

7-Segment Decoder Driver

Technology: PMOS

Features

- Display numbers from 1 to 16
- Supply voltage $-V_S = 12\text{ V}$
- Output currents $-I_{O1} \dots -I_{O9} = 10\text{ mA}$
- Input code BCD + 1
- Pull-up resistors $50\text{ k}\Omega$ to V_S
- Separate input for dark switching

Case: 16 pin dual inline plastic

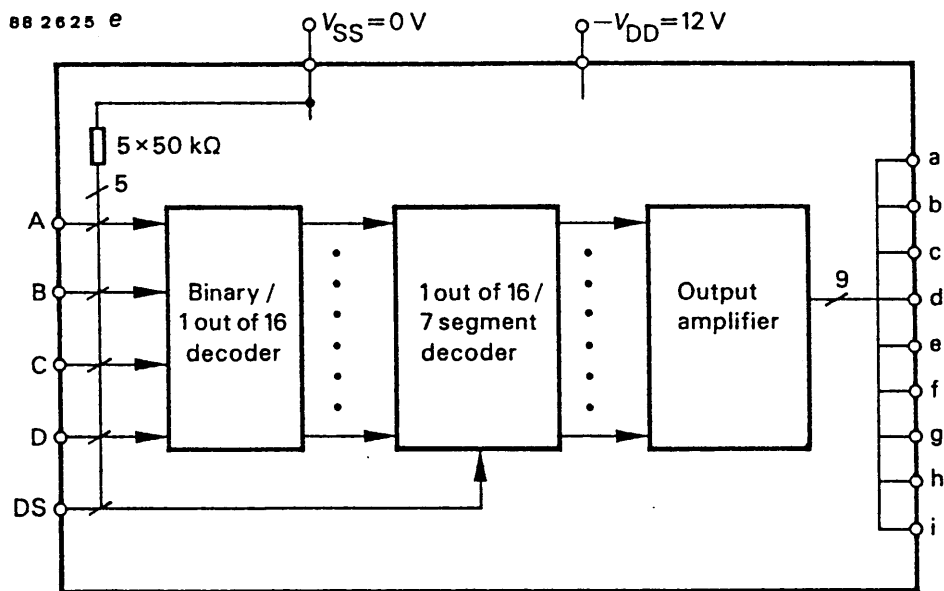


Figure 1 Block diagram

Absolute Maximum Ratings

Parameters		Symbol	Value	Unit
Supply voltage range	Pin 16	V_S	$-13.5 \dots +0.3$	V
Supply current	Pin 1	I_S	150	mA
Output current of one output	Pin 7 ... 15	$-I_{O1} \dots -I_{O9}$	50	mA
Total power dissipation		P_{tot}	220	mW
$-I_{O1} \dots -I_{O9} \text{ à } 10\text{ mA} = 90\text{ mA}$ $-V_{O1} \dots -V_{O9} = 2\text{ V}, T_{amb} = 70\text{ }^\circ\text{C}$				

Electrical Characteristics

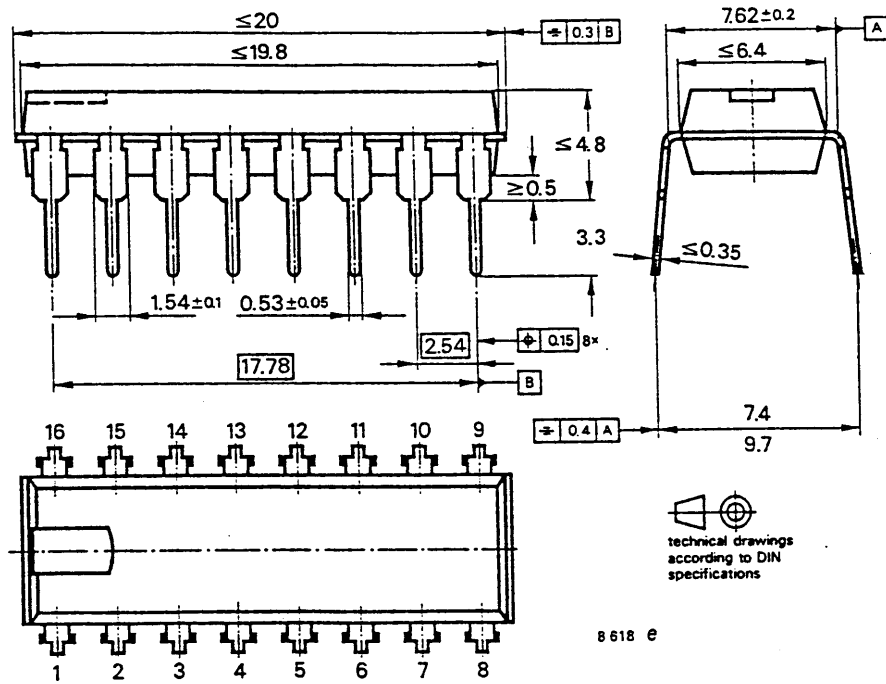
$-V_S = 12\text{ V}$, reference point pin 1, $T_{\text{amb}} = 25\text{ }^\circ\text{C}$, unless otherwise specified

Parameters	Test Conditions / Pin	Symbol	Min	Typ	Max	Unit
Supply voltage	Pin 16	$-V_S$	10.8	12	13.2	V
Supply quiescent current	Pin 1	I_{SB}			1.5	mA
Output reverse current	$-V_0 = 13.2\text{ V}$, $T_{\text{amb}} = 70\text{ }^\circ\text{C}$ Pin 7...15	$-I_{OR}$			50	μA
Output voltage level Logic "0" Logic "1"	Pin 7...15	$-V_{OH}$ $-V_{OL}$	10.8		2.0	V V
Output current	$-V_{OH} = 2\text{ V}$, $T_{\text{amb}} = 25\text{ }^\circ\text{C}$ Pin 7...15 $T_{\text{amb}} = 70\text{ }^\circ\text{C}$ Pin 7...15	$-I_O$ $-I_O$	12 10			mA mA
Input voltage level Logic "0" Logic "1"	Pin 2...6	$-V_{IH}$ $-V_{IL}$	-0.3 13.2		+1 4.0	V V
Input currents	$-V_{IL} = 4.0\text{ V}$ $-V_{IH} = 1.0\text{ V}$ Pin 2...6	$-I_{IL}$ $-I_{IH}$	10		120	μA μA

Truth Table

Number displayed	Inputs					Outputs								
	D	C	B	A	DS	a	b	c	d	e	f	g	h	i
1	L	L	L	L	H	L	H	H	L	L	L	L	L	L
2	L	L	L	H	H	H	H	L	H	H	L	H	L	L
3	L	L	H	L	H	H	H	H	H	L	L	H	L	L
4	L	L	H	H	H	L	H	H	L	L	H	H	L	L
5	L	H	L	L	H	H	L	H	H	L	H	H	L	L
6	L	H	L	H	H	H	L	H	H	H	H	H	L	L
7	L	H	H	L	H	H	H	H	L	L	L	L	L	L
8	L	H	H	H	H	H	H	H	H	H	H	H	L	L
9	H	L	L	L	H	H	H	H	H	L	H	H	L	L
10	H	L	L	H	H	H	H	H	H	H	H	L	H	H
11	H	L	H	L	H	L	H	H	L	L	L	L	H	H
12	H	L	H	H	H	H	H	L	H	H	L	H	H	H
13	H	H	L	L	H	H	H	H	H	L	L	H	H	H
14	H	H	L	H	H	L	H	H	L	L	H	H	H	H
15	H	H	H	L	H	H	L	H	H	L	H	H	H	H
16	H	H	H	H	H	H	L	H	H	H	H	H	H	H
dark	X	X	X	X	L	L	L	L	L	L	L	L	L	L

Dimensions in mm



Case

JEDEC MO 001
DIP 16-leads

OZONE DEPLETING SUBSTANCES POLICY STATEMENT

It is the policy of **TEMIC TELEFUNKEN microelectronic GmbH** to

1. Meet all present and future national and international statutory requirements and
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

Of particular concern is the control or elimination of releases into the atmosphere of those substances which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) will soon severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

TEMIC TELEFUNKEN microelectronic GmbH semiconductor division has been able to use its policy of continuous improvements to eliminate the use of any ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA and
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

TEMIC can certify that our semiconductors are not manufactured with and do not contain ozone depleting substances.

We reserve the right to make changes without further notice to improve technical design.

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