TDA1034 Series
– Operational Amplifier

GENERAL DESCRIPTION

The TDA1034 is a high-performance general purpose operational amplifier. Compared to most of the standard operational amplifiers (e.g. μA741, TBA221, LM301A and LM307), it shows better noise performance, improved output drive capability and considerably higher small-signal and power bandwidth.

This makes the device especially suitable for application in high quality and professional audio equipment, in instrumentation and control circuits and telephone channel amplifiers. The op amp is internally compensated for gain equal to, or higher than, three.

The frequency response can be optimized with an external compensation capacitor for various applications (unity gain amplifier, capacitive load, slew-rate, low overshoot, etc.). If very low noise is of prime importance, it is recommended that the TDA1034N version be used which has guaranteed noise specifications and somewhat lower input current.

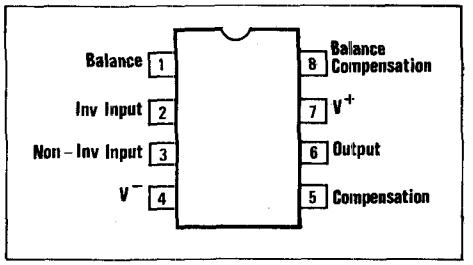
FEATURES

- Small-signal bandwidth : 10 MHz
- Output drive capability : 600 Ω, 10V (r.m.s.) at V_p = $-V_N$ = 18V
- Input noise voltage : 4 nV / $\sqrt{Hz}$
- D.C. voltage gain : 100 000
- A.C. voltage gain : 6000 at 10 kHz
- Power bandwidth : 200 kHz
- Slew-rate : 13 V/μs
- Large supply voltage range : ±3 to ±20 V

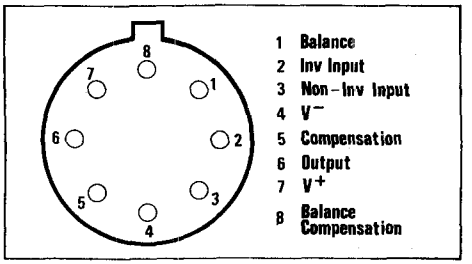
The TDA1034N version has the same electrical specifications as the TDA1034, with the following exceptions:

Input bias current	I_i	typ. <	0,4 0,8	μA μA
Input offset current	I_{io}	typ. <	0,01 0,2	μA μA
Input noise voltaage at f = 30 Hz	V_n	typ. <	5,5 7	nV /$\sqrt{Hz}$ nV /$\sqrt{Hz}$
at f = 1 kHz	V_n	typ. <	3,5 4,5	nV /$\sqrt{Hz}$ nV /$\sqrt{Hz}$
Input noise current at f = 30Hz	I_n	typ.	1,5	pA /$\sqrt{Hz}$
at f = 1 kHz	I_n	typ.	0,4	pA /$\sqrt{Hz}$
Broadband noise figure f = 10 Hz to 20 kHz; R_S = 5 kΩ	F	typ.	0,9	dB

CONNECTION DIAGRAM

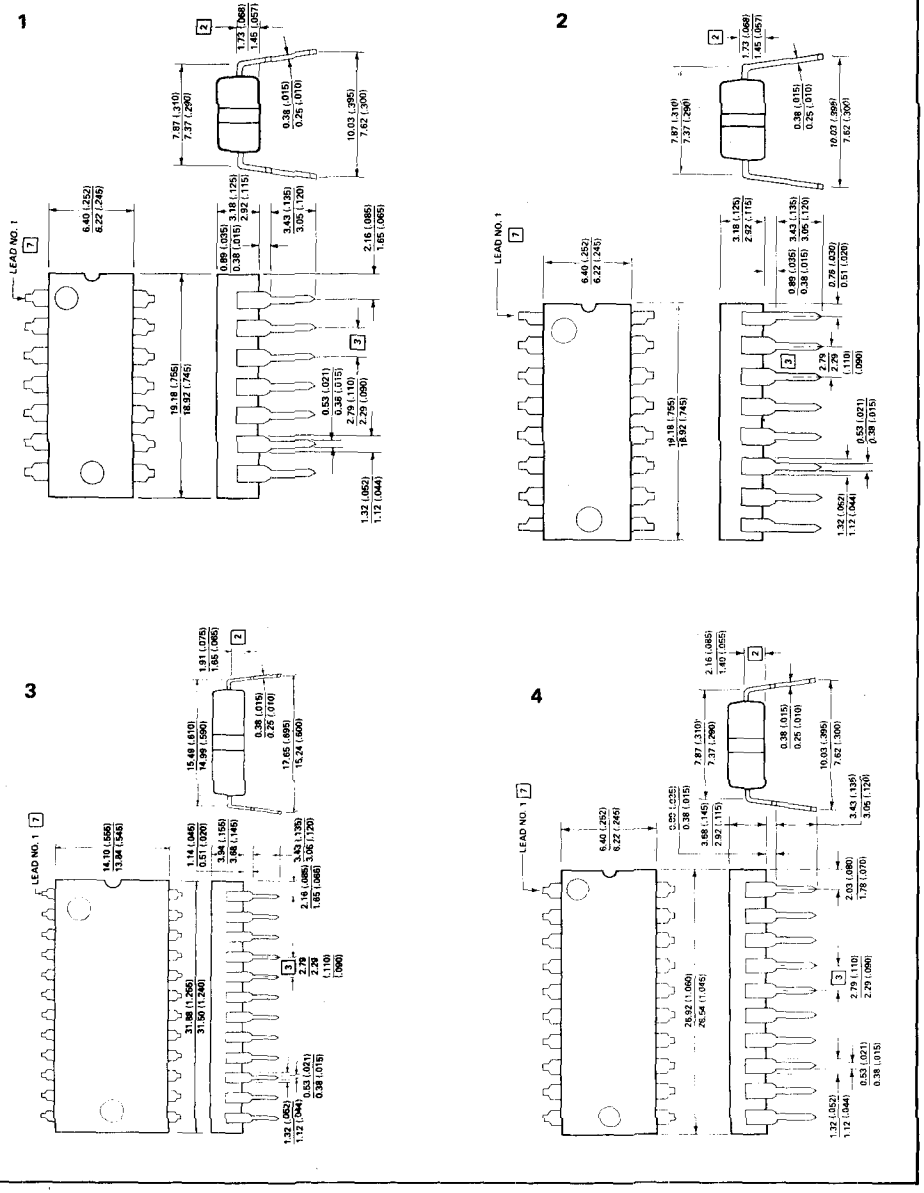


CONNECTION DIAGRAM



REFERENCE TABLE

TYPE NO.	STOCK NO.	OUTLINE DRWG. NO.
TDA1034	54485X	7
TDA1034N	55124X	7
TDA1034B	54522X	8
TDA1034BN	54523H	8



PLEASE QUOTE STOCK NO.
AND MANUFACTURERS PART NO. WHEN ORDERING

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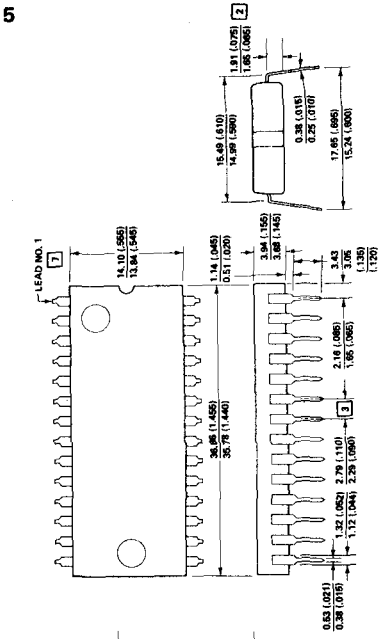
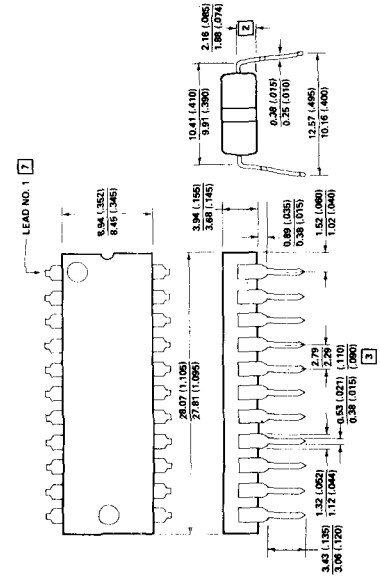
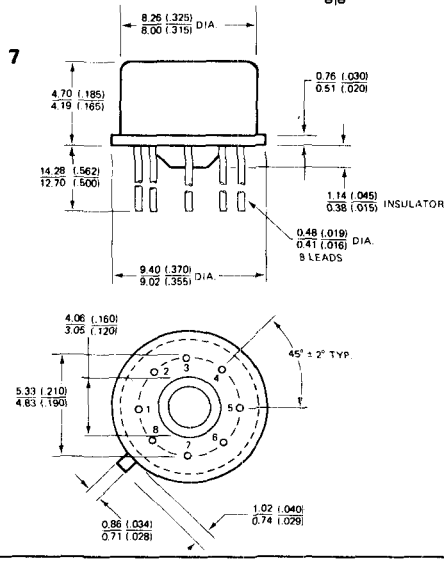
5


LEAD NO. 1
15.49 (.610)
14.99 (.590)
1.91 (.075)
1.65 (.065)
0.38 (.015)
0.25 (.010)
17.65 (.695)
15.24 (.600)
14.10 (.555)
13.84 (.545)
1.14 (.045)
0.51 (.020)
3.94 (.155)
3.68 (.145)
3.43 (.135)
3.05 (.120)
2.16 (.085)
1.65 (.065)
36.85 (1.450)
35.79 (1.440)
2.79 (.110)
2.29 (.090)
1.32 (.052)
1.12 (.044)
0.53 (.021)
0.38 (.015)

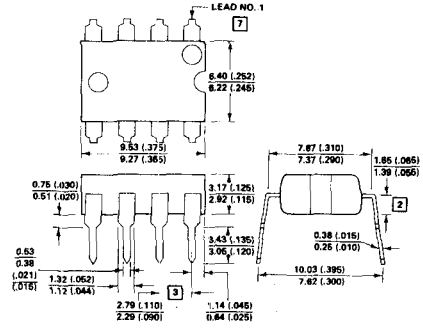
6


LEAD NO. 1
2.16 (.085)
1.88 (.074)
10.41 (.410)
9.91 (.390)
0.38 (.015)
0.25 (.010)
12.57 (.495)
10.16 (.400)
8.94 (.352)
8.45 (.345)
3.94 (.155)
3.68 (.145)
0.89 (.035)
0.38 (.015)
1.52 (.060)
1.02 (.040)
25.07 (1.105)
27.81 (1.095)
2.79
2.29
(.110)
(.090)
0.53 (.021)
0.38 (.015)
1.32 (.052)
1.12 (.044)
3.43 (.135)
3.06 (.120)

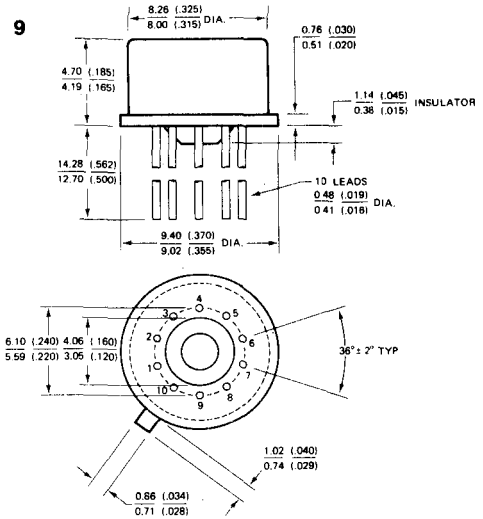
7


8.26 (.325)
8.00 (.315) DIA.
4.70 (.185)
4.19 (.165)
0.76 (.030)
0.51 (.020)
14.28 (.562)
12.70 (.500)
1.14 (.045)
0.38 (.015) INSULATOR
0.48 (.019)
0.41 (.016) DIA.
8 LEADS
9.40 (.370)
9.02 (.355) DIA.
4.06 (.160)
3.05 (.120)
45° ± 2° TYP.
5.33 (.210)
4.83 (.190)
0.86 (.034)
0.71 (.028)
1.02 (.040)
0.74 (.029)

8


LEAD NO. 1
6.40 (.252)
6.22 (.245)
9.53 (.375)
9.27 (.365)
7.87 (.310)
7.37 (.290)
1.85 (.065)
1.39 (.055)
0.75 (.030)
0.51 (.020)
3.17 (.125)
2.92 (.115)
0.38 (.015)
0.25 (.010)
3.43 (.135)
3.06 (.120)
0.53
0.38
(.021)
(.015)
1.32 (.052)
1.12 (.044)
10.03 (.395)
7.62 (.300)
2.79 (.110)
2.29 (.090)
1.14 (.045)
0.64 (.025)

9



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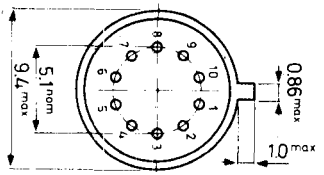

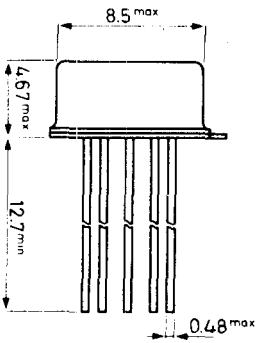

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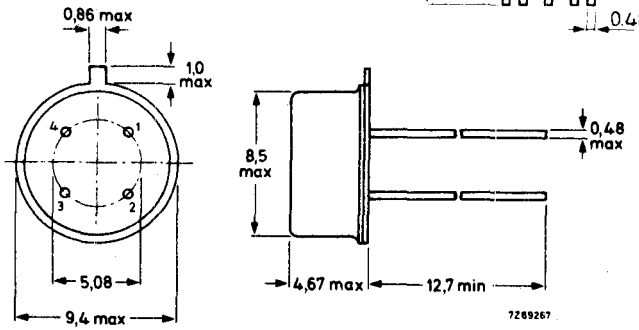

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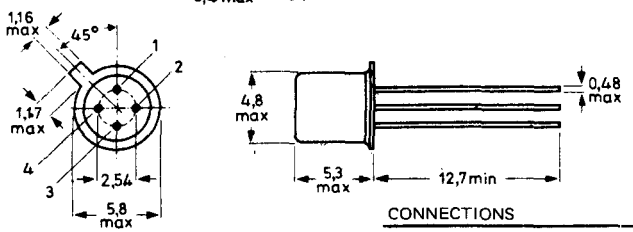
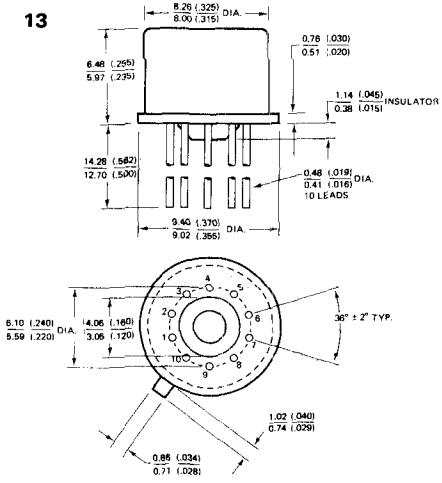


pin 4 connected to case

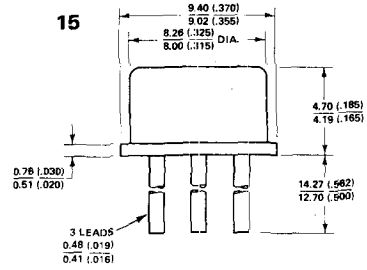
CONNECTIONS

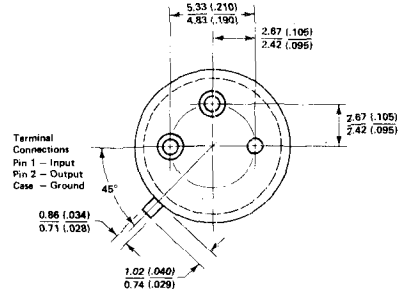
DRWG NO.	1	2	3	4	
12.1	V_O	V_P	V_i	V_N	Substrate connected to envelope
12.2	d	g_2	g_1	S	
12.3	s	d	g	*	

13

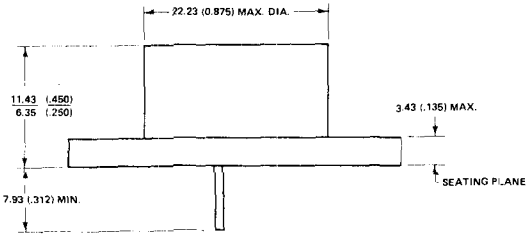

8.26 (.325)
8.00 (.315) DIA.
0.76 (.030)
0.51 (.020)
6.48 (.255)
5.97 (.235)
1.14 (.045)
0.38 (.015) INSULATOR
14.28 (.562)
12.70 (.500)
0.48 (.019)
0.41 (.016) DIA.
10 LEADS
9.40 (.370)
9.02 (.355) DIA.
6.10 (.240)
5.59 (.220) DIA.
4.06 (.160)
3.06 (.120)
36° ± 2° TYP.
1.02 (.040)
0.74 (.029)
0.86 (.034)
0.71 (.028)

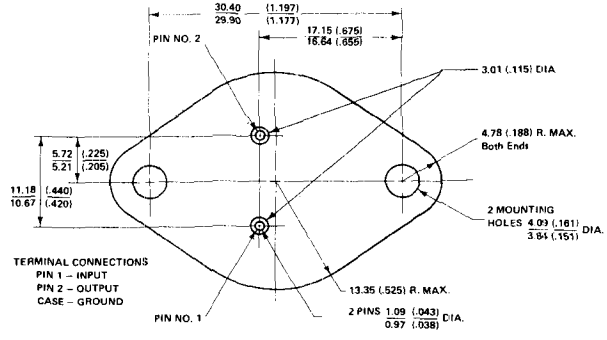
15


9.40 (.370)
9.02 (.355)
8.26 (.325)
8.00 (.315) DIA.
4.70 (.185)
4.19 (.165)
0.76 (.030)
0.51 (.020)
14.27 (.562)
12.70 (.500)
3 LEADS
0.48 (.019)
0.41 (.016)

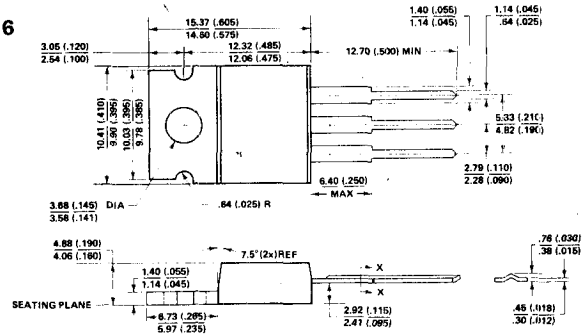

5.33 (.210)
4.83 (.190)
2.67 (.105)
2.42 (.095)
2.67 (.105)
2.42 (.095)
Terminal
Connections
Pin 1 – Input
Pin 2 – Output
Case – Ground
45°
0.86 (.034)
0.71 (.028)
1.02 (.040)
0.74 (.029)

14


22.23 (0.875) MAX. DIA.
11.43 (.450)
6.35 (.250)
3.43 (.135) MAX.
SEATING PLANE
7.93 (.312) MIN.


30.40 (1.197)
29.90 (1.177)
17.15 (.675)
16.64 (.655)
PIN NO. 2
3.01 (.115) DIA.
4.78 (.188) R. MAX.
Both Ends
5.72 (.225)
5.21 (.205)
11.18 (.440)
10.67 (.420)
2 MOUNTING
HOLES 4.09 (.161)
3.84 (.151) DIA.
TERMINAL CONNECTIONS
PIN 1 – INPUT
PIN 2 – OUTPUT
CASE – GROUND
13.35 (.525) R. MAX.
PIN NO. 1
2 PINS 1.09 (.043)
0.97 (.038) DIA.

16



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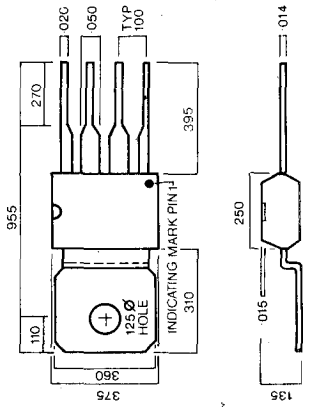

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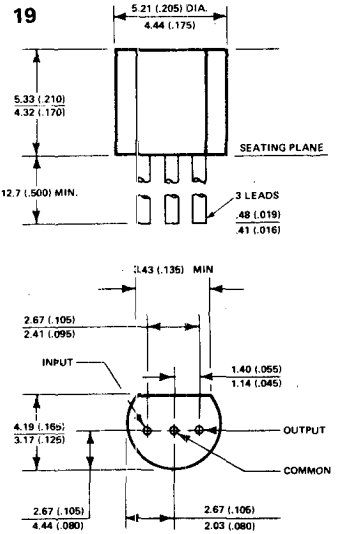

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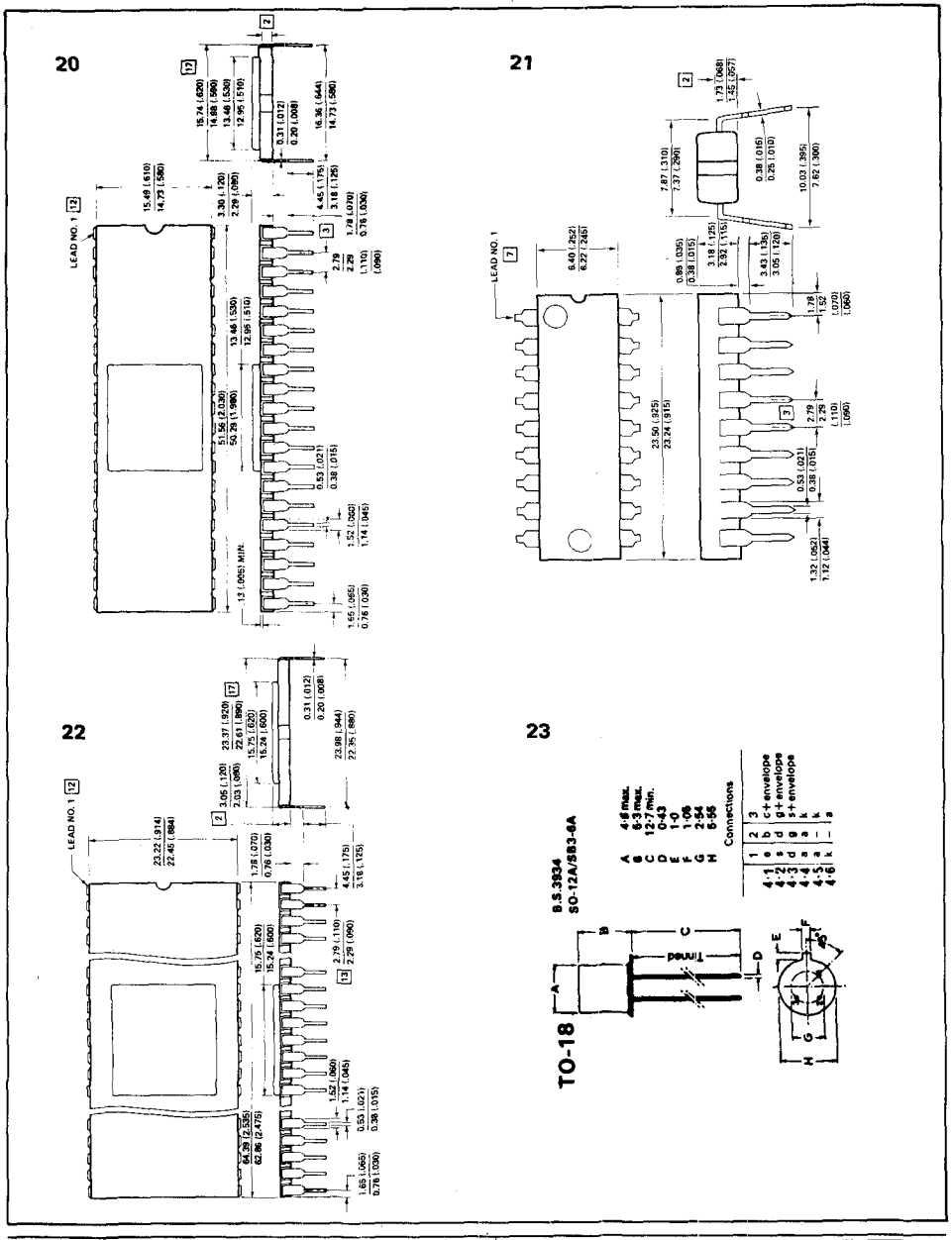
20
21
22
23
LEAD NO. 1
TO-18
SO-12A/SB3-6A
B.S.3934
Connections