



## absolute maximum ratings

$V_{CC}$	7.0V
Input Voltage	5.5V
Operating Temperature Range	
DM54154	-55°C to +125°C
DM74154	0°C to 75°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 10 sec)	300°C

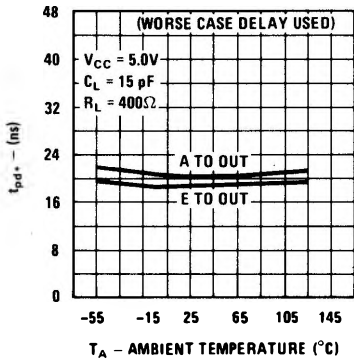
## electrical characteristics (Note 1)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Input Diode Clamp Voltage	$V_{CC} = 5.0V, T_A = 25^\circ C$ $I_{IN} = -12 mA$			-1.5	V
Logical "1" Input Voltage	DM54154 $V_{CC} = 4.5V$	2.0			V
	DM74154 $V_{CC} = 4.75V$				
Logical "0" Input Voltage	DM54154 $V_{CC} = 4.5V$			0.8	V
	DM74154 $V_{CC} = 4.75V$				
Logical "1" Output Voltage	DM54154 $V_{CC} = 4.5V$	2.4	3.4		V
	DM74154 $V_{CC} = 4.75V, I_{OUT} = -800 \mu A$				
Logical "0" Output Voltage	DM54154 $V_{CC} = 4.5V$		0.25	0.4	V
	DM74154 $V_{CC} = 4.75V, I_{OUT} = 16 mA$				
Logical "1" Input Current	DM54154 $V_{CC} = 5.5V$			40	$\mu A$
	DM74154 $V_{CC} = 5.25V, V_{IN} = 2.4V$				
Logical "1" Input Current	DM54154 $V_{CC} = 5.5V$			1	mA
	DM74154 $V_{CC} = 5.25V, V_{IN} = 5.5V$				
Logical "0" Input Current	DM54154 $V_{CC} = 5.5V$			-1.6	mA
	DM74154 $V_{CC} = 5.25V, V_{IN} = 0.4V$				
Short Circuit Current	DM54154 $V_{CC} = 5.5V$	-20	-30	-55	mA
	DM74154 $V_{CC} = 5.25V$	-18		-57	mA
Supply Current	DM54154 $V_{CC} = 5.5V$		34	49	mA
	DM74154 $V_{CC} = 5.25V$		34	56	mA
Propagation Delay Time to Logical "1" from A,B,C or D	$V_{CC} = 5.0V, C_L = 15 pF, R_L = 400\Omega$		18	36	ns
Propagation Delay Time to Logical "0" from A,B,C or D	$V_{CC} = 5.0V, C_L = 15 pF, R_L = 400\Omega$		21	33	ns
Propagation Delay Time to Logical "1" from Strobe	$V_{CC} = 5.0V, C_L = 15 pF, R_L = 400\Omega$		17	30	ns
Propagation Delay Time to Logical "0" from Strobe	$V_{CC} = 5.0V, C_L = 15 pF, R_L = 400\Omega$		18	27	ns

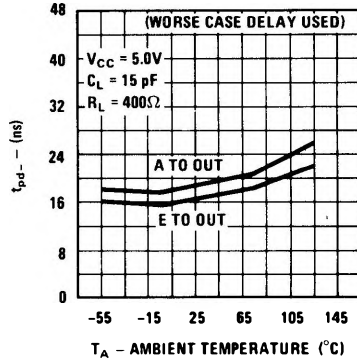
**Note 1:** Min/Max limits apply across the guaranteed temperature range unless otherwise specified. All typicals are given for  $V_{CC} = 5.0V$  and  $T_A = 25^\circ C$ . Min/Max apply to absolute values.

## typical performance characteristics

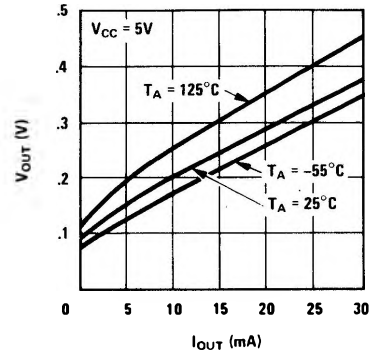
Propagation Delay to a Logical "0" ( $t_{pd0}$ ) vs Temperature



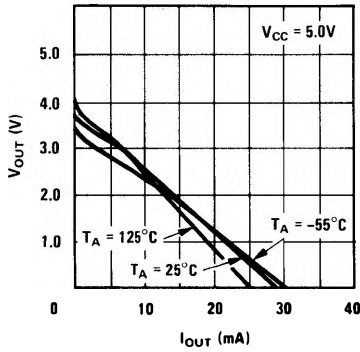
Propagation Delay to a Logical "1" ( $t_{pd1}$ ) vs Temperature



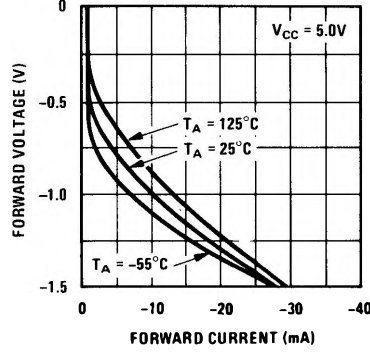
Logical "0" Output Voltage vs Sink Current



Logical "1" Output Voltage vs Source Current

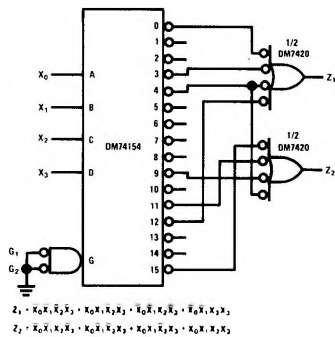


Input Clamp Diode

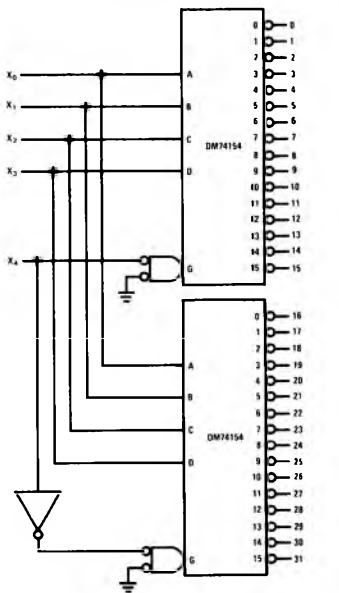


## typical applications

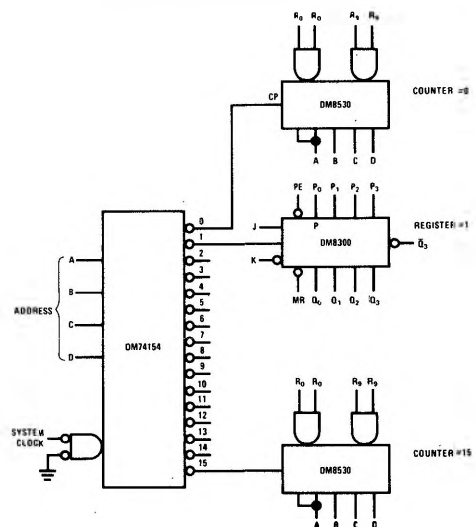
DM74154 Used as a Minterm Generator



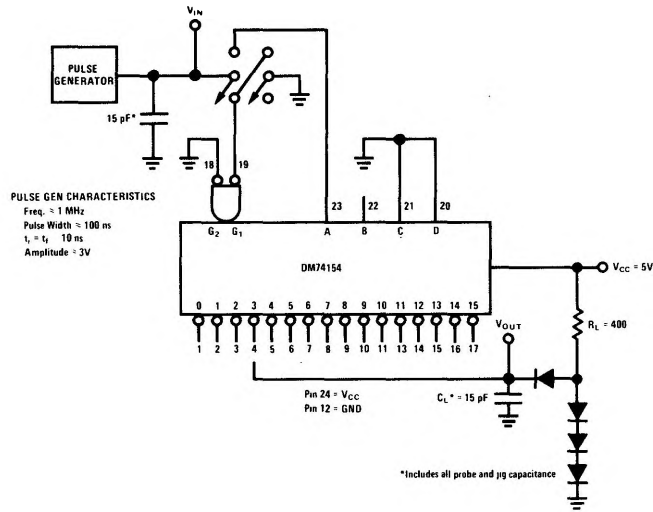
DM74154 Expanded to Perform 1 Out of 32 Decode Function



Demultiplexing System Clock



ac test circuit



switching time waveforms

