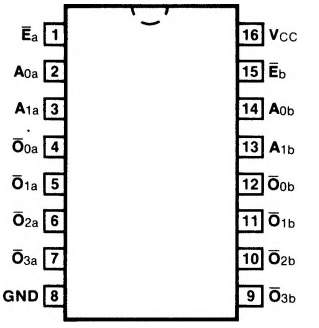
9321
93L21
DUAL 1-OF-4 DECODER

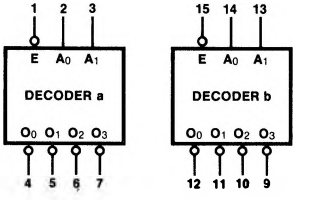
CONNECTION DIAGRAM
PINOUT A



DESCRIPTION — The '21 consists of two independent multipurpose decoders, each designed to accept two inputs and provide four mutually exclusive outputs. In addition an active LOW enable input, which gives demultiplexing capability, is provided for each decoder.

- **MULTIFUNCTION CAPABILITY**
- **MUTUALLY EXCLUSIVE OUTPUTS**
- **DEMULTIPLEXING CAPABILITY**
- **ACTIVE LOW ENABLE FOR EACH DECODER**

LOGIC SYMBOL



V_{CC} = Pin 16
Gnd = Pin 8

ORDERING CODE: See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE V_{CC} = +5.0 V ±5%, T_A = 0°C to +70°C	MILITARY GRADE V_{CC} = +5.0 V ±10%, T_A = -55°C to +125°C	PKG TYPE
Plastic DIP (P)	A	9321PC, 93L21PC		9B
Ceramic DIP (D)	A	9321DC, 93L21DC	9321DM, 93L21DM	6B
Flatpak (F)	A	9321FC, 93L21FC	9321FM, 93L21FM	4L

INPUT LOADING/FAN-OUT: See Section 3 for U.L. definitions

PIN NAMES	DESCRIPTION	93XX (U.L.) HIGH/LOW	93L (U.L.) HIGH/LOW
$\overline{E}_a$, $\overline{E}_b$	Enable Inputs (Active LOW)	1.0/1.0	0.5/0.25
A_{0a}, A_{1a}, A_{0b}, A_{1b}	Address Inputs	1.0/1.0	0.5/0.25
$\overline{O}_{0a} - \overline{O}_{3a}$ $\overline{O}_{0b} - \overline{O}_{3b}$	Decoder Outputs (Active LOW)	20/10	10/5.0 (3.0)

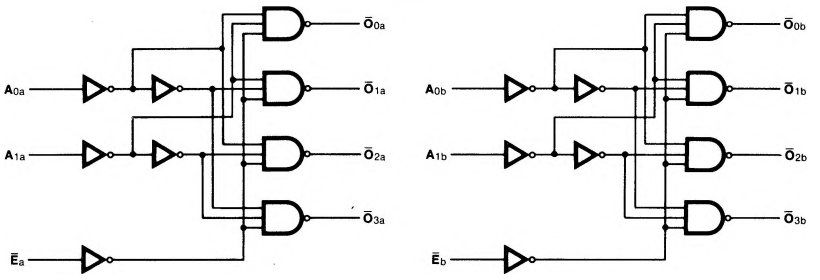
FUNCTIONAL DESCRIPTION — The '21 consists of two separate decoders each designed to accept two binary weighted inputs and provide four mutually exclusive active LOW outputs as shown in the logic symbol. Each decoder can be used as a 4-output demultiplexer by using the enable as a data input.

TRUTH TABLE
(EACH DECODER)

INPUTS			OUTPUTS			
$\overline{E}$	A_0	A_1	$\overline{O}_0$	$\overline{O}_1$	$\overline{O}_2$	$\overline{O}_3$
L	L	L	L	H	H	H
L	H	L	H	L	H	H
L	L	H	H	H	L	H
L	H	H	H	H	H	L
H	X	X	H	H	H	H

H = HIGH Voltage Level
L = LOW Voltage Level
X = Immaterial

LOGIC DIAGRAM



DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	93XX		93L		UNITS	CONDITIONS
		Min	Max	Min	Max		
I_{CC}	Power Supply Current		50		13.2	mA	V_{CC} = Max

AC CHARACTERISTICS: V_{CC} = +5.0 V, T_A = +25° C (See Section 3 for waveforms and load configurations)

SYMBOL	PARAMETER	93XX		93L		UNITS	CONDITIONS
		C_L = 15 pF		C_L = 15 pF			
		Min	Max	Min	Max		
t_{PLH} t_{PHL}	Propagation Delay A_n to $\overline{O}_n$		20 21		50 65	ns	Figs. 3-1, 3-20
t_{PLH} t_{PHL}	Propagation Delay $\overline{E}$ to $\overline{O}_n$		14 18		40 52	ns	Figs. 3-1, 3-5