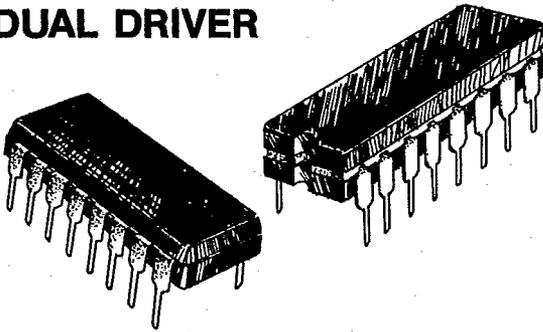


# TSC450

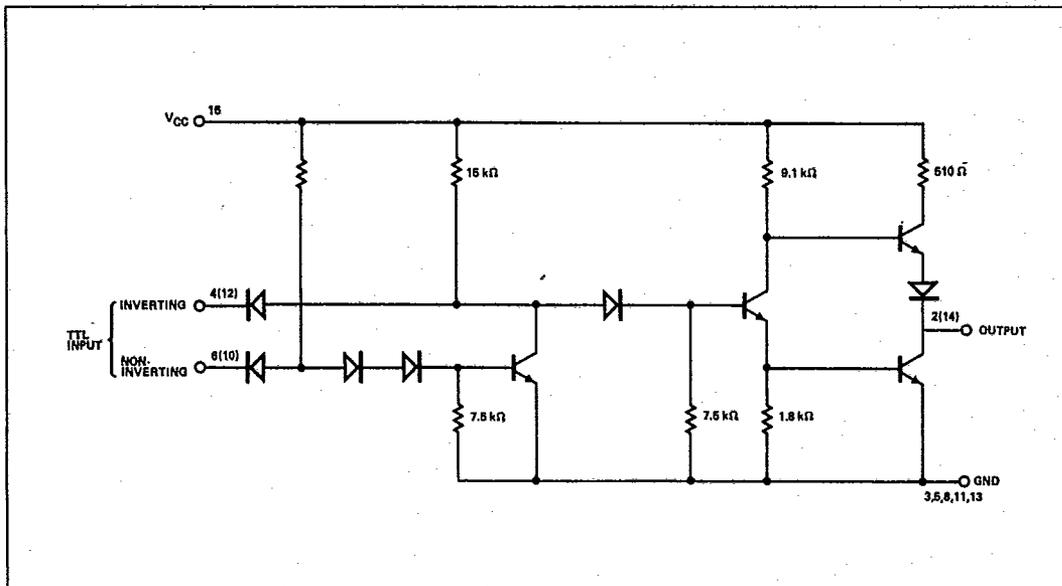
## DUAL DRIVER



### FEATURES

- Dual Device for High Packing Density
- User Selectable Inverting or Non-Inverting Operation
- Single Supply Operation
- TTL Compatible Inputs
- High Output Sink Current ..... 12 mA
- High Output Source Current ..... 6 mA
- Fast Switching ..... 125 ns

### FUNCTIONAL DIAGRAM (1/2 Circuit)



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**DUAL DRIVER**

T-52-13-90

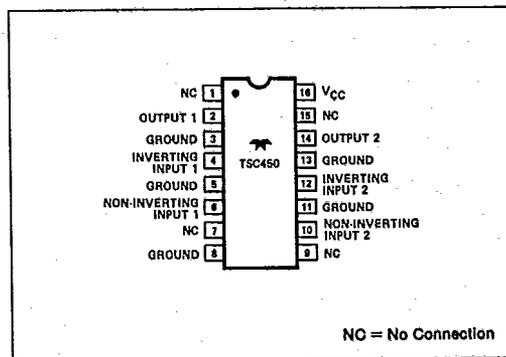
**TSC450****GENERAL DESCRIPTION**

The TSC450 is a low cost bipolar dual driver with TTL compatible inputs and high voltage outputs. Each device may be configured in an inverting or non-inverting configuration. The active pullup, high voltage outputs will drive power MOSFET gates. See the TSC426/427/428 for higher speed power MOSFET drivers.

The TSC450 also serves as a logic level translator and discrete analog switch driver.

**Ordering Information**

Part No.	Supply Voltage	Temp. Range	Package
TSC450AIJE	15V	-25°C to +85°C	16 Pin CerDIP
TSC450ACPE	15 V	0°C to +70°C	16 Pin Epoxy
TSC450BIJE	12 V	-25°C to +85°C	16 Pin CerDIP
TSC450BCPE	12 V	0°C to +70°C	16 Pin Epoxy
TSC450AMJE	15 V	-55°C to +125°C	16 Pin CerDIP
TSC450BMJE	12 V	-55°C to +125°C	16 Pin CerDIP

**Pin Configuration**

## TSC450

## Absolute Maximum Ratings

	J Package, CerDIP	P Package, Plastic		J Package, CerDIP	P Package, Plastic
Storage Temperature	-65°C to +150°C	-55°C to +100°C	Pulsed Supply Voltage (less than 100 msec)	+18.0 V	+18.0 V
Lead Temperature (1/16 inch from case, 10 sec max)	300°C	300°C	Input Voltage (any input)		
Continuous Supply Voltage	Type B Device	+15.0 V	Type B Device	-0.5 to +15 V	-0.5 to +15 V
	Type A Device	+16.5 V	Type A Device	-0.5 to +18 V	-0.5 to +18 V
			Surge Sink Current (less than 100 msec at T <sub>A</sub> = 25°C)	20 mA	20 mA

Note: Exceeding the absolute maximum ratings may cause permanent damage. Operation at the absolute maximum ratings or beyond the

conditions guaranteed is not implied.

**Electrical Characteristics:** Specifications apply over full operating temperature range. V<sub>cc</sub> = +15 V for type A devices and V<sub>cc</sub> = 12 V for type B devices unless otherwise indicated.

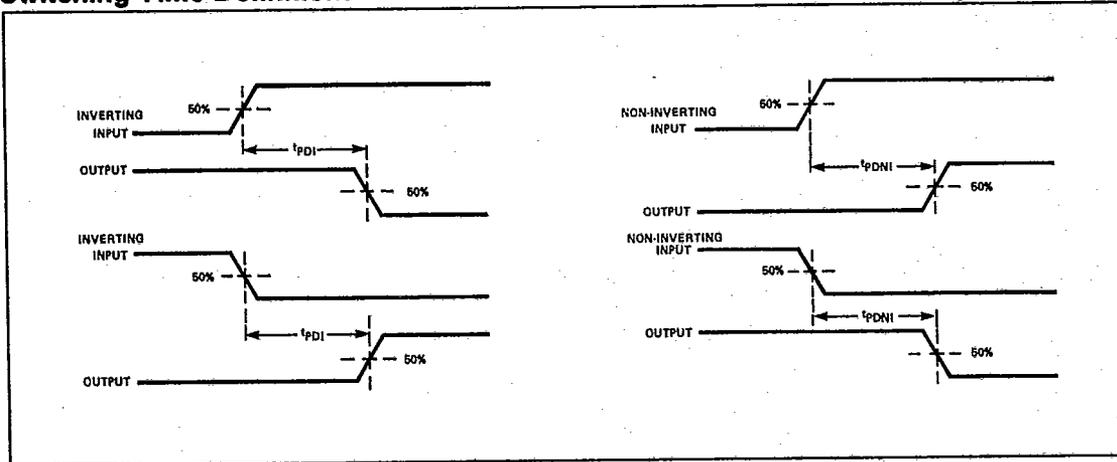
TYPE	NO.	SYMBOL	PARAMETER	TEST CONDITIONS	TSC450			UNIT
					MIN	TYP	MAX	
I N P U T	1	V <sub>INH</sub>	Input High Voltage	I <sub>IN</sub> ≤ 40 μA	2.0	—	—	V
	2	V <sub>INL</sub>	Input Low Voltage		—	—	0.8	V
	3	I <sub>INH</sub>	Input High Current		—	—	10	μA
	4	I <sub>INL</sub>	Input Low Current	V <sub>IN</sub> = 0.4 V	—	—	1.6	mA
O U T P U T	5	V <sub>OHL</sub>	Loaded Output High Voltage	V <sub>cc</sub> = 12 V, I <sub>OH</sub> = 5 mA (Type B Device)	6.0	—	—	V
	6	V <sub>OH</sub>	Output High Voltage	V <sub>cc</sub> = 11 V (Type B Device)	9.0	—	—	V
	7	V <sub>OHL</sub>	Loaded Output High Voltage	V <sub>cc</sub> = 15 V, I <sub>OH</sub> = 5 mA (Type A Device)	9.0	—	—	V
	8	V <sub>OH</sub>	Output High Voltage	V <sub>cc</sub> = 14 V (Type A Device)	12.0	—	—	V
	9	V <sub>OL</sub>	Output Low Voltage	I <sub>OL</sub> ≤ 10 mA	—	—	0.4	V
S Y S T E M	10	t <sub>PDI</sub>	Inverting Input to Output Propagation Delay		—	—	235	ns
	11	t <sub>PDNI</sub>	Non-Inverting Input to Output Propagation Delay		—	—	125	ns
S U P P L Y	12	I <sub>cc</sub>	Supply Current	Type A Device V <sub>cc</sub> = 16 V	—	—	13	mA
	13	I <sub>cc</sub>	Supply Current	Type B Device V <sub>cc</sub> = 13 V	—	—	10	mA

DUAL DRIVER

T-52-13-90

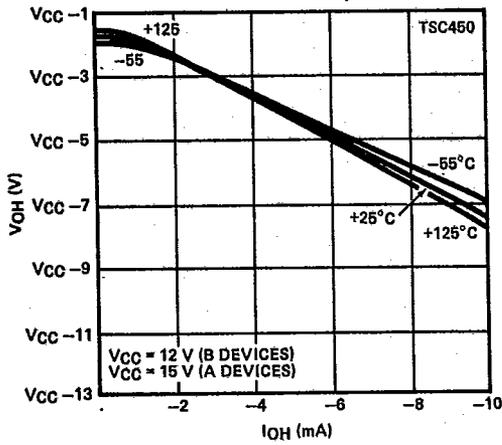
# TSC450

## Switching Time Definitions



## Operating Characteristics

Output High Voltage  
TSC450



Output Low Voltage  
TSC450

