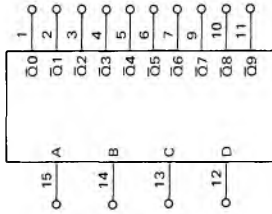


MC54145L, MC74145L,P/MC5445L, MC7445L,P (continued)

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one input and one output. Test other inputs and outputs in the same manner according to the truth table. Test all input-output combinations according to the truth table.



Characteristic	Symbol	Pin Under Test	MC5445/MC54145 Test Limits -55 to +125°C		MC7445/MC74145 Test Limits 0 to +70°C		TEST CURRENT/VOLTAGE VALUES (All Temperatures)										
			Min	Max	Min	Max	Volts										
			Unit	Unit	Unit	Unit	IOL1	IOL2	ICEX	VIL	VIH	VlHH	Vth1	Vth0	VCC	VcCL	VcCH
Input Forward Current	IF	12	-	-1.6	-	-1.6	mA	-	-	-	-	-	-	-	-	-	-
	Leakage Current	IR1	12	-	40	-	40	µA	-	-	-	-	-	-	-	-	-
		IR2	12	-	1.0	-	1.0	mA	-	-	-	-	-	-	-	-	-
Output Output Voltage	VOL	1	-	0.9	-	0.9	Vdc	-	-	-	-	-	-	-	-	-	-
	VCEX	1	30	0.4	30	0.4	Vdc	-	-	-	-	-	-	-	-	-	-
		1	15	-	Vdc	15	-	Vdc	-	-	-	-	-	-	-	-	-
Power Requirements (Total Device) Power Supply Drain	IPD	16	-	62	-	70	mA	-	-	-	-	-	-	-	-	-	-
	tpd-	15,1	-	50#	-	50#	ns	-	-	-	-	-	-	-	-	-	-
Switching Parameters Turn-On Delay	tpd+	15,1	-	50#	-	50#	ns	-	-	-	-	-	-	-	-	-	-

Tested only at 25°C.

MC54145L, MC74145L,P/MC5445L, MC7445L,P (continued)

TYPICAL APPLICATIONS

Two MC5445/7445 or MC54145/74145 decoder/drivers (depending on drive requirements) may be used to perform 4-line to 16-line decoding. Data inputs A, B, and C are applied to both decoder/drivers, while input D is applied to one decoder and \bar{D} to the other. (See Figure 1.)

In addition to the obvious decoder applications, these circuits can also be used for data distribution (Figure 2). Inputs A, B, and C of the decoder/driver are used as control inputs, while the D input serves as the data input. In a typical compound data routing application, origin data is selected by the control inputs of the MC54151/74151 8-channel data selector. The data is then routed to the proper destination by means of the MC5445/7445 decoder/driver control lines.

FIGURE 1 – BINARY-TO-DECIMAL DECODING USING MC5445/7445 OR MC54145/74145

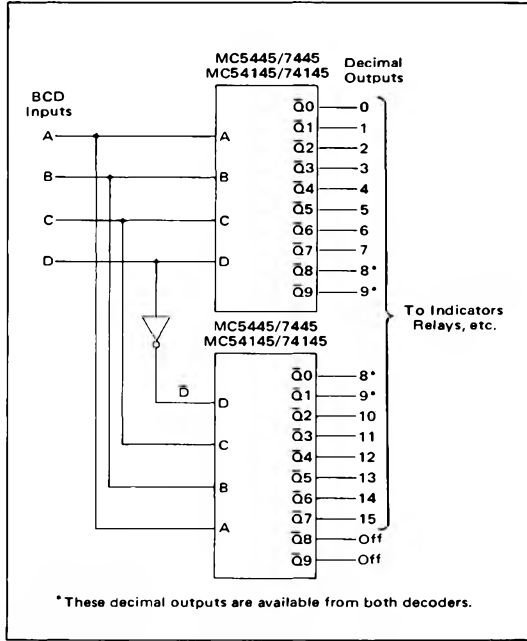
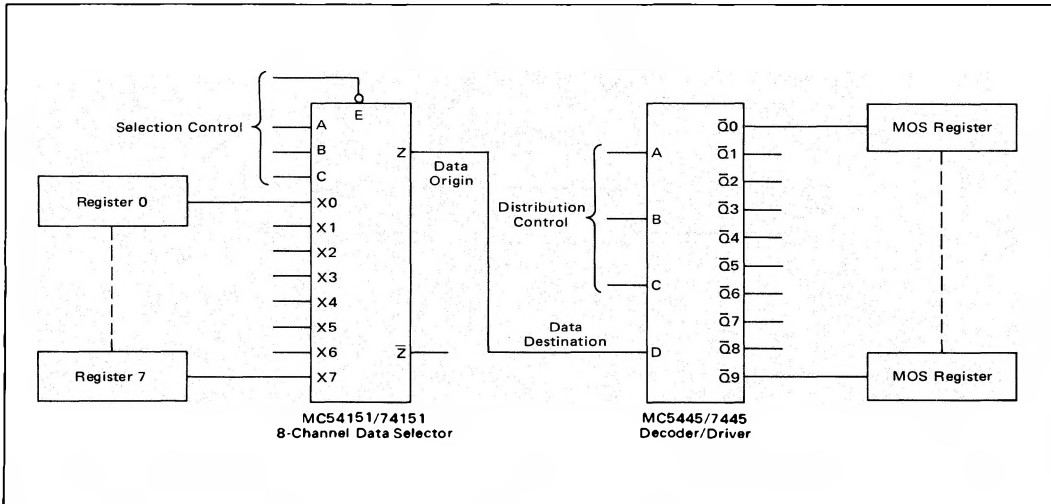
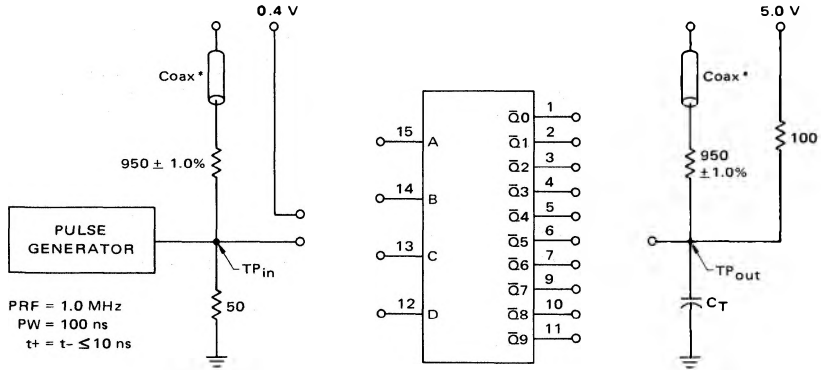


FIGURE 2 – COMPOUND DATA ROUTING USING MC5445/7445



MC54145L, MC74145L,P/MC5445L, MC7445L,P (continued)

SWITCHING TIME TEST CIRCUIT AND VOLTAGE WAVEFORMS



$C_T = 15$ pF = total parasitic capacitance, which includes probe and wiring capacitances.

*The coax delays from input to scope and output to scope must be matched. The scope must be terminated in 50-ohm impedance. The 950-ohm resistor and the scope termination impedance constitute a 20:1 attenuator probe. Coax shall be CT-070-50 or equivalent.

