T.T.L. B.C.D.-TO-DECIMAL DECODER DRIVER

FJL101
FJL101A

Corresponds to 74 Series type 7441AN

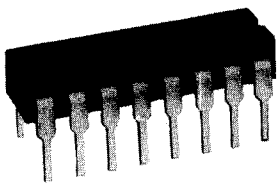
PROVISIONAL DATA

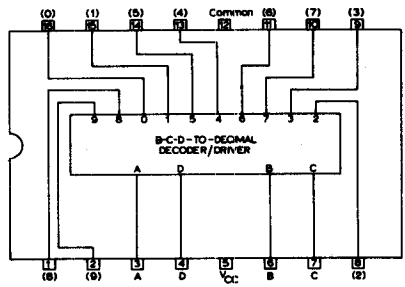
These devices are transistor-transistor logic B.C.D.-to-decimal decoder drivers in the FJ series of integrated circuits. They incorporate high performance output transistors and are designed for use as indicators or as relay drivers. The FJL101 corresponds to '74 Series' type 7441AN.

QUICK REFERENCE DATA		
Supply voltage (nominal)	5.0	V
Supply current (nominal)	19	mA
Operating temperature range	0 to 70	°C
Drive lines	10	
V_{out} max. (any output)	55	V

OUTLINE

FJL101 - 16-lead all plastic dual-in-line package
FJL101A - 16-lead hermetic-in-plastic dual-in-line package
see page 4





LOGIC FUNCTION

The BCD-to-decimal decoder consists of T.T.L. gate circuits which select one of the ten decimal drivers. The BCD inputs are fully compatible with the FJ series logic outputs. The ten high-breakdown, n-p-n transistors, with a maximum leakage current of 200μA at 55V (over the operating temperature range), meet the requirements for most indicator tube driver applications. Decoding and d.c. switching, for components such as miniature lamps and relays, may be performed by the FJL101 within the specified characteristics.

DESIGN DATA (Maximum adverse operating conditions assumed)

	Min.	Nom.	Max.	
Temperature				
Operating ambient	0	-	70	^{o}C
Supply				
Supply voltage	4.75	-	5.25	V
Supply current	-	19	-	mA
Inputs				
Voltage for 'High' input state	2.0	-	-	V
*Current for 'High' input state				
Input A	-	-	80	μA
Inputs B, C, D	-	-	40	μA
Voltage for 'Low' input state	-	-	0.8	V
**Current for 'Low' input state				
Input A	-	-	3.2	mA
Inputs B, C, D	-	-	1.6	mA
Outputs				
On-state output voltage				
I_{out} = 7.0mA	-	-	2.5	V
Off-state output leakage current				
V_{out} = 55V	-	-	200	μA

*The 'High' state normally corresponds to a voltage level between 2.4 and 5.25V.

**The 'Low' state normally corresponds to a voltage level between 0 and 0.4V.

DESIGN DATA (cont'd)

Truth table

INPUT				OUTPUT
D	C	B	A	ON†
Low	Low	Low	Low	0
Low	Low	Low	High	1
Low	Low	High	Low	2
Low	Low	High	High	3
Low	High	Low	Low	4
Low	High	Low	High	5
Low	High	High	Low	6
Low	High	High	High	7
High	Low	Low	Low	8
High	Low	Low	High	9

†All other outputs are off

RATINGS

Limiting values of operation according to the absolute maximum system.

Electrical (pin 12 earthed)

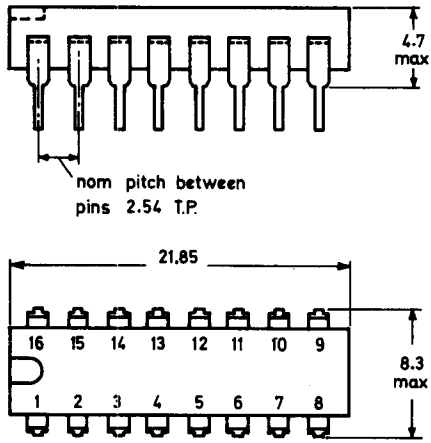
Maximum positive supply voltage (pin 5)	7.0	V
Maximum continuous input voltage (pins 3, 4, 6, 7)	5.5	V
Maximum current into any output (off-state)	0.5	mA

Temperature

T_{stg} min.	-65	^{o}C
T_{stg} max.	150	^{o}C
T_{amb} min. operating	0	^{o}C
T_{amb} max. operating	70	^{o}C

OUTLINE AND DIMENSIONS

16-lead dual-in-line package

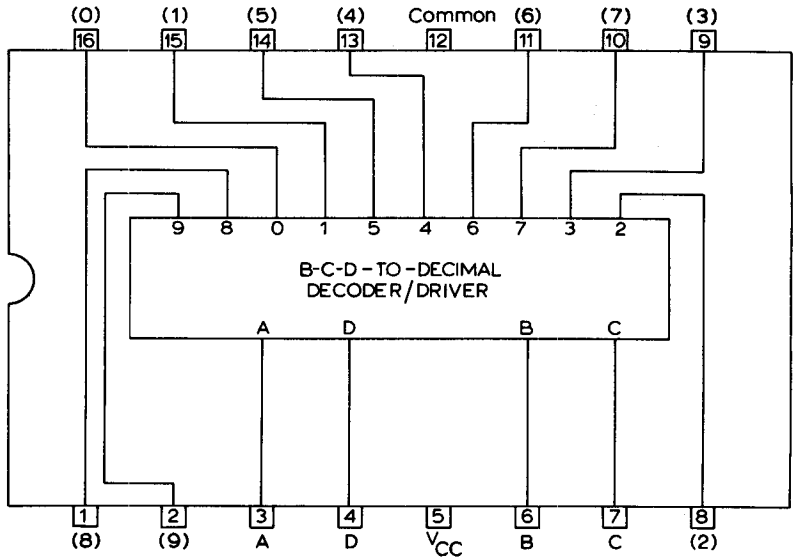


PINNING

1. Output 8
2. Output 9
3. Input A
4. Input D
5. Supply voltage
6. Input B
7. Input C
8. Output 2
9. Output 3
10. Output 7
11. Output 6
12. Common
13. Output 4
14. Output 5
15. Output 1
16. Output 0

For detailed dimensions see General Explanatory Notes
For Handling Notes see General Explanatory Notes

LOGIC DIAGRAM



Positive logic