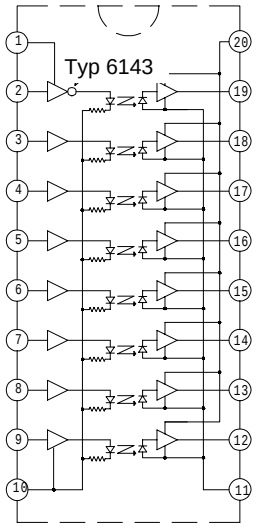
NATIONAL HYBRID INC.
RONKONKOMA N.Y. 11779

Hermetically Sealed, 8-Channel, Logic In / Logic Out, Optocoupler

NHI 6143 INVERTING &
NHI 6144 NON-INVERTING



Terminal Number	Terminal Function
1	Vcc 1
2	A 1
3	A 2
4	A 3
5	A 4
6	A 5
7	A 6
8	A 7
9	A 8
10	GND 1
11	GND 2
12	Y 8
13	Y 7
14	Y 6
15	Y 5
16	Y 4
17	Y 3
18	Y 2
19	Y 1
20	Vcc 2

Features;

- -55°c to +125°c Operation
- Very high speed
- 10 TTL load fan-out, CMOS input
- Withstanding Voltage > 1500Vdc
- Input noise immunity equivalent to HCT

Absolute Maximum Ratings;

Supply Voltage (Vcc1 or Vcc2) ..... -0.5 to 7V
Input voltage range ..... -0.5 to 7V
Output voltage range ..... -0.5 to 7V
Output Current ..... ± 40mA
Input Clamp Current ..... ± 20mA

Recommended Operating Conditions;

Vcc1 or Vcc2 Supply Voltage ..... 4.5 to 5.5V
Vih High-level input voltage ..... 2V min
Vil Low-level input voltage ..... 0.8V max
Vi Input voltage ..... 0 to 5.5V

Electrical Performance Characteristics

(At 25°C unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN	TYP*	MAX	UNITS
Input supply voltage (Vcc1)		4.5	5.0	5.5	V
Output supply voltage (Vcc2)		4.5	5.0	5.5	V
High-level input voltage (Vih)		2.0			V
Low-level input voltage (Vil)				0.8	V
Input supply current all inputs high (Icch) **NHI 6143** **NHI 6144**	Vcc1 = 5.5V		 48	 0.16 53	mA
Input supply current all inputs low (Icc1) **NHI 6143** **NHI 6144**	Vcc1 = 5.5V		48	 53 0.16	mA
High-level output Voltage (Voh)	Vcc2 = 4.5V Ioh = -	2.4	3.0		V
Low-level output Voltage (Vol)	Vcc2 = 4.5 Iol = 4mA		0.3	0.5	V
	Vcc2 = 4.5V Iol = 16mA		0.3	0.6	mA
High-level output current (Ioh)	Vcc2 = 4.5 Voh = 2.4V		-8.0	-10.0	mA
Low-level output current (Iol)	Vcc2 = 4.5V Vol = 0.6V	16.0			mA
Short circuit output current (Ios)	Vcc2 = 5.5V	-5.0	-25.0	-40.0	mA
Output supply Current outputs high (Icc2oh)	Vcc2 = 5.5V Vcco =		72		mA
Output supply current outputs low (Icc2ol)	Vcc2 = 5.5V Vcco = 5.5V		64		mA

Electrical Performance Characteristics (continued)

(Ta=–55°c to 125°c unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN	TYP	MA	UNITS
Capacitance (input to output) (Cio)	@ f = 1Mhz		tbd		pf
Withstand insulation test voltage (Viso)		1500			Vdc
Insulation resistance (Riso)	Vi-o = 500 Vdc)		tbd		Ohms

Switching Performance Characteristics

(Ta=25°c unless otherwise specified)

PARAMETER	TEST CONDITIONS	MIN	TYP*	MAX	UNITS
Propagation delay time to output low (Tphl)	Vcc1 = 5.0V Vcc2 =5.0V Refer test ckt Fig 1		60	100	ns Fig 3
Propagation delay time to output high (Tplh)	Vcc1 = 5.0V Vcc2 =5.0V Refer test ckt Fig 1		70	100	ns Fig 3
Output rise time to output high (Tr)	Vcc1 = 5.0V Vcc2 =5.0V		45		ns
Output fall time to output low (Tf)	Vcc1 = 5.0V Vcc2 = .0V		5		nS
Common mode transient immunity output hi (CMh)	Vcm = 50Vpp Refer test ckt Fig 2	5000	15000		V/uS Fig 4
Common mode transient immunity output low (CMl)	Vcm = 50Vpp Refer test ckt Fig 2	-5000	-15000		V/uS Fig 4

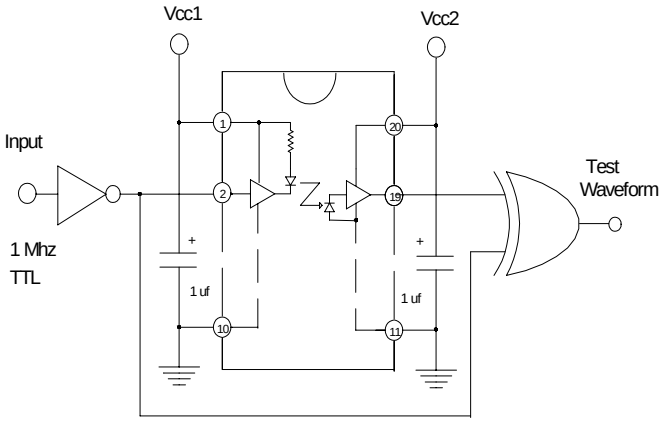


Fig 1 Switching Time Test Circuit

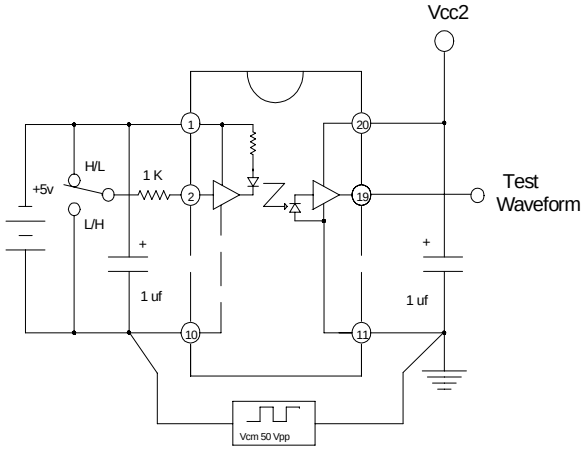


Fig 2 Common Mode Test circuit

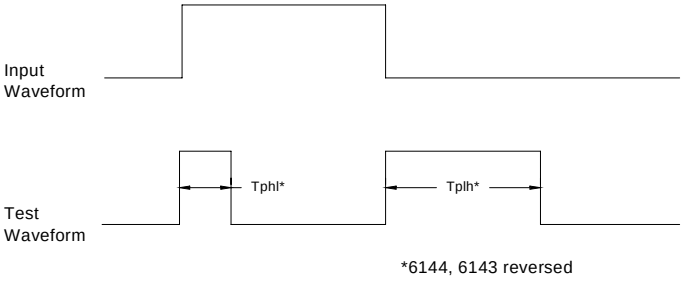


Fig 3 Switching Time Test Waveform

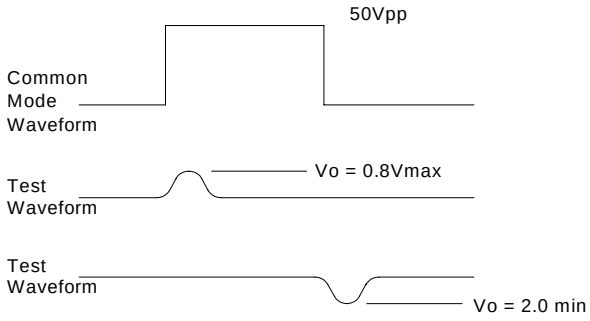


Fig 4 Common Mode Test Waveform

GULL WING
OPTION (-X)

THRU HOLE
OPTION (-E)