H I

High Performance Silicon Gate CMOS

C74AC04, C74AC 04

Features

Outputs Source/Sink 24 mA
ACT04 Has TTL Compatible Inputs
These are Pb−Free Devices

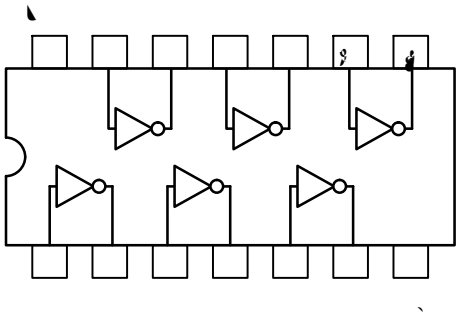
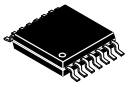


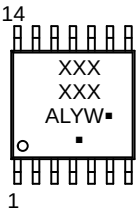
Figure 1. Pinout: 14 Lead Packages Conductors
(Top View)

MARKING DIAGRAMS

SOIC 14
D SUFFIX
CASE 751A



TSSOP 14
DT SUFFIX
CASE 948G



XXXX = AC or ACT
A = Assembly Location
WL or L = Wafer Lot
Y = Year
WW or W = Work Week
G or ▪ = Pb−Free Package

ORDERING INFORMATION

See detailed ordering and shipping information on page 5 of this data sheet.

MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CC}	DC Supply Voltage	−0.5 to +6.5	V
V_I	DC Input Voltage	$-0.5 \le V_I \le V_{CC} + 0.5$	V
V_O	DC Output Voltage (Note 1)	$-0.5 \le V_O \le V_{CC} + 0.5$	V
I_{IK}	DC Input Diode Current	±20	mA
I_{OK}	DC Output Diode Current	±50	mA
I_O	DC Output Sink/Source Current	±50	mA
I_{CC}	DC Supply Current per Output Pin	±50	mA
I_{GND}	DC Ground Current per Output Pin	±50	mA

DC CHARACTERISTICS

Symbol	Parameter	V_{CC} (V)	74AC	74AC	Unit	Conditions
			T_A = +25 C	T_A = 40 C to +85 C		
			Typ	Guaranteed Limits		
V_{IH}	Minimum High Level Input Voltage	3.0 4.5 5.5	1.5 2.25 2.75	2.1 3.15 3.85	V	V_{OUT} = 0.1 V or V_{CC} − 0.1 V
V_{IL}	Maximum Low Level Input Voltage	3.0 4.5 5.5	1.5 2.25 2.75	0.9 1.35 1.65	V	V_{OUT} = 0.1 V or V_{CC} − 0.1 V
V_{OH}	Minimum High Level Output Voltage	3.0 4.5 5.5	2.99 4.49 5.49	2.9 4.4 5.4	V	I_{OUT} = −50 μA
		3.0 4.5 5.5	− − −	2.56 3.86 4.86	V	*V_{IN} = V_{IL} or V_{IH} −12 mA I_{OH} −24 mA −24 mA
V_{OL}	Maximum Low Level Output Voltage	3.0 4.5 5.5	0.002 0.001 0.001	0.1 0.1 0.1	V	I_{OUT} = 50 μA
		3.0 4.5 5.5	− − −	0.36 0.36 0.36	V	*V_{IN} = V_{IL} or V_{IH} 12 mA I_{OL} 24 mA 24 mA
I_{IN}	Maximum Input Leakage Current	5.5	−			

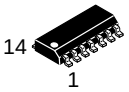
DC CHARACTERISTICS

Symbol	Parameter	V_{CC} (V)	74ACT		74ACT	Unit	Conditions
			T_A = +25 C		T_A = 40 C to +85 C		
			Typ	Guaranteed Limits			
V_{IH}	Minimum High Level Input Voltage	4.5 5.5	1.5 1.5	2.0 2.0	2.0 2.0	V	V_{OUT} = 0.1 V or V_{CC} − 0.1 V
V_{IL}	Maximum Low Level Input Voltage	4.5 5.5	1.5 1.5	0.8 0.8	0.8 0.8	V	V_{OUT} = 0.1 V or V_{CC} − 0.1 V
V_{OH}	Minimum High Level Output Voltage	4.5 5.5	4.49 5.49	4.4 5.4	4.4 5.4	V	I_{OUT} = −50 μA
		4.5 5.5	− −	3.86 4.86	3.76 4.76	V	*V_{IN} = V_{IL} or V_{IH} I_{OH} −24 mA I_{OH} −24 mA
V_{OL}	Maximum Low Level Output Voltage	4.5					

DEVICE ORDERING INFORMATION

Device	Marking	Package	Shipping†
MC74AC04DG	AC04G	SOIC−14 (Pb−Free)	55 Units / Rail
MC74AC04DR2G	AC04G	SOIC−14 (Pb−Free)	2500 / Tape & Reel
MC74ACT04DR2G	ACT04G	SOIC−14 (Pb−Free)	2500 / Tape & Reel
MC74AC04DTR2G	AC 04	TSSOP−14 (Pb−Free)	2500 / Tape & Reel
MC74ACT04DTR2G	ACT 04	TSSOP−14 (Pb−Free)	2500 / Tape & Reel

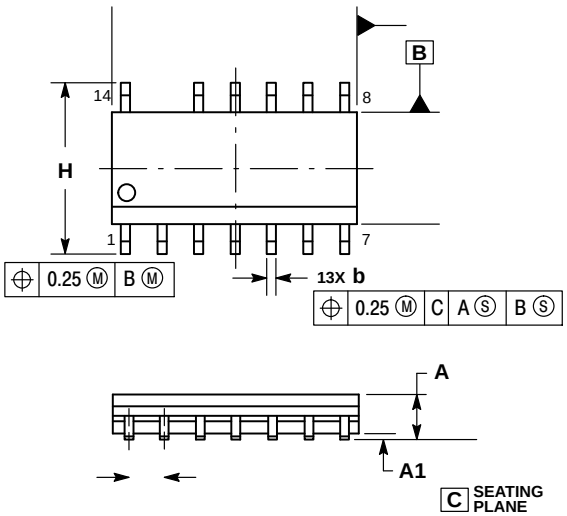
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.



SCALE 1:1

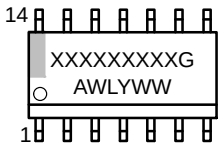
SOIC 14 NB
CASE 751A−03
ISSUE L

DATE 03 FEB 2016



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSION b DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE PROTRUSION SHALL BE 0.13 TOTAL IN EXCESS OF AT MAXIMUM MATERIAL CONDITION.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD PROTRUSIONS.
5. MAXIMUM MOLD PROTRUSION 0.15 PER SIDE.

GENERIC
MARKING DIAGRAM*



XXXXX = Specific Device Code
A = Assembly Location
WL = Wafer Lot
Y = Year
WW = Work Week
G = Pb−Free Package

STYLES ON PAGE 2

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CASE 751A−03
ISSUE L

DATE 03 FEB 2016

STYLE 7:
PIN 1. ANODE/CATHODE
2. COMMON ANODE
3. COMMON CATHODE
4. ANODE/CATHODE
5. ANODE/CATHODE