

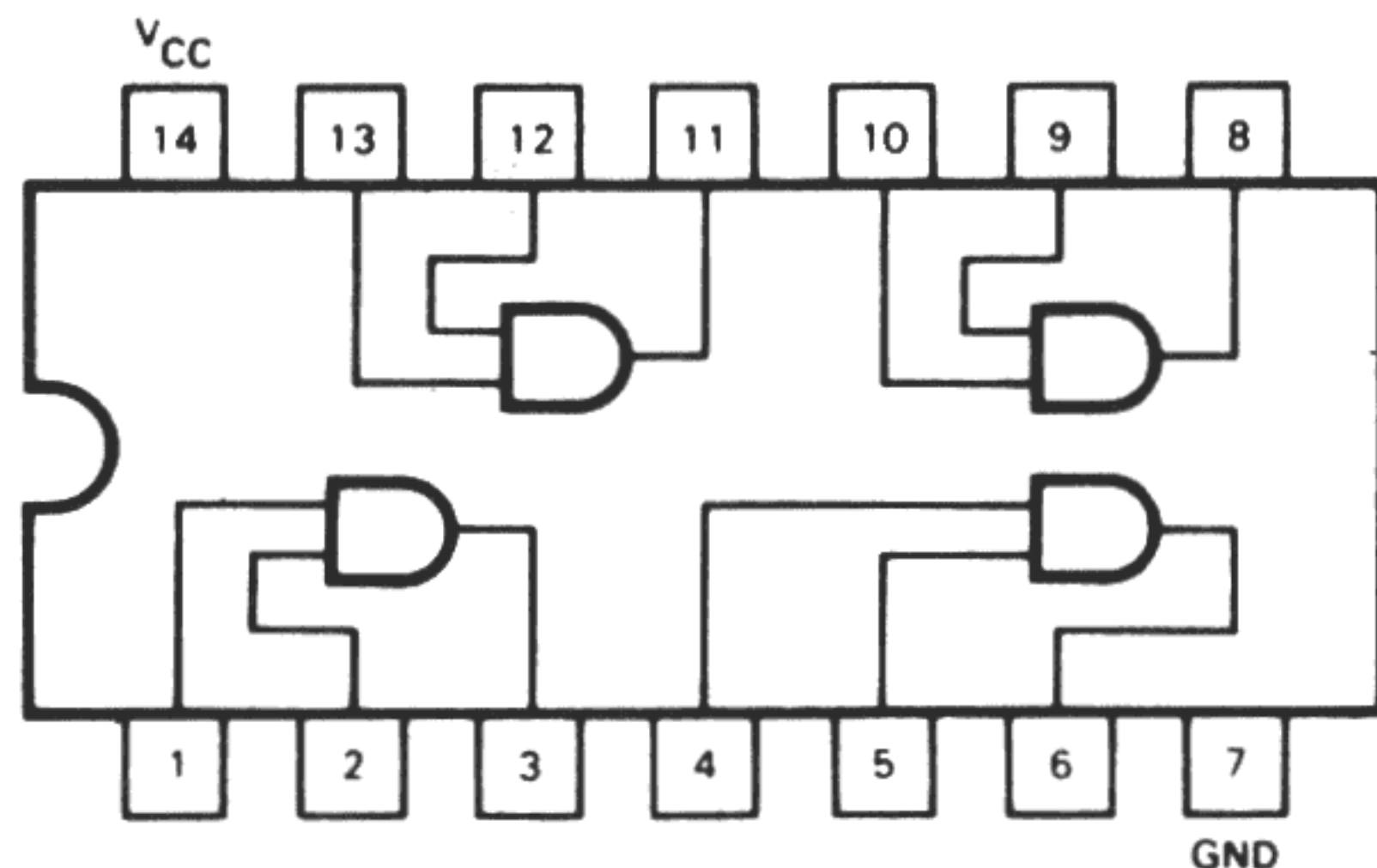


MOTOROLA

www.datasheetcatalog.com

Advance Information

QUAD 2-INPUT AND GATE



J Suffix — Case 632-07 (Ceramic)
N Suffix — Case 646-05 (Plastic)

**MC54F08
MC74F08**

**QUAD 2-INPUT AND GATE
FAST™ SCHOTTKY TTL**

GUARANTEED OPERATING RANGES

SYMBOL	PARAMETER		MIN	TYP	MAX	UNIT
V _{CC}	Supply Voltage*	54 74	4.5 4.75	5.0 5.0	5.5 5.25	V
T _A	Operating Ambient Temperature Range	54 74	-55 0	25 25	125 70	°C
I _{OH}	Output Current — High	54, 74			-1.0	mA
I _{OL}	Output Current — Low	54, 74			20	mA

*74F devices may be operated over the 4.5 to 5.5 V supply range where they will meet the specifications of 54F devices over the 0° to 70°C temperature range.

DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

SYMBOL	PARAMETER	LIMITS			UNITS	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	2.5		V	I _{OH} = -1.0 mA
		74	2.7		V	I _{OH} = -1.0 mA
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:

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

This document contains information on a new product. Specifications and information herein are subject to change without notice.

AC CHARACTERISTICS

SYMBOL	PARAMETER	54/74F T _A = +25°C V _{CC} = +5.0 V C _L = 50 pF		54F T _A = -55°C to +125°C V _{CC} = 5.0 V ± 10% C _L = 50 pF		74F T _A = 0°C to 70°C V _{CC} = 5.0 V ± 5% C _L = 50 pF		UNITS
		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

AC TEST CIRCUIT

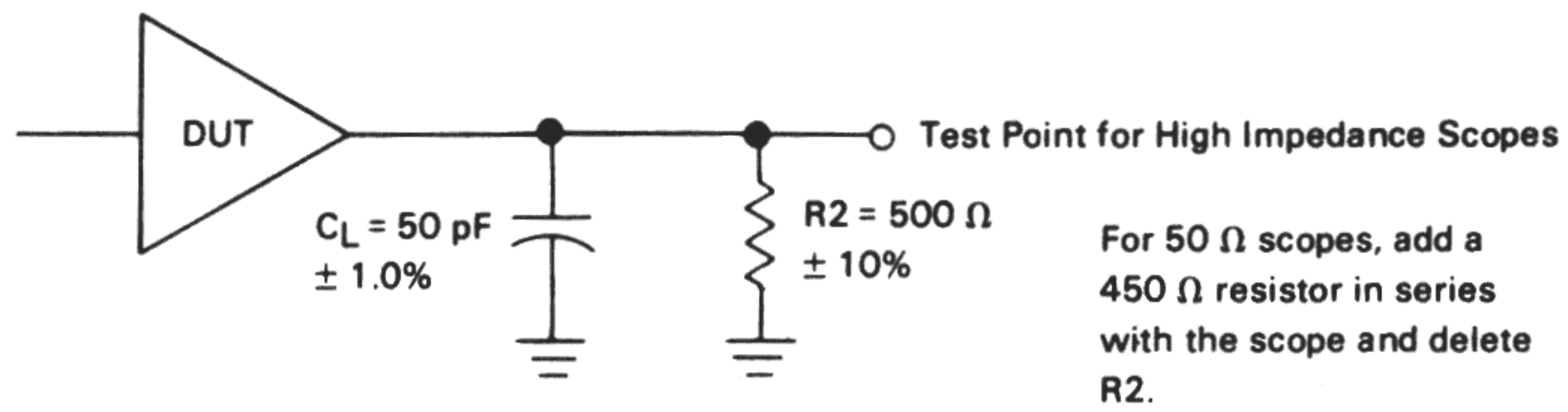


Fig. 1

www.datasheetcatalog.com