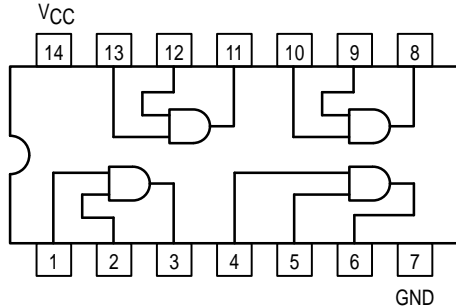


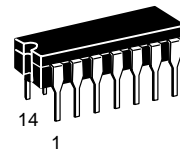


QUAD 2-INPUT AND GATE

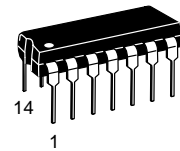


MC54/74F08

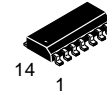
QUAD 2-INPUT AND GATE
FAST™ SCHOTTKY TTL



J SUFFIX
CERAMIC
CASE 632-08



N SUFFIX
PLASTIC
CASE 646-06



D SUFFIX
SOIC
CASE 751A-02

ORDERING INFORMATION

| | |
|----------|---------|
| MC54FXXJ | Ceramic |
| MC74FXXN | Plastic |
| MC74FXXD | SOIC |

GUARANTEED OPERATING RANGES

| Symbol | Parameter | | Min | Typ | Max | Unit |
|----------|-------------------------------------|--------|-----|-----|------|------|
| V_{CC} | Supply Voltage | 54, 74 | 4.5 | 5.0 | 5.5 | V |
| T_A | Operating Ambient Temperature Range | 54 | -55 | 25 | 125 | °C |
| | | 74 | 0 | 25 | 70 | |
| I_{OH} | Output Current — High | 54, 74 | | | -1.0 | mA |
| I_{OL} | Output Current — Low | 54, 74 | | | 20 | mA |

MC54/74F08

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

| Symbol | Parameter | Limits | | | Unit | Test Conditions |
|-----------------|--|--------|-----|------|------|---|
| | | Min | Typ | Max | | |
| V _{IH} | Input HIGH Voltage | 2.0 | | | V | Guaranteed Input HIGH Voltage |
| V _{IL} | Input LOW Voltage | | | 0.8 | V | Guaranteed Input LOW Voltage |
| V _{IK} | Input Clamp Diode Voltage | | | -1.2 | V | V _{CC} = MIN, I _{IN} = -18 mA |
| V _{OH} | Output HIGH Voltage | 54, 74 | 2.5 | | V | I _{OH} = -1.0 mA, V _{CC} = 4.50 V |
| | | 74 | 2.7 | | V | I _{OH} = -1.0 mA, V _{CC} = 4.75 V |
| V _{OL} | Output LOW Voltage | | | 0.5 | V | I _{OL} = 20 mA, V _{CC} = MIN |
| I _{IH} | Input HIGH Current | | | 20 | μA | V _{CC} = MAX, V _{IN} = 2.7 V |
| | | | | 0.1 | mA | V _{CC} = MAX, V _{IN} = 7.0 V |
| I _{IL} | Input LOW Current | | | -0.6 | mA | V _{CC} = MAX, V _{IN} = 0.5 V |
| I _{OS} | Output Short Circuit Current (Note 2) | -60 | | -150 | mA | V _{CC} = MAX, V _{OUT} = 0 V |
| I _{CC} | Power Supply Current Total, Output HIGH | | | 8.3 | mA | V _{CC} = MAX, V _{IN} = Open |
| | Total, Output LOW | | | 12.9 | mA | V _{CC} = MAX, V _{IN} = GND |

NOTES:

1. For conditions shown as MIN or MAX, use the appropriate value specified under recommended operating conditions for the applicable device type.
2. Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS

| Symbol | Parameter | 54/74F | | 54F | | 74F | | Unit |
|------------------|-------------------|--|-----|---|-----|---|-----|------|
| | | T _A = +25°C V _{CC} = +5.0 V C _L = 50 pF | | T _A = -55°C to +125°C V _{CC} = 5.0 V ± 10% C _L = 50 pF | | T _A = 0°C to 70°C V _{CC} = 5.0 V ± 10% C _L = 50 pF | | |
| | | Min | Max | Min | Max | Min | Max | |
| t _{PLH} | Propagation Delay | 3.0 | 5.6 | 2.5 | 7.5 | 3.0 | 6.6 | ns |
| t _{PHL} | Propagation Delay | 2.5 | 5.3 | 2.0 | 7.5 | 2.5 | 6.3 | ns |

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