

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.

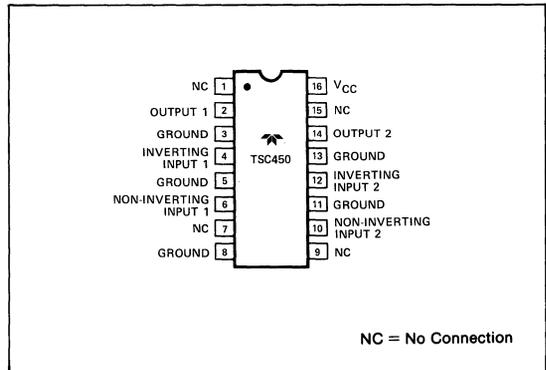
Ordering Information

Part No.	Supply Voltage	Temp. Range	Package
TSC450AIJE	15 V	-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

Features

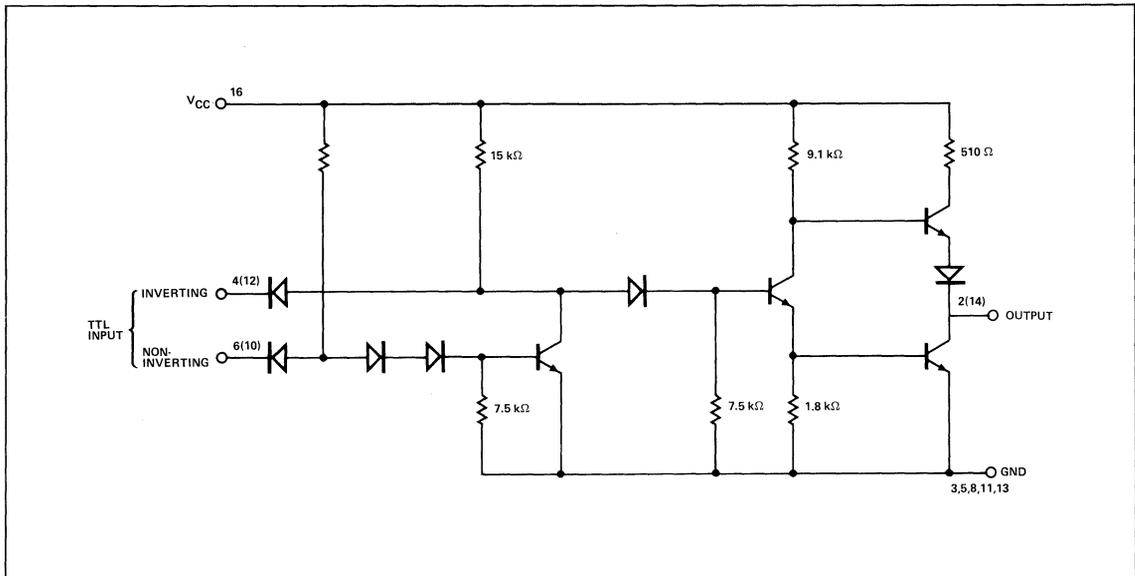
- Dual Device for High Packing Density
- User Selectable Inverting or Non-Inverting Operation
- Single Supply Operation
- TTL Compatible Inputs
- High Output Sink Current 12 mA
- High Output Source Current 6 mA
- Fast Switching 125 ns

Pin Configuration



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Functional Diagram (1/2 Circuit)



Absolute Maximum Ratings

	J Package, CerDIP	P Package, Plastic
Storage Temperature	-65°C to +150°C	-55°C to +100°C
Lead Temperature (1/16 inch from case, 10 sec max)	300°C	300°C
Continuous Supply Voltage		
Type B Device	+15.0 V	+15.0 V
Type A Device	+16.5 V	+16.5 V

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

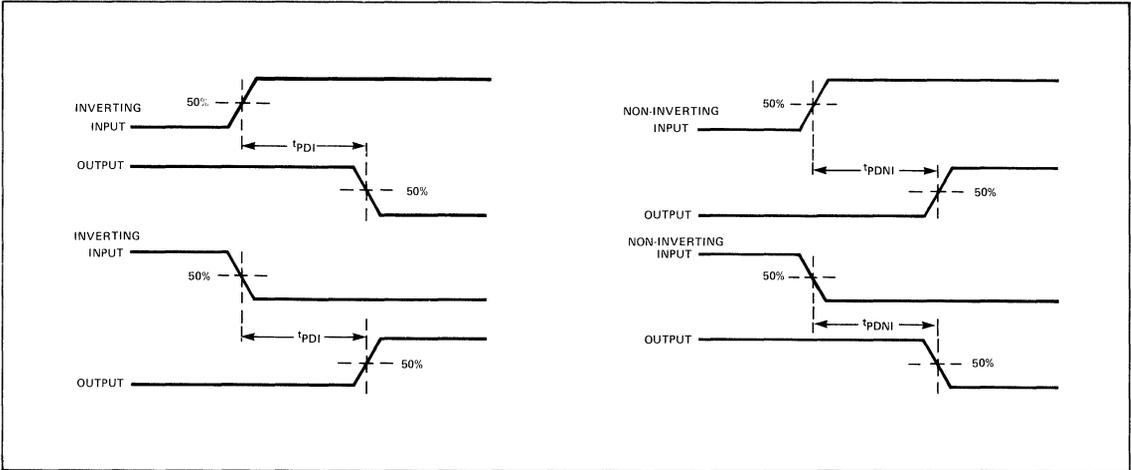
	J Package, CerDIP	P Package, Plastic
Pulsed Supply Voltage (less than 100 msec)	+18.0 V	+18.0 V
Input Voltage (any input)		
Type B Device	-0.5 to +15 V	-0.5 to +15 V
Type A Device	-0.5 to +18 V	-0.5 to +18 V
Surge Sink Current (less than 100 msec at $T_A = 25^\circ\text{C}$)	20 mA	20 mA

conditions guaranteed is not implied.

Electrical Characteristics: Specifications apply over full operating temperature range. $V_{CC} = +15\text{ V}$ for type A devices and $V_{CC} = 12\text{ V}$ for type B devices unless otherwise indicated.

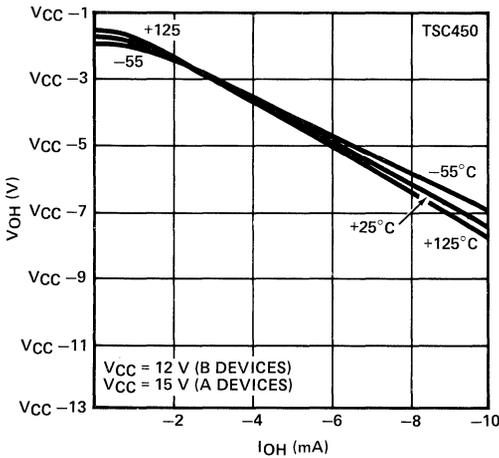
TYPE	NO.	SYMBOL	PARAMETER	TEST CONDITIONS	TSC450			UNIT
					MIN	TYP	MAX	
I N P U T	1	V_{INH}	Input High Voltage	$I_{IN} \leq 40\ \mu\text{A}$	2.0	—	—	V
	2	V_{INL}	Input Low Voltage		—	—	0.8	V
	3	I_{INH}	Input High Current		—	—	10	μA
	4	I_{INL}	Input Low Current	$V_{IN} = 0.4\text{ V}$	—	—	1.6	mA
O U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

Switching Time Definitions



Operating Characteristics

Output High Voltage
TSC450



Output Low Voltage
TSC450

