

74VHC74

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	DC Supply Voltage	-0.5 to +6.5	V
V_{IN}	DC Input Voltage	-0.5 to +6.5	V
V_{OUT}	DC Output Voltage	-0.5 to $V_{CC} + 0.5$	V
I_{IN}	DC Input Current, Per Pin	± 20	mA
I_{OUT}	DC Output Current, Per Pin	± 25	mA
I_{CC}	DC Supply Current, V_{CC} and GND Pins	± 50	mA
I_{IK}	Input Clamp Current	-20	mA
I_{OK}	Output Clamp Current	± 20	mA
T_{STG}	Storage Temperature Range	-65 to +150	°C
T_L	Lead Temperature, 1 mm from Case for 10 s	260	°C
T_J	Junction Temperature Under Bias	+150	°C
θ_{JA}	Thermal Resistance (Note 2)	150	°C/W
P_D	Power Dissipation in Still Air at 25°C	833	mW
V_{ESD}	ESD Withstand Voltage (Note 3) Human Body Model Charged Device Model	>2000 N/A	V

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

2. Measured with minimum pad spacing on an FR4 board, using 76 mm-by-114 mm, 2-ounce copper trace no air flow per JESD51-7.

3. HBM tested to EIA / JESD22-A114-A. CDM tested to JESD22-C101-A. JEDEC recommends that ESD qualification to EIA/JESD22-A115A

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AC OPERATING REQUIREMENTS

Symbol	Parameter	V _{CC} (V) (Note 6)	T _A = 25°C		T _A = -40°C to +85°C	Unit
			Typ	Guaranteed Minimum		
t _{w(L)} , t _{w(H)}	Minimum Pulse Width (CK)	3.3	–	6.0	7.0	ns
		5.0	–	5.0	5.0	
t _{w(L)}	Minimum Pulse Width (CLR, PR)	3.3	–	6.0	7.0	ns
		5.0	–	5.0	5.0	ns
t _S	Minimum Setup Time	3.3	–	6.0	7.0	ns
		5.0	–	5.0	5.0	
t _H	Minimum Hold Time	3.3	–	0.5	0.5	ns
		5.0	–	0.5	0.5	

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