signetics

DUAL PERIPHERAL DRIVER | 75451

LINEAR INTEGRATED CIRCUITS

DESCRIPTION

The SN75451 and SN75451A dual peripheral drivers are versatile devices designed for use in systems that employ TTL or DTL logic. These circuits are dual AND drivers (positive logic) with the gate outputs internally connected to the npn output transistors.
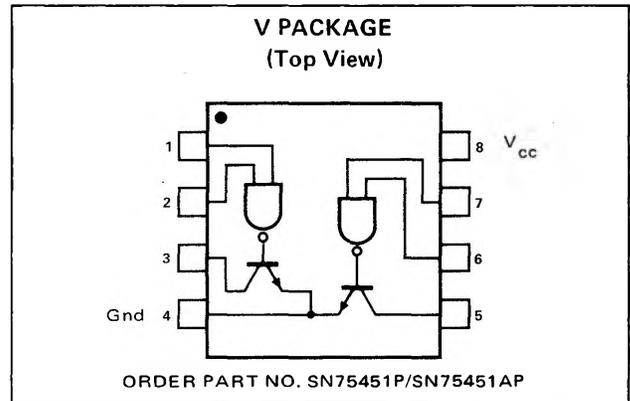
ABSOLUTE MAXIMUM RATINGS

Supply Voltage (V_{CC})	+7V
Input Voltage	+5.5V
Output Voltage	+30V
Continuous Output Current	300mA
Continuous Power Dissipation	800mW
Positive Logic	Y = AB

TRUTH TABLE

A	B	Y
L	L	L (on state)
L	H	L (on state)
H	L	L (on state)
H	H	H (off state)

PIN CONFIGURATION

V PACKAGE
(Top View)

ORDER PART NO. SN75451P/SN75451AP

EQUIVALENT CIRCUIT (Each Driver)
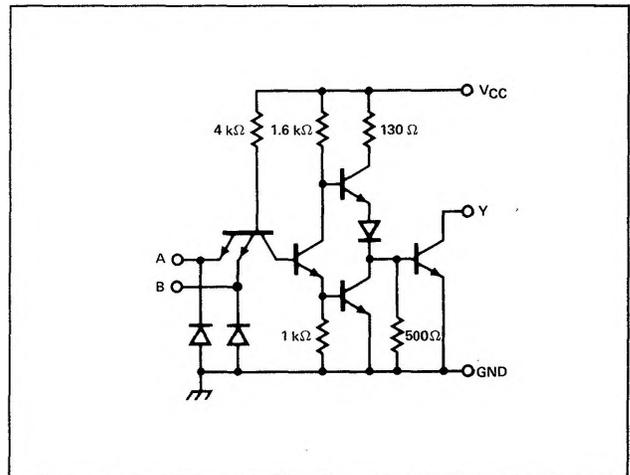
ELECTRICAL CHARACTERISTICS

	PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
V_{IH}	High-Level Input Voltage		2			V
V_{IL}	Low-Level Input Voltage				0.8	V
V_I	Input Clamp Voltage	V_{CC} = 4.75V, I_I = −12mA			−1.5	V
I_{OH}	High-Level Output Current	V_{CC} = 4.75V, V_{IH} = 2V, V_{OH} = 30V			100	μA
V_{OL}	Low-Level Output Voltage	V_{CC} = 4.75V, V_{IL} = 0.8V, I_{OL} = 100mA	0.25		0.4	V
		V_{CC} = 4.75V, V_{IL} = 0.8V, I_{OL} = 300mA	0.5		0.7	V
I_I	Input Current at Maximum Input Voltage	V_{CC} = 5.25V, V_I = 5.5V			1	mA
I_{IH}	High-Level Input Current	V_{CC} = 5.25V, V_I = 2.4V			40	μA
I_{IL}	Low-Level Input Current	V_{CC} = 5.25V, V_I = 0.4V		−1	−1.6	mA
I_{CCH}	Supply Current, High-Level Output	V_{CC} = 5.25V, V_I = 5V		7	11	mA
I_{CCL}	Supply Current, Low-Level Output	V_{CC} = 5.25V, V_T = 0		52	65	mA

SWITCHING CHARACTERISTICS $(V_{CC} = 5V, T_A = 25^OC)$

PARAMETER	TEST CONDITIONS	75451			75451A			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
t_{PLH} Propagation Delay Time Low-to High-Level Output			20	25		45		ns
t_{PHL} Propagation Delay Time High-to-Low Level Output	$I_O \approx 200mA, C_L = 15pF$		20	30		25		ns
t_{TLH} Transition Time, Low-to-High-Level Output	$R_L = 50\Omega$		10			10		ns
t_{THL} Transition Time, High-to-Low-Level Output			10			12		ns