SEVEN-TRANSISTOR ARRAYS

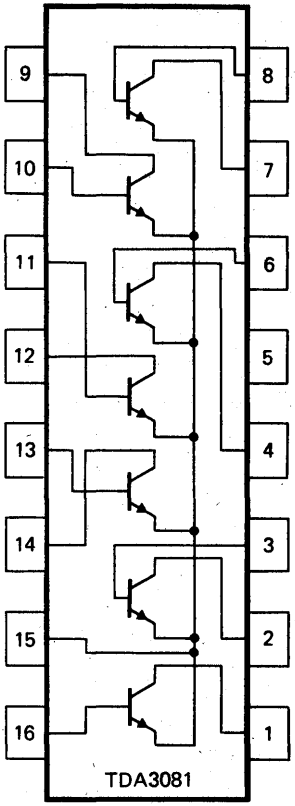
The TDA3081 and TDA3082 are monolithic integrated circuits each consisting of seven separate n-p-n transistors on a common substrate.
The transistors are capable of driving loads up to 100 mA. At the same time the transistor geometry used gives maximum current gain at quite low currents, making the devices also suitable for small signal applications.
In the TDA3081 the transistors are connected in common emitter configuration whilst in the TDA3082 the collectors are common.
The transistor arrays are particularly suitable for driving light-emitting diodes and seven-segment displays as well as for general purpose applications.

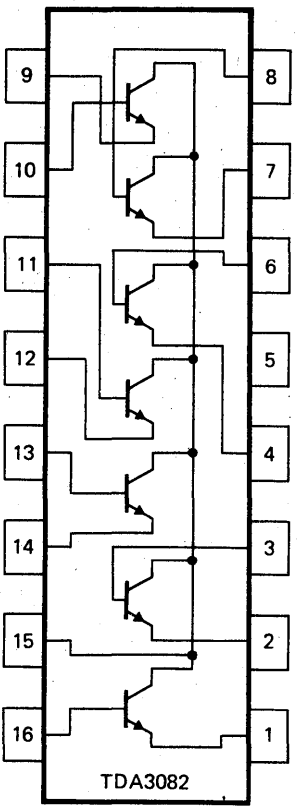
QUICK REFERENCE DATA				
Collector-base voltage (open emitter)	V_{CBO}	max.	50	V
Collector-emitter voltage (open base)	V_{CEO}	max.	35	V
Collector current (d.c.)	I_C	max.	100	mA
Power dissipation: any one transistor	P	max.	500	mW
total package	P_{tot}	max.	750	mW

CONNECTION DIAGRAMS (see page 2)

PACKAGE OUTLINE plastic 16-lead dual in-line (see general section).

CONNECTION DIAGRAMS



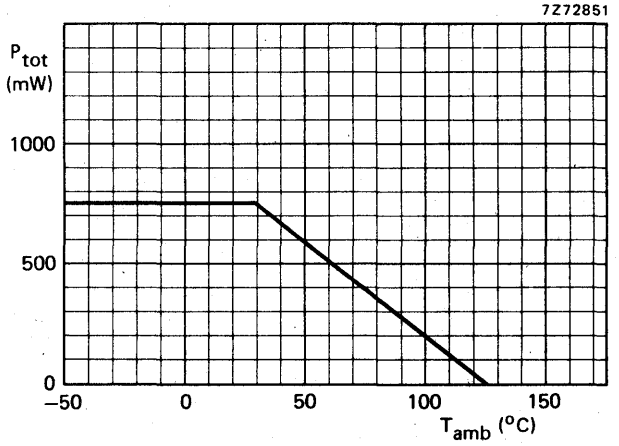


Note: pins 5 are substrate.

RATINGS Limiting values in accordance with the Absolute Maximum System (IEC 134)

Each transistor

Voltages				
Collector-emitter voltage (open base)	V_{CEO}	max.	35	V
Collector-base voltage (open emitter)	V_{CBO}	max.	50	V
Collector-substrate voltage (open base and emitter)	V_{CSO}	max.	50	V
Emitter-base voltage (open collector)	V_{EBO}	max.	6	V
Currents				
Collector current (d.c.)	I_C	max.	100	mA
Base current (d.c.)	I_B	max.	20	mA
Power dissipation				
Power dissipation: any one transistor	P	max.	500	mW
total package (see derating curve)	P_{tot}	max.	750	mW
Temperatures				
Operating ambient temperature	T_{amb}	−40 to +125		°C
Storage temperature	T_{stg}	−50 to +125		°C
Junction temperature	T_j	max.	125	°C



CHARACTERISTICS at T_{amb} = 25 °C unless otherwise specified

Collector-emitter breakdown voltage				
I_C = 1 mA; I_B = 0	$V_{(BR)CEO}$	>	35	V
Collector-substrate breakdown voltage				
I_C = 1 mA; I_B = 0; I_E = 0	$V_{(BR)CSO}$	>	50	V
Collector-base breakdown voltage				
I_C = 10 μA; I_E = 0	$V_{(BR)CBO}$	>	50	V
Emitter-base breakdown voltage				
I_E = 10 μA; I_C = 0	$V_{(BR)EBO}$	typ.	7,0	V
			6,5 to 7,5	V
D.C. current gain				
I_E = 10 μA ; V_{CE} = 5 V	h_{FE}		50 to 300	
I_E = 1 mA; V_{CE} = 5 V	h_{FE}		50 to 300	
I_E = 20 mA; V_{CE} = 5 V	h_{FE}		30 to 200	
Saturation voltage				
I_C = 5 mA; I_B = 0,5 mA	V_{CEsat}	typ.	0,2	V
		<	0,4	V
I_C = 50 mA; I_B = 5 mA	V_{CEsat}	typ.	0,4	V
		<	0,8	V

OPERATING NOTE

As each collector forms a parasitic diode with the substrate, the substrate has to be connected to a voltage which is lower than the lowest collector voltage.
To avoid parasitic coupling between the transistors, the substrate (pin 5) should be connected to signal ground.