	5.0	1.70	NATIONAL SEMICONDUCTOR
ULN2151D	M	70+00000	0.60	15.0	1.74	SPRAGUE
ULN2151M	M	70+00000	0.60	15.0	1.74	SPRAGUE
SN7771P	M	30+00000	2.50	10.0	1.74	TEXAS INSTRUMENTS
SN72770P	M	30+00000	2.50	10.0	1.74	TEXAS INSTRUMENTS
TOA8709	M	30+00000	0.50	*****	1.75	TRANSITRON
SG1760	M	15+00000	0.10	10.0	1.75	SILICON GENERAL
SG741CD	M	500+00000	0.50	10.0	1.75	SILICON GENERAL
MC1709G	M	200+00000	0.25	3.0	1.75	MOTOROLA
MC1709F	M	200+00000	0.25	3.0	1.75	MOTOROLA
MC1437L	M	400+00000	0.25	1.5	1.75	MOTOROLA
SN72550N	M	15+00000	0.10	30.0	1.78	TEXAS INSTRUMENTS
RC112T	M	7+00000	*****	30.0	1.80	RAYTHEON
MC1420G	M	800+00000	5.00	2.0	1.80	MOTOROLA
201	M	120+00000	0.50	5.0	1.80	ADVANCED MICRO DEVICES
ULN2139D	M	250+00000	4.20	15.0	1.83	SPRAGUE
ULN2139M	M	250+00000	4.20	15.0	1.83	SPRAGUE
MCB1709C	M	200+00000	0.25	3.0	1.85	MOTOROLA
MC1712CF	M	2500+00000	1.50	5.0	1.85	MOTOROLA
SN72660L	M	15+00000	0.10	30.0	1.88	TEXAS INSTRUMENTS
CA3047	M	70+00000	2.70	6.6	1.90	RCA
TOA1709	M	200+00000	0.50	3.0	1.90	TRANSITRON
MCC1539-2	M	200+00000	4.20	3.0	1.90	MOTOROLA
SSS301AP	M	60+00000	0.40	7.0	1.90	PRECISION MONOLITHICS
SSS741CP	M	45+00000	1.50	4.5	1.90	PRECISION MONOLITHICS
SSS307P	M	60+00000	0.40	7.0	1.90	PRECISION MONOLITHICS
CA3030A	M	4700+00000	7.00	1.2	1.98	RCA
CA4131D	M	50+00000	2.50	5.0	2.00	RAYTHEON
709BE	M	500+00000	0.30	10.0	2.00	TELEDYNE SEMICONDUCTOR
MCC1748-2	M	80+00000	0.80	3.0	2.00	MOTOROLA
AD741	M	80+00000	0.50	*****	2.00	ANALOG DEVICES
CA3037	M	5300+00000	3.00	1.2	2.04	RCA
ULN2157A	M	70+00000	0.60	15.0	2.08	SPRAGUE
ULN2157K	M	70+00000	0.60	15.0	2.08	SPRAGUE
LM1458H	M					

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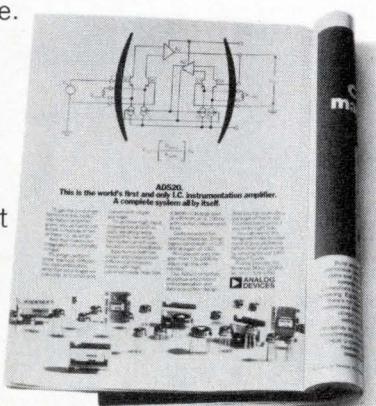
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Our AD508. No one else gives you this kind of long term drift performance.

Our AD520. The world's first and only I.C. instrumentation amplifier. A complete system all by itself.

Our AD523. It has the lowest bias current of all high performance I.C. operational amplifiers.

Our AD830 dual monolithic FETs. Their performance is so revolutionary, we gave them a new name and came up with a new way to measure them.



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National

MODEL	H/M	BIAS nA	SLEW V/ μ s	DRIFT μ V/C	COST \$/100	MANUFACTURER
RC4741	M	500.00000	0.50	6.0	2.90	RAYTHEON
RC7477	M	500.00000	0.50	6.0	2.90	RAYTHEON
SG4250CM	M	30.00000	0.20	6.0	2.95	SILICON GENERAL
LH741H	M	1500.00000	0.50	****	2.95	NATIONAL SEMICONDUCTOR
SSS308J	M	1.50000	0.20	5.0	2.95	PRECISION MONOLITHICS
SSS312J	M	1.50000	0.10	5.0	2.95	PRECISION MONOLITHICS
TOA7809	M	2.00000	0.50	6.0	3.00	TRANSITRON
CA3558T	M	80.00000	0.50	2.0	3.00	RCA
N5741	M	80.00000	0.50	****	3.00	SIGNETICS
SSS841CP	M	45.00000	0.50	5.0	3.00	PRECISION MONOLITHICS
AD502J2	M	3.00000	0.40	40.0	3.00	INTERSIL
741J	M	50.00000	4.00	5.0	3.00	INTERSIL
LM201A	M	75.00000	0.50	3.0	3.00	FAIRCHILD
AD502JH	M	5.00000	1.00	15.0	3.00	ANALOG DEVICES
AD101A	M	30.00000	0.50	3.0	3.00	ANALOG DEVICES
TOA748	M	80.00000	5.00	****	3.10	TRANSITRON
ULN-21740	M	7.00000	0.30	15.0	3.10	SPRAGUE
ULN-21740	M	7.00000	0.30	15.0	3.10	SPRAGUE
1303	M	300.00000	3.00	5.0	3.10	TELEDYNE PHILBRICK
1301	M	300.00000	3.00	5.0	3.10	TELEDYNE PHILBRICK
ULN-2172M	M	30.00000	1.50	15.0	3.10	SPRAGUE
ULN-21720	M	30.00000	1.50	15.0	3.10	SPRAGUE
CA3038	M	9600.00000	7.00	3.5	3.12	RCA
CA3016	M	9600.00000	7.00	3.5	3.12	RCA
CA3037A	M	2500.00000	3.00	1.2	3.12	RCA
SN52101AL	M	75.00000	0.50	3.0	3.14	TEXAS INSTRUMENTS
SG4250CT	M	30.00000	0.20	6.0	3.25	SILICON GENERAL
SG3250T	M	30.00000	0.20	6.0	3.25	SILICON GENERAL
LM310U	M	7.00000	30.00	10.0	3.25	NATIONAL SEMICONDUCTOR
LN4250CH	M	30.00000	1.00	10.0	3.25	NATIONAL SEMICONDUCTOR
LM316AH	M	0.05000	****	****	3.25	NATIONAL SEMICONDUCTOR
MC1537L	M	200.00000	0.25	3.0	3.25	MOTOROLA
MC1709F	M	300.00000	0.25	3.0	3.25	MOTOROLA
MLM310G	M	2.00000	30.00	6.0	3.25	MOTOROLA
LM101A	M	75.00000	0.50	3.0	3.25	FAIRCHILD
310	M	2.00000	30.00	10.0	3.25	ADVANCED MICRO DEVICES
316A	M	0.05000	0.20	10.0	3.25	ADVANCED MICRO DEVICES
ULS-2157A	M	35.00000	0.60	15.0	3.26	SPRAGUE
ULS-2157K	M	35.00000	0.60	15.0	3.26	SPRAGUE
HAU776C	M	50.00000	0.70	3.0	3.28	FAIRCHILD
SN52558L	M	500.00000	0.50	7.0	3.31	TEXAS INSTRUMENTS
1339-01	M	150.00000	34.00	5.0	3.35	TELEDYNE PHILBRICK
MCC1436-2	M	15.00000	2.00	****	3.40	MOTOROLA
ULN-2158E	M	70.00000	0.60	15.0	3.43	SPRAGUE
ULN-2158H	M	70.00000	0.60	15.0	3.43	SPRAGUE
ULN-2173D	M	7.00000	0.30	15.0	3.44	SPRAGUE
ULN-2171M	M	30.00000	1.50	15.0	3.44	SPRAGUE
ULN-2173M	M	7.00000	0.30	15.0	3.44	SPRAGUE
ULN-2171D	M	30.00000	1.50	15.0	3.44	SPRAGUE
1319	M	70.00000	0.60	6.0	3.45	TELEDYNE PHILBRICK
TOA1741	M	80.00000	0.50	****	3.45	TRANSITRON
SSS308Y	M	1.50000	0.20	5.0	3.45	PRECISION MONOLITHICS
HA2101-2	M	500.00000	0.50	3.0	3.45	HARRIS
SSS312Y	M	1.50000	0.10	5.0	3.45	PRECISION MONOLITHICS
CA3033	M	70.00000	2.70	6.6	3.48	RCA
CA3047A	M	100.00000	3.00	6.6	3.48	RCA
SG201AM	M	75.00000	0.50	15.0	3.50	SILICON GENERAL
MC1533G	M	500.00000	2.00	8.0	3.50	MOTOROLA
MC1533L	M	500.00000	2.00	8.0	3.50	MOTOROLA
MC1741CF	M	200.00000	0.80	3.0	3.50	MOTOROLA
MC1431G	M	100.00000	1.00	****	3.50	MOTOROLA
MC1430M	M	5000.00000	1.00	****	3.50	MOTOROLA
MC1430G	M	5000.00000	1.00	****	3.50	MOTOROLA
HA9115-5	M	750.00000	2.00	10.0	3.50	HARRIS
ULN-2178D	M	0.80000	0.20	15.0	3.57	SPRAGUE
ULN-2178E	M	0.80000	0.20	15.0	3.57	SPRAGUE
ULN-2176D	M	4.00000	1.50	15.0	3.57	SPRAGUE
ULN-2176M	M	4.00000	1.50	15.0	3.57	SPRAGUE
ULN-2151H	M	70.00000	0.60	15.0	3.57	SPRAGUE
ULN-2151D	M	70.00000	0.60	15.0	3.57	SPRAGUE
RM4558T	M	200.00000	0.50	3.5	3.65	RAYTHEON
LM1558B	M	200.00000	0.50	****	3.65	NATIONAL SEMICONDUCTOR
LM741D	M	1500.00000	0.50	****	3.65	NATIONAL SEMICONDUCTOR
MUNDOP01CJ	M	40.00000	15.00	4.5	3.65	PRECISION MONOLITHICS
ULN-2139H	M	250.00000	4.20	15.0	3.68	SPRAGUE
ULN-2139G	M	250.00000	4.20	15.0	3.68	SPRAGUE
CA3008A	M	2500.00000	3.00	1.2	3.72	RCA
S5709	M	200.00000	****	6.0	3.75	SIGNETICS
LM741CD	M	200.00000	0.50	****	3.75	NATIONAL SEMICONDUCTOR
MCC1558B-2	M	200.00000	0.80	****	3.75	MOTOROLA
RM709A	M	200.00000	0.40	3.0	3.75	RAYTHEON
SG748T	M	500.00000	0.50	7.0	3.80	SILICON GENERAL
741RE	M	500.00000	0.50	10.0	3.90	TELEDYNE SEMICONDUCTOR
LM747CH	M	200.00000	0.50	****	3.90	NATIONAL SEMICONDUCTOR
MC1741G	M	200.00000	0.80	3.0	3.90	MOTOROLA
AM1660	M	1.50000	0.20	10.0	3.90	ADVANCED MICRO DEVICES
ULN-2157G	M	70.00000	0.60	15.0	3.93	SPRAGUE
ULN-2157H	M	70.00000	0.60	15.0	3.93	SPRAGUE
CA3747T	M	80.00000	0.50	2.0	3.95	RCA
SG1217CT	M	500.00000	0.50	10.0	3.95	SILICON GENERAL
SG747CT	M	500.00000	0.50	10.0	3.95	SILICON GENERAL
SG741T	M	500.00000	0.50	7.0	3.95	SILICON GENERAL
LM316D	M	0.15000	0.20	40.0	3.95	NATIONAL SEMICONDUCTOR
LM310D	M	7.00000	30.00	10.0	3.95	NATIONAL SEMICONDUCTOR
741	M	200.00000	0.50	6.0	3.95	INTERSIL
748	M	120.00000	0.50	3.0	3.95	INTERSIL
HA2201A-4	M	75.00000	0.50	3.0	3.95	HARRIS
HA2107-3	M	500.00000	0.50	3.0	3.95	HARRIS
MUA747C	M	500.00000	0.50	7.0	3.95	FAIRCHILD
MUA741A	M	500.00000	0.50	7.0	3.95	FAIRCHILD
MUA748A	M	500.00000	0.50	7.0	3.95	FAIRCHILD
LM101	M	500.00000	0.50	3.0	3.95	FAIRCHILD
SSS741GJ	M	45.00000	1.50	4.5	3.95	PRECISION MONOLITHICS
741	M	80.00000	0.50	5.0	3.95	ADVANCED MICRO DEVICES
ULN-2177M	M	0.80000	0.20	15.0	3.96	SPRAGUE
C4674T	M	80.00000	0.50	2.0	3.96	RCA
ULN-2177D	M	0.80000	0.20	15.0	3.96	SPRAGUE
ULN-2175M	M	4.00000	1.50	15.0	3.96	SPRAGUE
ULN-2175D	M	4.00000	1.50	15.0	3.96	SPRAGUE
LM301AF	M	30.00000	0.50	30.0	4.00	NATIONAL SEMICONDUCTOR
MC1741L	M	200.00000	0.80	3.0	4.00	MOTOROLA
201A	M	30.00000	0.50	3.0	4.00	INTERSIL

MODEL	H/M	BIAS nA	SLEW V/ μ s	DRIFT μ V/ $^{\circ}$ C	COST \$/100	MANUFACTURER
201	M	250.00000	0.50	6.0	4.00	INTERSIL
747C	M	80.00000	0.40	10.0	4.00	ADVANCED MICRO DEVICES
A0512K	M	40.00000	0.50	20.0	4.00	ANALOG DEVICES
SSST47CP	M	45.00000	0.70	4.5	4.05	PRECISION MONOLITHICS
HA21V1A2	M	75.00000	0.50	3.0	4.07	HARRIS
RC4132M	M	10.00000	0.13	5.0	4.12	RAYTHEON
ULS-2158H	M	35.00000	0.60	15.0	4.13	SPRAGUE
ULS-2158G	M	35.00000	0.60	15.0	4.13	SPRAGUE
RC4531DN	M	400.00000	35.00	5.0	4.13	RAYTHEON
RC4531T	M	400.00000	35.00	5.0	4.13	RAYTHEON
CA3080AU	M	1500.00000	8.00	1.1	4.20	RCA
CA3038A	M	4700.00000	7.00	1.2	4.20	RCA
SG747CD	M	500.00000	0.50	7.0	4.20	SILICON GENERAL
MCH1741F	M	200.00000	0.80	3.0	4.25	MOTOROLA
MCB1748F	M	80.00000	0.80	3.0	4.25	MOTOROLA
LH741F	M	1500.00000	0.50	****	4.45	NATIONAL SEMICONDUCTOR
RC108T	M	7.00000	0.30	30.0	4.45	RAYTHEON
ULN-2156D	M	15.00000	2.50	15.0	4.47	SPRAGUE
SG747CD	M	500.00000	0.50	10.0	4.50	SILICON GENERAL
MC1741F	M	200.00000	0.80	3.0	4.50	MOTOROLA
MC1436G	M	15.00000	2.00	****	4.50	MOTOROLA
MC1431F	M	100.00000	1.00	****	4.50	MOTOROLA
MC1430F	M	5000.00000	1.00	****	4.50	MOTOROLA
MC1747CL	M	80.00000	0.50	3.0	4.50	MOTOROLA
308	M	1.50000	0.30	6.0	4.50	INTERSIL
115A	M	20.00000	****	2.0	4.50	INTERSIL
1424	H	0.05000	6.00	75.0	4.50	TELEDYNE PHILBRICK
ULS-2151H	M	35.00000	0.60	15.0	4.50	SPRAGUE
ULS-2151M	M	35.00000	0.60	15.0	4.50	SPRAGUE
SN52747J	M	500.00000	0.50	7.0	4.58	TEXAS INSTRUMENTS
ULS-2139H	M	150.00000	4.20	15.0	4.60	SPRAGUE
ULS-2139G	M	150.00000	4.20	15.0	4.60	SPRAGUE
3057/01	M	200.00000	1.20	15.0	4.70	BURR-BROWN
ULN-2159D	M	70.00000	25.00	15.0	4.74	SPRAGUE
ULN-2159M	M	70.00000	25.00	15.0	4.74	SPRAGUE
CA3016A	M	4700.00000	7.00	1.2	4.75	RCA
T0341Z	M	600.00000	50.00	****	4.85	TRANSITRON
L144CJ	M	125.00000	0.40	3.0	4.90	SILICONIX
T0240T	M	30.00000	****	3.0	4.90	TRANSITRON
TOA210A	M	30.00000	****	3.0	4.90	TRANSITRON
9300	M	*****	30.00	50.00	4.90	OPTICAL ELECTRONICS
AD540J	H	0.02000	6.00	30.0	4.90	ANALOG DEVICES
SG201AT	M	75.00000	0.50	15.0	4.95	SILICON GENERAL
ULN-2174G	M	7.00000	0.30	15.0	4.95	SPRAGUE
SG207T	M	75.00000	0.50	15.0	4.95	SILICON GENERAL
ULN-2174H	M	7.00000	0.30	15.0	4.95	SPRAGUE
ULN-2172H	M	30.00000	1.50	15.0	4.95	SPRAGUE
ULN-2172G	M	30.00000	1.50	15.0	4.95	SPRAGUE
LM318H	M	200.00000	50.00	7.0	4.95	NATIONAL SEMICONDUCTOR
LM201AH	M	20.00000	0.50	5.0	4.95	NATIONAL SEMICONDUCTOR
LM316AD	M	0.05000	*****	****	4.95	NATIONAL SEMICONDUCTOR
MONOP01CP	M	40.00000	15.00	4.5	4.95	PRECISION MONOLITHICS
MLR201AG	M	30.00000	10.00	3.0	4.95	MOTOROLA
MLR207G	M	30.00000	*****	3.0	4.95	MOTOROLA
RC4132T	M	10.00000	0.13	5.0	4.95	RAYTHEON
SS5814G	M	45.00000	0.50	5.0	4.95	PRECISION MONOLITHICS
SS5741GP	M	45.00000	1.50	4.5	4.95	PRECISION MONOLITHICS
MUA715C	M	1500.00000	18.00	6.0	4.95	FAIRCHILD
MUA749A	M	750.00000	1.50	3.0	4.95	FAIRCHILD
3501A	M	5.00000	0.20	10.0	4.95	BURR-BROWN
3500A	M	10.00000	1.00	10.0	4.95	BURR-BROWN
318	M	150.00000	60.00	10.0	4.95	ADVANCED MICRO DEVICES
2014	M	30.00000	0.50	5.0	4.95	ADVANCED MICRO DEVICES
207	M	30.00000	0.50	5.0	4.95	ADVANCED MICRO DEVICES
715C	M	400.00000	20.00	6.0	4.95	ADVANCED MICRO DEVICES
LH0042CH	H	0.01000	3.00	10.0	4.95	NATIONAL SEMICONDUCTOR
3503A	M	0.05000	5.00	30.0	4.95	BURR-BROWN
709AE	M	200.00000	0.30	10.0	5.00	TELEDYNE SEMICONDUCTOR
MC1558G	M	200.00000	0.80	****	5.00	MOTOROLA
MC1558L	M	200.00000	0.80	****	5.00	MOTOROLA
RM747T	M	500.00000	0.50	6.0	5.00	RAYTHEON
RM4741	M	500.00000	0.50	6.0	5.00	RAYTHEON
RM4131T	M	30.00000	2.50	3.5	5.00	RAYTHEON
MIC709A	M	100.00000	0.40	2.0	5.00	ITT
101	M	120.00000	0.50	3.0	5.00	INTERSIL
101A	M	30.00000	0.50	3.0	5.00	INTERSIL
8007C	M	0.00050	6.00	20.0	5.00	INTERSIL
S5741M	M	80.00000	0.50	****	5.00	SIGNETICS
SS5201AJ	M	50.00000	0.40	5.0	5.05	PRECISION MONOLITHICS
SS5207M	M	50.00000	0.40	5.0	5.05	PRECISION MONOLITHICS
1319/01	M	30.00000	0.60	3.0	5.10	TELEDYNE PHILBRICK
202	M	7.00000	*****	15.0	5.10	INTERSIL
210	M	1.00000	*****	10.0	5.10	INTERSIL
SS55741BJ	M	30.00000	1.50	4.5	5.10	PRECISION MONOLITHICS
ULS-2157G	M	35.00000	0.60	15.0	5.11	SPRAGUE
ULS-2157H	M	35.00000	0.60	15.0	5.11	SPRAGUE
TOA7741	M	10.00000	1.00	****	5.20	TRANSITRON
TOA7748	M	10.00000	10.00	****	5.20	TRANSITRON
1300	M	300.00000	3.00	5.0	5.20	TELEDYNE PHILBRICK
MC1712G	M	2500.00000	1.50	2.5	5.25	MOTOROLA
MC1712L	M	2500.00000	1.50	2.5	5.25	MOTOROLA
RC4132M	M	10.00000	0.13	5.0	5.25	RAYTHEON
ULN-2171G	M	30.00000	1.50	15.0	5.29	SPRAGUE
ULN-2171H	M	30.00000	1.50	15.0	5.29	SPRAGUE
ULN-2173H	M	7.00000	0.30	15.0	5.29	SPRAGUE
ULN-2173G	M	7.00000	0.30	15.0	5.29	SPRAGUE
H2207T*4	M	75.00000	0.50	3.0	5.40	HARRIS
ULN-2176H	M	4.00000	1.50	15.0	5.42	SPRAGUE
ULN-2178G	M	0.80000	0.20	15.0	5.42	SPRAGUE
ULN-2176G	M	4.00000	1.50	15.0	5.42	SPRAGUE
ULN-2178H	M	0.80000	0.20	15.0	5.42	SPRAGUE
LH747H	M	1500.00000	0.50	****	5.45	NATIONAL SEMICONDUCTOR
SS5747K	M	45.00000	0.70	4.5	5.45	PRECISION MONOLITHICS
S55155H	M	40.00000	1.50	5.0	5.45	PRECISION MONOLITHICS
SG2250T	M	10.00000	0.20	4.0	5.50	SILICON GENERAL
MC1435F	M	1200.00000	0.67	3.0	5.50	MOTOROLA
114A	M	20.00000	*****	2.0	5.50	INTERSIL
8022C	M	30.00000	0.20	15.0	5.50	INTERSIL
MC1712F	M	2500.00000	1.50	2.5	5.70	MOTOROLA
1339/02	M	150.00000	34.00	5.0	5.75	TELEDYNE PHILBRICK
8008C	M	5.00000	0.50	15.0	5.80	INTERSIL

MODEL	H/M	BIAS	SLEW	DRIFT	COST	MANUFACTURER
		nA	V/ μ s	μ V/ $^{\circ}$ C	\$/100	
ULN-2177H	M	0.80000	0.20	15.0	5.81	SPRAGUE
ULN-2175G	M	4.00000	1.50	15.0	5.81	SPRAGUE
ULN-2175H	M	4.00000	1.50	15.0	5.81	SPRAGUE
ULN-2177G	M	0.80000	0.20	15.0	5.81	SPRAGUE
SG7771	M	75.00000	0.50	3.0	5.85	SILICON GENERAL
RM101T	M	1500.00000	0.50	6.0	5.85	RAYTHEON
CA3U33A	M	100.00000	3.00	6.6	5.88	RCA
TOA2725	M	42.00000	*****	2.0	5.90	TRANSITRON
MC1433F	M	500.00000	0.80	10.0	5.90	MOTOROLA
CA3078AT	M	7.00000	0.02	6.0	5.94	HCA
SG101T	M	500.00000	0.50	3.0	5.95	SILICON GENERAL
LN725CH	M	125.00000	*****	1.0	5.95	NATIONAL SEMICONDUCTOR
LM101H	M	1500.00000	0.50	5.0	5.95	NATIONAL SEMICONDUCTOR
LM318D	M	600.00000	50.00	40.0	5.95	NATIONAL SEMICONDUCTOR
LM201AF	M	20.00000	0.50	5.0	5.95	NATIONAL SEMICONDUCTOR
LM201AD	M	20.00000	0.50	5.0	5.95	NATIONAL SEMICONDUCTOR
LM207D	M	*****	0.50	15.0	5.95	NATIONAL SEMICONDUCTOR
HA2605-5	M	25.00000	4.00	5.0	5.95	HARRIS
HA2625-2	M	25.00000	20.00	5.0	5.95	HARRIS
HUA777A	M	75.00000	0.50	3.0	5.95	FAIRCHILD
CA3U60D	M	2500.00000	8.00	1.1	5.95	RCA
101	M	120.00000	0.50	5.0	5.95	ADVANCED MICRO DEVICES
TOA1458	M	80.00000	0.50	*****	6.00	TRANSITRON
TOA1747	M	80.00000	0.50	*****	6.00	TRANSITRON
LM210H	M	3.00000	30.00	6.0	6.00	NATIONAL SEMICONDUCTOR
RNA4131D	M	30.00000	2.50	3.5	6.00	RAYTHEON
MLM210G	M	1.00000	30.00	6.0	6.00	MOTOROLA
MCC1536-2	M	8.00000	2.00	*****	6.00	MOTOROLA
9314	M	500.00000	30.00	10.0	6.00	OPTICAL ELECTRONICS
101A-LN	M	80.00000	0.40	25.0	6.00	INTERSIL
AD5025	M	3.00000	0.40	40.0	6.00	INTERSIL
741	M	50.00000	4.00	5.0	6.00	INTERSIL
AD502KHM	M	2.00000	1.00	7.0	6.00	ANALOG DEVICES
AD741L	M	30.00000	0.50	1.0	6.00	ANALOG DEVICES
210	M	1.00000	30.00	10.0	6.00	ADVANCED MICRO DEVICES
202	M	3.00000	20.00	10.0	6.00	ADVANCED MICRO DEVICES
LH0002C	M	500.00000	160.00	33.0	6.00	NATIONAL SEMICONDUCTOR
AD5125	M	40.00000	0.50	25.0	6.00	ANALOG DEVICES
ULN-2156H	M	15.00000	2.50	15.0	6.32	SPRAGUE
ULN-2156G	M	15.00000	2.50	15.0	6.32	SPRAGUE
NE533V	M	5.00000	0.03	6.0	6.35	SIGNETICS
MC1520G	M	800.00000	5.00	2.0	6.50	MOTOROLA
NE536T	M	0.01000	6.00	20.0	6.50	SIGNETICS
1421	H	0.01500	5.00	20.0	6.50	TELEDYNE PHILBRICK
NE531V	M	400.00000	35.00	6.0	6.50	SIGNETICS
NE531T	M	400.00000	35.00	6.0	6.50	SIGNETICS
MUNOP01HJ	M	18.00000	15.00	2.0	6.60	PRECISION MONOLITHICS
RC725T	M	75.00000	*****	3.5	6.75	RAYTHEON
SSS725CJ	M	40.00000	0.01	1.4	6.75	PRECISION MONOLITHICS
MUNOP08CJ	M	0.17000	0.01	3.0	6.75	PRECISION MONOLITHICS
MUNOP01GJ	M	40.00000	15.00	4.5	6.80	PRECISION MONOLITHICS
SSS741GL	M	45.00000	1.50	4.5	6.80	PRECISION MONOLITHICS
SSS841GP	M	45.00000	0.50	5.0	6.85	PRECISION MONOLITHICS
NE533T	M	5.00000	0.03	6.0	6.85	SIGNETICS
SSS201AP	M	50.00000	0.40	5.0	6.85	PRECISION MONOLITHICS
SSS741BP	M	30.00000	1.50	4.5	6.85	PRECISION MONOLITHICS
SSS207P	M	50.00000	0.40	5.0	6.85	PRECISION MONOLITHICS
LM216M	M	0.15000	*****	*****	6.95	NATIONAL SEMICONDUCTOR
LM1010	M	1500.00000	0.50	5.0	6.95	NATIONAL SEMICONDUCTOR
HA2705-5	M	40.00000	10.00	5.0	6.95	HARRIS
3053/01	M	200.00000	1.20	15.0	6.95	BURR-BROWN
MUNOP05CJ	M	1.80000	0.25	0.4	6.95	PRECISION MONOLITHICS
AD507H	M	15.00000	35.00	15.0	6.95	ANALOG DEVICES
8017C	M	50.00000	130.00	10.0	7.00	INTERSIL
4250C	M	7.00000	0.16	5.0	7.00	INTERSIL
MUA702A	M	5000.00000	3.50	10.0	7.00	FAIRCHILD
A0208	M	0.80000	0.30	3.0	7.00	ANALOG DEVICES
AD3085	M	2.00000	0.30	3.0	7.00	ANALOG DEVICES
1422	H	0.05000	8.00	50.0	7.00	TELEDYNE PHILBRICK
LH0005C	M	20.00000	0.30	20.0	7.00	NATIONAL SEMICONDUCTOR
RH116T	M	0.15000	*****	*****	7.10	RAYTHEON
CA3906B0	M	2500.00000	8.00	1.1	7.15	RCA
SN52107H	M	75.00000	0.50	3.0	7.20	TEXAS INSTRUMENTS
2515	M	125.00000	40.00	30.0	7.35	INTERSIL
2525	M	125.00000	80.00	30.0	7.35	INTERSIL
2505	M	125.00000	20.00	20.0	7.35	INTERSIL
ULS-2174D	M	1.50000	0.30	15.0	7.44	SPRAGUE
ULS-2174M	M	1.50000	0.30	15.0	7.44	SPRAGUE
1324	M	300.00000	25.00	30.0	7.50	TELEDYNE PHILBRICK
LH201H	M	500.00000	0.50	6.0	7.50	NATIONAL SEMICONDUCTOR
RM101A	M	75.00000	0.50	6.0	7.50	RAYTHEON
NE537T	M	1.50000	0.20	6.0	7.50	SIGNETICS
HA909-2	M	300.00000	2.00	10.0	7.50	HARRIS
HA2505-5	M	250.00000	20.00	20.0	7.50	HARRIS
HA2515-5	M	250.00000	40.00	20.0	7.50	HARRIS
HA2525-5	M	250.00000	80.00	20.0	7.50	HARRIS
MUA725G	M	125.00000	5.00	0.5	7.50	FAIRCHILD
LM201M	M	250.00000	0.40	6.0	7.50	SILICONIX
725C	M	50.00000	0.01	1.5	7.50	ADVANCED MICRO DEVICES
SSS7478M	M	30.00000	0.70	4.5	7.50	PRECISION MONOLITHICS
AD513J	H	0.01000	40.00	30.0	7.50	ANALOG DEVICES
ULS-2172D	M	8.00000	1.50	15.0	7.74	SPRAGUE
ULS-2172M	M	8.00000	1.50	15.0	7.74	SPRAGUE
TOA2740	M	0.01000	6.00	*****	7.85	TRANSITRON
TOA107	M	30.00000	*****	3.0	7.90	TRANSITRON
TOA101A	M	30.00000	*****	3.0	7.90	TRANSITRON
RM107T	M	100.00000	0.50	30.0	7.93	RAYTHEON
LM101AH	M	100.00000	0.50	15.0	7.95	NATIONAL SEMICONDUCTOR
LM101AF	M	1500.00000	0.50	5.0	7.95	NATIONAL SEMICONDUCTOR
SG3118AT	M	7.00000	0.25	5.0	7.95	SILICON GENERAL
SSS308AJ	M	1.50000	0.20	1.0	7.95	PRECISION MONOLITHICS
MLM101AG	M	30.00000	10.00	3.0	7.95	MOTOROLA
MLM107G	M	30.00000	*****	3.0	7.95	MOTOROLA
SG308AT	M	7.00000	0.25	5.0	7.95	SILICON GENERAL
SG107T	M	75.00000	0.50	15.0	7.95	SILICON GENERAL
101A	M	30.00000	0.50	5.0	7.95	ADVANCED MICRO DEVICES
308A	M	1.50000	0.20	5.0	7.95	ADVANCED MICRO DEVICES
107	M	30.00000	0.50	5.0	7.95	ADVANCED MICRO DEVICES
SN72308AL	M	1.50000	0.25	10.0	7.96	TEXAS INSTRUMENTS
1321	M	5.00000	35.00	30.0	8.00	TELEDYNE PHILBRICK
MC1533F	M	500.00000	2.00	8.0	8.00	MOTOROLA

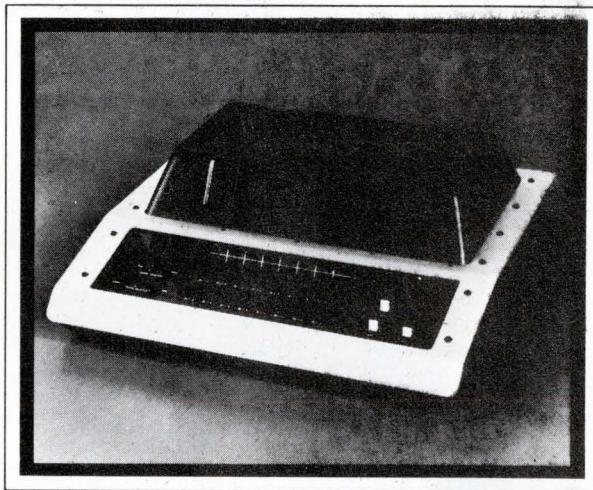
MODEL	H/M	BIAS	SLEW	DRIFT	COST	MANUFACTURER
		nA	V/ μ s	μ V/ $^{\circ}$ C	\$/100	
MC1520F	M	800.00000	5.00	2.0	8.00	MOTOROLA
208	M	0.80000	0.30	3.0	8.00	INTERSIL
308A	M	1+50000	0.30	1.0	8.00	INTERSIL
3056/01	M	200.00000	1.20	5.0	8.00	BURR-BROWN
3501B	M	5.00000	0.20	5.0	8.00	BURR-BROWN
3500H	M	10.00000	1.00	3.0	8.00	BURR-BROWN
1413	H	2+00000	0.60	20.0	8.00	TELEDYNE PHILBRICK
1421-01	H	0.01000	*****	20.0	8.00	TELEDYNE PHILBRICK
RC116T	M	0.01500	*****	*****	8.20	RAYTHEON
RC118T	M	600.00000	50.00	*****	8.20	RAYTHEON
L144CL	M	125.00000	0.40	3.0	8.20	SILICONIX
L144CP	M	125.00000	0.40	4.0	8.20	SILICONIX
A5050J	M	50.00000	0.20	0.5	8.40	ANALOG DEVICES
MC1530U	M	3000.00000	1.00	8.00	8.50	MOTOROLA
MC15310	M	25.00000	1.00	8.00	8.50	MOTOROLA
MC1535G	M	1200.00000	0.67	3.0	8.50	MOTOROLA
102	M	3.00000	*****	6.0	8.50	INTERSIL
110	M	1.00000	*****	10.0	8.50	INTERSIL
SG1250T	M	10.00000	0.20	4.0	8.50	SILICON GENERAL
1422-01	H	0.01500	8.00	50.0	8.50	TELEDYNE PHILBRICK
LH0041CH	M	50.00000	6.00	3.0	8.50	TELEDYNE PHILBRICK
ULS-2173M	M	1+50000	0.30	15.0	8.60	SPRAGUE
ULN-2173U	M	1+50000	0.30	15.0	8.60	SPRAGUE
ULS-2171M	M	8.00000	1.50	15.0	8.60	SPRAGUE
ULS-21710	M	8.00000	1.50	15.0	8.60	SPRAGUE
LMA250H	M	10.00000	1.00	10.0	8.75	NATIONAL SEMICONDUCTOR
SSS841GL	M	45.00000	0.50	5.0	8.75	PRECISION MONOLITHICS
SG2450T	M	10.00000	0.20	4.0	8.75	SILICON GENERAL
L140CA	M	100.00000	0.20	90.0	8.80	SILICONIX
LU7476	M	50.00000	0.70	3.0	8.80	FAIRCHILD
ULS-2178U	M	0.30000	0.30	15.0	8.90	SPRAGUE
ULS-2178M	M	0.30000	0.30	15.0	8.90	SPRAGUE
ULS-2176D	M	1+30000	1.50	15.0	8.90	SPRAGUE
ULS-2176M	M	1+30000	1.50	15.0	8.90	SPRAGUE
LW216D	M	0.15000	0.20	40.0	8.90	NATIONAL SEMICONDUCTOR
LW212H	M	2.00000	0.30	3.0	8.95	NATIONAL SEMICONDUCTOR
LM101AU	M	100.00000	0.50	15.0	9.00	NATIONAL SEMICONDUCTOR
SG218T	M	2.00000	0.25	15.0	9.05	SILICON GENERAL
MONOP01PH	M	18.00000	15.00	2.0	9.45	PRECISION MONOLITHICS
SSS725CP	M	40.00000	0.01	1.4	9.40	PRECISION MONOLITHICS
MONOP08CP	M	0.17000	0.01	3.0	9.40	PRECISION MONOLITHICS
SSS201AL	M	50.00000	0.40	5.0	9.40	PRECISION MONOLITHICS
SSS207L	M	50.00000	0.40	5.0	9.40	PRECISION MONOLITHICS
SSS741BL	M	30.00000	1.40	4.5	9.40	PRECISION MONOLITHICS
LH740AC	M	0+1000	6.00	5.0	9.40	NATIONAL SEMICONDUCTOR
A513K	M	0.06000	40.00	10.0	9.40	ANALOG DEVICES
TOA374B	M	30.00000				

MODEL	H/M	BIAS nA	SLEW V/ μ s	DRIFT μ V/ $^{\circ}$ C	COST \$/100	MANUFACTURER
AD507K	H	10.00000	35.00	8.0	10.00	ANALOG DEVICES
1317	M	250.00000	30.00	5.0	10.00	TELEDYNE PHILBRICK
LM747D	M	1500.00000	0.50	****	10.45	NATIONAL SEMICONDUCTOR
HA2405-5	M	250.00000	15.00	15.0	10.45	HARRIS
ULS-2173G	M	1.50000	0.30	15.0	10.46	SPRAGUE
ULS-2173H	M	1.50000	0.30	15.0	10.46	SPRAGUE
ULS-2171H	M	8.00000	1.50	15.0	10.46	SPRAGUE
ULS-2171G	M	8.00000	1.50	15.0	10.46	SPRAGUE
LM201F	M	250.00000	0.40	6.0	10.50	SILICONIX
1421-02	H	0.05000	5.00	10.0	10.50	TELEDYNE PHILBRICK
LM201D	M	250.00000	0.40	6.0	10.50	SILICONIX
SSS747GP	M	45.00000	0.70	4.5	10.60	PRECISION MONOLITHICS
ULS-2178H	M	0.30000	0.30	15.0	10.76	SPRAGUE
ULS-2178G	M	0.30000	0.30	15.0	10.76	SPRAGUE
ULS-2176H	M	1.30000	1.50	15.0	10.76	SPRAGUE
ULS-2176G	M	1.30000	1.50	15.0	10.76	SPRAGUE
RM112T	M	3.00000	*****	15.0	10.80	RAYTHEON
2740CE	H	0.01000	1.00	25.0	10.80	TELEDYNE SEMICONDUCTOR
2741CF	H	0.02000	1.00	50.0	10.80	TELEDYNE SEMICONDUCTOR
LM210D	M	3.00000	30.00	6.0	11.00	NATIONAL SEMICONDUCTOR
1324-01	M	200.00000	25.00	15.0	11.00	TELEDYNE PHILBRICK
RM4132D	M	4.00000	0.13	3.0	11.00	RAYTHEON
108	M	0.80000	*****	3.0	11.00	INTERSIL
1426-02	H	0.02500	3.00	10.0	11.00	TELEDYNE PHILBRICK
AD516K	H	0.00040	40.00	10.0	11.00	ANALOG DEVICES
AD506K	H	0.00250	6.00	10.0	11.00	ANALOG DEVICES
ULS-2156D	M	8.00000	2.50	15.0	11.18	SPRAGUE
ULS-2156M	M	8.00000	2.50	15.0	11.18	SPRAGUE
3055/01	M	200.00000	1.50	3.0	11.30	BURR-BROWN
3052/01	M	200.00000	1.50	5.0	11.30	BURR-BROWN
SNS2771H	M	15.00000	2.50	10.0	11.40	TEXAS INSTRUMENTS
SNS2660L	M	25.00000	0.10	25.0	11.40	TEXAS INSTRUMENTS
SNS2770L	M	15.00000	2.50	10.0	11.40	TEXAS INSTRUMENTS
1323-01	M	10.00000	20.00	30.0	11.50	TELEDYNE PHILBRICK
SSS107J	M	35.00000	0.40	5.0	11.50	PRECISION MONOLITHICS
SSS841J	M	30.00000	0.50	3.0	11.50	PRECISION MONOLITHICS
8008M	M	2.00000	0.50	7.0	11.50	INTERSIL
SSS101AJ	M	35.00000	0.40	5.0	11.50	PRECISION MONOLITHICS
SSS741J	M	30.00000	1.50	3.0	11.50	PRECISION MONOLITHICS
1425	H	0.01000	3.00	50.0	11.50	TELEDYNE PHILBRICK
ULS-2159M	M	30.00000	25.00	15.0	11.63	SPRAGUE
ULS-2159D	M	30.00000	25.00	15.0	11.63	SPRAGUE
ULS-2175G	M	1.30000	1.50	15.0	11.75	SPRAGUE
ULS-2177G	M	0.30000	0.30	15.0	11.75	SPRAGUE
ULS-2175H	M	1.30000	1.50	15.0	11.75	SPRAGUE
ULS-2177H	M	0.30000	0.30	15.0	11.75	SPRAGUE
L140CL	M	100.00000	0.20	90.00	11.80	SILICONIX
MUNDPO1GL	M	40.00000	15.00	4.5	11.90	PRECISION MONOLITHICS
RM41310	M	30.00000	2.50	3.5	12.00	RAYTHEON
MC1556G	M	8.00000	2.50	****	12.00	MOTOROLA
AU55K	M	50.00000	130.00	10.0	12.00	INTERSIL
108-LN	M	3.00000	*****	15.0	12.00	INTERSIL
AD505K	M	50.00000	120.00	15.0	12.00	ANALOG DEVICES
TOA218	M	250.00000	50.00	*****	12.45	TRANSITRON
LM747F	M	1500.00000	0.50	****	12.50	NATIONAL SEMICONDUCTOR
MC1747L	M	80.00000	0.50	3.0	12.50	MOTOROLA
LM101H	M	500.00000	0.40	5.0	12.50	SILICONIX
LH101H	M	500.00000	0.40	5.0	12.50	SILICONIX
SG7470	M	500.00000	0.50	7.0	12.50	SILICON GENERAL
AD108	M	0.80000	0.30	3.0	12.50	ANALOG DEVICES
LH0021CH	M	50.00000	6.00	3.0	12.50	NATIONAL SEMICONDUCTOR
SSS747GM	M	45.00000	0.70	4.5	12.70	PRECISION MONOLITHICS
2502	M	125.00000	20.00	20.0	12.70	INTERSIL
2512	M	125.00000	40.00	30.0	12.70	INTERSIL
2522	M	125.00000	80.00	30.0	12.70	INTERSIL
3054/01	M	200.00000	1.50	3.0	12.70	BURR-BROWN
1426-01	H	0.01000	3.00	25.0	12.75	TELEDYNE PHILBRICK
LM218H	M	200.00000	50.00	7.0	12.95	NATIONAL SEMICONDUCTOR
LM112H	M	2.00000	0.30	3.0	12.95	NATIONAL SEMICONDUCTOR
SSS112J	M	0.80000	0.10	1.5	12.95	PRECISION MONOLITHICS
SSS108J	M	0.80000	0.20	1.5	12.95	PRECISION MONOLITHICS
HA2502-2	M	250.00000	20.00	20.0	12.95	HARRIS
HA2512-2	M	250.00000	40.00	30.0	12.95	HARRIS
HA2522-2	M	250.00000	80.00	30.0	12.95	HARRIS
218	M	120.00000	60.00	10.0	12.95	ADVANCED MICRO DEVICES
112	M	0.80000	0.20	1.0	12.95	ADVANCED MICRO DEVICES
108	M	0.80000	0.20	1.0	12.95	ADVANCED MICRO DEVICES
SG108T	M	2.00000	0.25	15.0	12.95	SILICON GENERAL
SG111BT	M	2.00000	0.25	15.0	12.95	SILICON GENERAL
LH0005	M	50.00000	1.00	10.0	13.00	NATIONAL SEMICONDUCTOR
3226/03	H	50.00000	1.50	10.0	13.00	BURR-BROWN
20-907C1	H	200.00000	2.00	10.0	13.00	BELL & HOWELL
20-107C1	H	200.00000	2.00	10.0	13.00	BELL & HOWELL
ULS-2156G	M	8.00000	2.50	15.0	13.04	SPRAGUE
ULS-2156H	M	8.00000	2.50	15.0	13.04	SPRAGUE
SSS747BP	M	30.00000	0.70	4.5	13.25	PRECISION MONOLITHICS
3500S	M	10.00000	1.00	5.0	13.30	BURR-BROWN
3501S	M	5.00000	0.20	5.0	13.30	BURR-BROWN
1321-01	M	5.00000	35.00	30.0	13.50	TELEDYNE PHILBRICK
RM1556	M	15.00000	1.50	15.0	13.50	RAYTHEON
L144AL	M	100.00000	0.40	3.0	13.65	SILICONIX
L144AP	M	100.00000	0.40	3.0	13.65	SILICONIX
LH112D	M	2.00000	0.30	3.0	13.95	NATIONAL SEMICONDUCTOR
LM218D	M	250.00000	50.00	40.0	13.95	NATIONAL SEMICONDUCTOR
LM112D	M	2.00000	0.20	15.0	13.95	NATIONAL SEMICONDUCTOR
SSS108Y	M	0.80000	0.20	1.5	13.95	PRECISION MONOLITHICS
MUNDPO88J	M	0.14000	0.01	2.5	13.95	PRECISION MONOLITHICS
SSS725BJ	M	30.00000	0.01	1.0	13.95	PRECISION MONOLITHICS
SSS112Y	M	0.80000	0.10	1.5	13.95	PRECISION MONOLITHICS
MUNDPO1CY	H	1.80000	0.25	0.4	13.95	PRECISION MONOLITHICS
MC1538R	M	*****	*****	*****	14.00	MOTOROLA
8017H	M	50.00000	130.00	10.0	14.00	INTERSIL
AD505S	M	50.00000	120.00	15.0	14.00	ANALOG DEVICES
1429	H	0.01000	3.00	90.0	14.00	TELEDYNE PHILBRICK
LH002UC	H	200.00000	0.50	8.0	14.00	NATIONAL SEMICONDUCTOR
LH0002	H	500.00000	160.00	20.0	14.00	NATIONAL SEMICONDUCTOR
AD511A	H	0.05000	5.00	30.0	14.00	ANALOG DEVICES
ADPS11A	H	0.05000	5.00	30.0	14.00	ANALOG DEVICES
AD508J	H	10.00000	0.12	0.5	14.00	ANALOG DEVICES
AD523J	H	0.00040	5.00	25.0	14.00	ANALOG DEVICES
AD513S	H	0.00600	40.00	20.0	14.00	ANALOG DEVICES
AD503K	H	0.02500	6.00	10.0	14.00	ANALOG DEVICES

MODEL	H/M	BIAS nA	SLEW V/ μ s	DRIFT V/ μ s	COST μ V/ $^{\circ}$ C	MANUFACTURER
MUNDOP-01J	H	18.00000	15.00	2.0	14.35	PRECISION MONOLITHICS
RM4531T	M	300.00000	35.00	3.5	14.40	RAYTHEON
TOA4709	M	100.00000	0.50	2.0	14.50	TRANSITRON
1428	H	0.02500	3.00	50.0	14.70	TELEDYNE PHILBRICK
L140AA	M	75.00000	0.20	50.0	14.70	SILICONIX
3051/01	M	200.00000	1.50	3.0	14.70	BURR-BROWN
3503S	M	0.00200	5.00	15.0	14.70	BURR-BROWN
1425-01	H	0.00500	3.00	25.0	14.75	TELEDYNE PHILBRICK
SSS747AJ	M	0.80000	0.20	1.0	14.75	TELEDYNE PHILBRICK
MUNDOP05EJ	M	12.00000	0.25	0.2	14.95	PRECISION MONOLITHICS
TOA1725	M	42.00000	*****	0.6	14.95	TRANSITRON
HA2620	M	10.00000	4.00	5.0	14.95	HARRIS
LM1100	M	3.00000	30.00	6.0	15.00	NATIONAL SEMICONDUCTOR
LM725H	M	100.00000	*****	1.0	15.00	NATIONAL SEMICONDUCTOR
LH002AC	M	500.00000	500.00	20.0	15.00	NATIONAL SEMICONDUCTOR
LH002AC	M	500.00000	500.00	20.0	15.00	NATIONAL SEMICONDUCTOR
C-118C	H	0.00500	0.50	50.0	15.00	BELL & HOWELL
AD504K	M	25.00000	0.20	0.5	15.30	ANALOG DEVICES
LM101D	M	500.00000	0.40	5.0	15.50	SILICONIX
LM101F	M	500.00000	0.40	5.0	15.50	SILICONIX
LH101D	M	500.00000	0.40	5.0	15.50	SILICONIX
LH101F	M	500.00000	0.40	5.0	15.50	SILICONIX
SSS107P	M	35.00000	0.40	5.0	15.55	PRECISION MONOLITHICS
SSS747P	M	30.00000	1.50	3.0	15.55	PRECISION MONOLITHICS
SSS101AP	M	35.00000	0.40	5.0	15.55	PRECISION MONOLITHICS
SSS841P	M	30.00000	0.50	3.0	15.55	PRECISION MONOLITHICS
RC108AT	M	7.00000	0.30	5.0	15.75	RAYTHEON
1420	H	0.01500	3.00	5.0	15.75	TELEDYNE PHILBRICK
SSS747K	M	30.00000	0.70	3.0	15.80	PRECISION MONOLITHICS
SSS747B	M	30.00000	0.70	4.5	15.90	PRECISION MONOLITHICS
SSS208AY	M	0.80000	0.20	1.0	15.95	PRECISION MONOLITHICS
HA2700	M	20.00000	10.00	5.0	15.95	HARRIS
MA2404	M	200.00000	15.00	2.0	15.95	HARRIS
SSS208AL	M	0.80000	0.20	1.0	15.95	PRECISION MONOLITHICS
3050/01	M	200.00000	1.50	3.0	16.00	BURR-BROWN
1429	H	0.00500	3.00	30.0	16.00	TELEDYNE PHILBRICK
SSS747	M	30.00000	0.01	0.7	16.30	PRECISION MONOLITHICS
LH0004C	M	100.00000	2.00	4.0	16.40	NATIONAL SEMICONDUCTOR
RN118T	M	250.00000	50.00	5.0	16.65	RAYTHEON
RC116AT	M	0.05000	*****	*****	16.67	RAYTHEON
3501T	M	2.00000</				

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THE 201 IS UNIVERSAL — With this instrument, you can test all 14- and 16-pin DIPs, including TTL, DTL, and RTL. Complete functional analysis of sophisticated MSI circuits is readily accomplished. Component density of up to 200 ICs per board presents no problem.

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THE 201 IS SELF-CONTAINED — All power, signal and monitoring functions are provided through a single IC clip. Special connectors, adapters, comparison ICs and additional test equipment are eliminated.

The instrumentation requires no calibration, no logic initiation, no modification for logic changes and no special programming. Therefore you can put it on line with a minimum of operator training.

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Circle Reader Service #18

MODEL	H/M	BIAS	SLEW	DRIFT	COST	MANUFACTURER
		nA	V/ μ s	μ V/ $^{\circ}$ C	\$/100	
HUA715A	M	750.00000	18.00	6.0	20.00	FAIRCHILD
3500E	M	15.00000	1.00	0.5	20.00	BURR-BROWN
715	M	400.00000	20.00	6.0	20.00	ADVANCED MICRO DEVICES
9412	H	*****	200.00	100.0	20.00	OPTICAL ELECTRONICS
LH0033C	H	0.05000	1400.00	25.0	20.00	NATIONAL SEMICONDUCTOR
3503T	H	0.00100	5.00	30.0	20.00	BURR-BROWN
C-118C	H	0.00500	0.50	25.0	20.00	BELL & HOWELL
AD508K	H	6.00000	0.12	0.3	20.00	ANALOG DEVICES
ATF404	H	0.05000	13.00	50.0	20.00	AMPEREX
AD504L	M	10.00000	0.20	0.3	20.40	ANALOG DEVICES
MONOP08BL	M	0.14000	0.01	2.5	20.95	PRECISION MONOLITHICS
SS5725BL	M	30.00000	0.01	1.0	20.95	PRECISION MONOLITHICS
MONOP10EY	H	1.20000	0.25	0.3	20.95	PRECISION MONOLITHICS
F-418C	H	0.00100	1.00	50.0	21.00	BELL & HOWELL
AD511C	H	0.00100	5.00	21.00	ANALOG DEVICES	
ADP511C	H	0.00100	5.00	15.0	21.00	ANALOG DEVICES
MONOP08J	M	0.12000	0.01	2.0	21.60	PRECISION MONOLITHICS
SS5725J	M	30.00000	0.01	0.7	21.60	PRECISION MONOLITHICS
SN52108L	M	0.80000	0.25	3.0	21.95	TEXAS INSTRUMENTS
SS5725P	M	30.00000	0.01	0.7	22.00	PRECISION MONOLITHICS
2740BE	H	0.01000	1.00	25.0	22.00	TELEDYNE SEMICONDUCTOR
2741BF	H	0.02000	1.00	50.0	22.00	TELEDYNE SEMICONDUCTOR
2741CH	H	0.02000	1.00	50.0	22.00	TELEDYNE SEMICONDUCTOR
LH0003C	H	2000.00000	70.00	4.0	22.00	NATIONAL SEMICONDUCTOR
3350/03	H	0.05000	3.00	12.0	22.00	BURR-BROWN
20-90883	H	0.00500	3.00	7.5	22.00	BELL & HOWELL
C-218C	H	0.00500	0.50	50.0	22.00	BELL & HOWELL
20-907A2	H	150.00000	2.00	2.0	22.00	BELL & HOWELL
20-107A2	H	150.00000	2.00	2.0	22.20	BELL & HOWELL
SS5747P	M	30.00000	0.70	3.0	22.40	PRECISION MONOLITHICS
RM725T	M	50.00000	*****	2.5	22.50	RAYTHEON
LH0023C	H	0.00300	3.00	5.0	22.50	NATIONAL SEMICONDUCTOR
LM1180	M	200.00000	50.00	7.0	22.95	NATIONAL SEMICONDUCTOR
SS510RAY	M	0.80000	0.20	1.0	22.95	PRECISION MONOLITHICS
1408	H	0.02500	5.00	50.0	23.00	TELEDYNE PHILBRICK
1408-10	H	0.02500	5.00	50.0	23.00	TELEDYNE PHILBRICK
3521J	H	0.00500	0.80	3.0	23.00	BURR-BROWN
C-118B	H	0.00500	0.50	10.0	23.00	BELL & HOWELL
HA2400-M	M	200.00000	15.00	15.0	23.65	HARRIS
1323-02	M	10.00000	20.00	30.0	24.00	TELEDYNE PHILBRICK
30545/01	M	200.00000	1.50	2.0	24.00	BURR-BROWN
20-24483	H	0.00500	6.00	7.5	24.00	BELL & HOWELL
20-00882	H	0.00500	3.00	50.0	24.00	BELL & HOWELL
20-24781	H	100.00000	2.00	5.0	24.00	BELL & HOWELL
20-107A1	H	150.00000	2.00	1.0	24.00	BELL & HOWELL
20-907A1	H	150.00000	2.00	1.0	24.00	BELL & HOWELL
C-218B	H	0.00500	0.45	25.0	24.00	BELL & HOWELL
20-108B2	H	0.00500	3.00	50.0	24.00	BELL & HOWELL
C-228E	H	0.00500	25.00	50.0	24.00	BELL & HOWELL
SS5108AL	M	0.80000	0.20	1.0	24.95	PRECISION MONOLITHICS
MUA725A	M	100.00000	5.00	0.5	25.00	FAIRCHILD
RM1556AT	M	15.00000	1.50	15.0	25.00	RAYTHEON
725	M	30.00000	0.01	0.5	25.00	ADVANCED MICRO DEVICES
ZAB01E1	H	0.01500	6.00	30.0	25.00	ZELTEX
ZAB01D1	H	0.01500	6.00	30.0	25.00	ZELTEX
2741BH	H	0.02000	1.00	50.0	25.00	TELEDYNE SEMICONDUCTOR
LH0022H	H	0.00500	4.00	5.0	25.00	NATIONAL SEMICONDUCTOR
F-418H	H	0.00100	1.00	25.0	25.00	BELL & HOWELL
20-108B1	H	0.00500	3.00	25.0	25.00	BELL & HOWELL
20-90881	H	0.00500	3.00	25.0	25.00	BELL & HOWELL
MONOP-01L	M	18.00000	15.00	2.0	25.10	PRECISION MONOLITHICS
AD501A	H	0.00500	5.00	30.0	26.00	ANALOG DEVICES
ADP501A	H	0.00500	5.00	30.0	26.00	ANALOG DEVICES
L137AA	H	500.00000	0.40	50.0	26.25	SILICONIX
LH0020	H	60.00000	0.50	8.0	26.50	NATIONAL SEMICONDUCTOR
SS5747P	M	30.00000	0.70	3.0	26.80	PRECISION MONOLITHICS
MUNP-05Y	M	1.00000	0.25	0.3	26.95	PRECISION MONOLITHICS
1408-01	H	0.01000	5.00	15.0	27.00	TELEDYNE PHILBRICK
1408-11	H	0.01000	5.00	15.0	27.00	TELEDYNE PHILBRICK
LH0021K	H	30.00000	6.00	3.0	27.50	NATIONAL SEMICONDUCTOR
LH0032C	H	0.07500	70.00	20.0	28.00	NATIONAL SEMICONDUCTOR
LH0033	H	0.05000	1500.00	25.0	28.00	NATIONAL SEMICONDUCTOR
3521K	H	0.00500	0.80	1.2	28.00	BURR-BROWN
8500	H	0.00100	0.40	50.0	28.25	INTERSIL
8500	H	0.00100	0.50	100.0	28.25	INTERSIL
4250	M	5.00000	0.16	5.0	28.50	INTERSIL
20-24882	H	0.00500	6.00	50.0	29.00	BELL & HOWELL
F-418A	H	0.00100	1.00	10.0	29.00	BELL & HOWELL
C-218A	H	0.00500	0.50	10.0	29.00	BELL & HOWELL
20-247A2	H	100.00000	2.00	2.0	29.00	BELL & HOWELL
H-218B	H	0.00500	0.50	50.0	29.00	BELL & HOWELL
MUNP-08P	M	0.12000	0.01	2.0	29.25	PRECISION MONOLITHICS
SS5725P	M	30.00000	0.01	0.7	29.25	PRECISION MONOLITHICS
8500A	H	0.00001	0.50	40.0	29.75	INTERSIL
MUNP-05L	M	1.00000	0.25	0.3	29.95	PRECISION MONOLITHICS
LH0005A	H	25.00000	1.00	20.0	30.00	NATIONAL SEMICONDUCTOR
LH0052AH	H	0.00030	3.00	2.0	30.00	NATIONAL SEMICONDUCTOR
LH0032H	H	0.00200	500.00	25.0	30.00	NATIONAL SEMICONDUCTOR
LH0043C	H	0.00030	30.00	10.0	30.00	NATIONAL SEMICONDUCTOR
LH0032C	H	25.00000	1.00	20.0	30.00	NATIONAL SEMICONDUCTOR
3349/03	H	0.01000	3.00	6.0	30.00	BURR-BROWN
AD508L	H	6.00000	0.12	0.3	30.00	ANALOG DEVICES