

DM5404/DM7404 (SN5404/SN7404) hex inverter

general description

The DM5404/DM7404 is a hex inverter utilizing TTL to achieve high speed at nominal power dissipation. It is totally compatible with other Series 54/74 devices.

Features include:

- Input clamping diodes
- Typical Noise Immunity

Guaranteed Noise Immunity 400 mV

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- Fan-out
- Allowable Power Supply Variation
 DM5404 4.5V to 5.5V
 DM7404 4.75V to 5.25V
- Average Propagation Delay
 12 ns (with 50 pF)
- Average Power Dissipation 10 mW per gate





1V



absolute maximum ratings

Vcc	7V
Input Voltage	5.5V
Operating Temperature Range	
DM7404	0°C to 70°C
DM5404	–55°C to +125°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (soldering, 10 sec)	300°C

electrical characteristics (Note 1)

PARAMETER			CONDITIONS	MIN	ТҮР	MAX	UNITS
Input diode clamp voltage		$V_{CC} = 5.0V$ $I_{IN} = -12 \text{ mA}$	$T_A = 25^{\circ}C$			-1.5	v
Logical "1" Input Voltage	DM5404 DM7404	V _{CC} = 4.5V V _{CC} = 4.75V		2.0			v
Logical "O" Input Voltage	DM5404 DM7404	V _{CC} = 4.5V V _{CC} = 4.75V				0.8	v
Logical "1" Output Voltage	DM5404 DM7404	V _{CC} = 4.5V V _{CC} = 4.75V	$V_{IN} = 0.8V, I_{OUT} = -400 \mu A$	2.4			v
Logical "O" Output Voltage	DM5404 DM7404	V _{CC} = 4.5V V _{CC} = 4.75V	V_{IN} = 2.0V, I_{OUT} = 16 mA			0.4	v
Logical "1" Input Current	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{IN} = 2.4V			40	μΑ
Logical "1" Input Current	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{IN} = 5.5V		÷	1	mA
Logical "0" Input Current	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{IN} = 0.4V		-1.0	-1.6	mA
Output Short Circuit Current (Note 2)	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{OUT} = 0	-20 -18	-30	-55	mA
Supply Current - Logical "O" (each gate)	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{IN} = 5.0V		3.0	5.1	mA
Supply Current - Logical "1" (each gate)	DM5404 DM7404	V _{CC} = 5.5V V _{CC} = 5.25V	V _{IN} = 0		1.0	1.8	mA
Propagation Delay to a Logical ''1'', t _{pd1}		T _A = 25°C N = 10	V _{CC} = 5.0V C = 50 pF	5	16	22	ns
Propagation Delay to a Logical "0" t _{od0}		T _A = 25 [°] C N = 10	V _{CC} = 5.0V C = 50 pF	3	9	15	ns

Note 1. Min/Max limits apply across the guaranteed temperature range of 0°C to 70°C for the DM7404, and -55°C to +125°C for the DM5404, unless otherwise specified. All typicals are given for V_{CC} = 5.0V and T_A = 25°C.

Note 2. Only one output at a time should be short circuited.

typical performance characteristics

