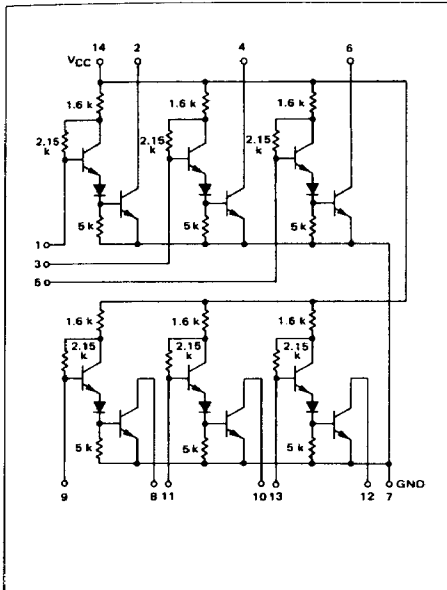


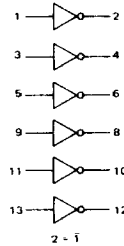
**HEX INVERTER**  
(Without Output Resistors  
and Input Diodes)

MDTL MC930/830 series

**MC941F · MC841F, P**

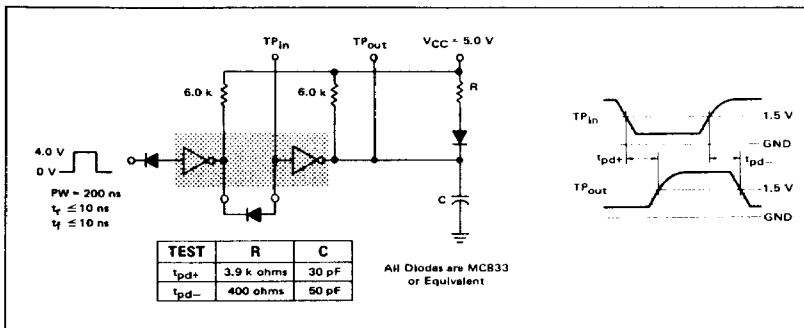


This hex inverter has neither output pullup resistors nor input diodes. This configuration lends itself to the construction of very flexible gate arrangements through the use of gate expanders and/or wired-collector functions. It is also useful in applications such as level translation, multivibrator circuits, and interfacing with discrete components — including low-voltage lamp and relay drivers.



Input Loading Factor = 1  
Output Loading Factor = 8  
Total Power Dissipation = 42 mW typ/pkg  
Propagation Delay Time = 30 ns typ

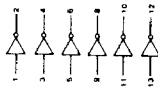
**SWITCHING TIME TEST CIRCUIT AND WAVEFORMS**



MC941F/MC841F, P (continued)

ELECTRICAL CHARACTERISTICS

Test procedures are shown for only one inverter. The other inverters are tested in the same manner.



Characteristic	Symbol	Pin Under Test	MC941 Test Limits						MC841 Test Limits						TEST CURRENT / VOLTAGE VALUES											
			-55°C		+25°C		+125°C		0°C		+25°C		+75°C		Volts											
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	$I_{OL}$	$V_X$	$V_{FB}$	$V_{CEX}$	$V_{CC}$	$V_{CCL}$	$V_{CCH}$	$V_{max}$		
Output Voltage	$V_{OL}$	2	-	0.40	-	0.40	-	0.45	Vdc	-	0.45	-	0.45	-	0.50	Vdc	2	-	-	-	-	-	-	-	-	7
Output Breakdown Voltage	$V_{CE}$	2	-	8.0	-	8.0	-	8.0	Vdc	-	8.0	-	8.0	-	8.0	Vdc	2	-	1	-	-	-	-	-	-	7
Output Leakage Current	$I_{CEX}$	2	-	-	-	50	-	-	$\mu$ Adc	-	-	-	100	-	-	$\mu$ Adc	-	1	-	2.14	-	-	-	-	-	7
Forward Current	$I_F$	1	-	-1.80	-	-1.60	-	-1.40	mAdc	-	-1.40	-	-1.40	-	-1.33	mAdc	-	-	1	-	-	-	-	-	-	7
Power Drain Current (Total Device)	$I_{PDH}$ $I_{max}$	14 14	-	-	-	13.5	-	-	mAdc	-	-	-	17.5	-	-	mAdc	-	-	1.5, 9.11, 13	-	14	-	-	-	-	7 7
Switching Times	$t_{pd+}$ $t_{pd-}$	1,2 1,2	-	-	-	25 10	80 30	-	ns	-	-	-	25 10	80 30	-	ns	-	-	-	-	14	-	-	-	-	7 7

Pins not listed are left open.

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## PRODUCT DOCUMENTATION

The three documents listed in the following table are required for a complete description of the DSP56301 and are necessary to design properly with the part. Documentation is available from one of the following locations (see back cover for detailed information):

- A local Motorola distributor
- A Motorola semiconductor sales office
- A Motorola Literature Distribution Center
- The World Wide Web (WWW)

See the **Additional Support** section of the *DSP56300 Family Manual* for detailed information on the multiple support options available to you.

**Table 1** DSP56301 Documentation

Name	Description	Order Number
DSP56300 Family Manual	Detailed description of the DSP56300 family processor core and instruction set	DSP56300FM/AD
DSP56301 User's Manual	Detailed functional description of the DSP56301 memory configuration, operation, and register programming	DSP56301UM/AD
DSP56301 Technical Data	DSP56301 features list and physical, electrical, timing, and package specifications	DSP56301/D

