MOTOROLA

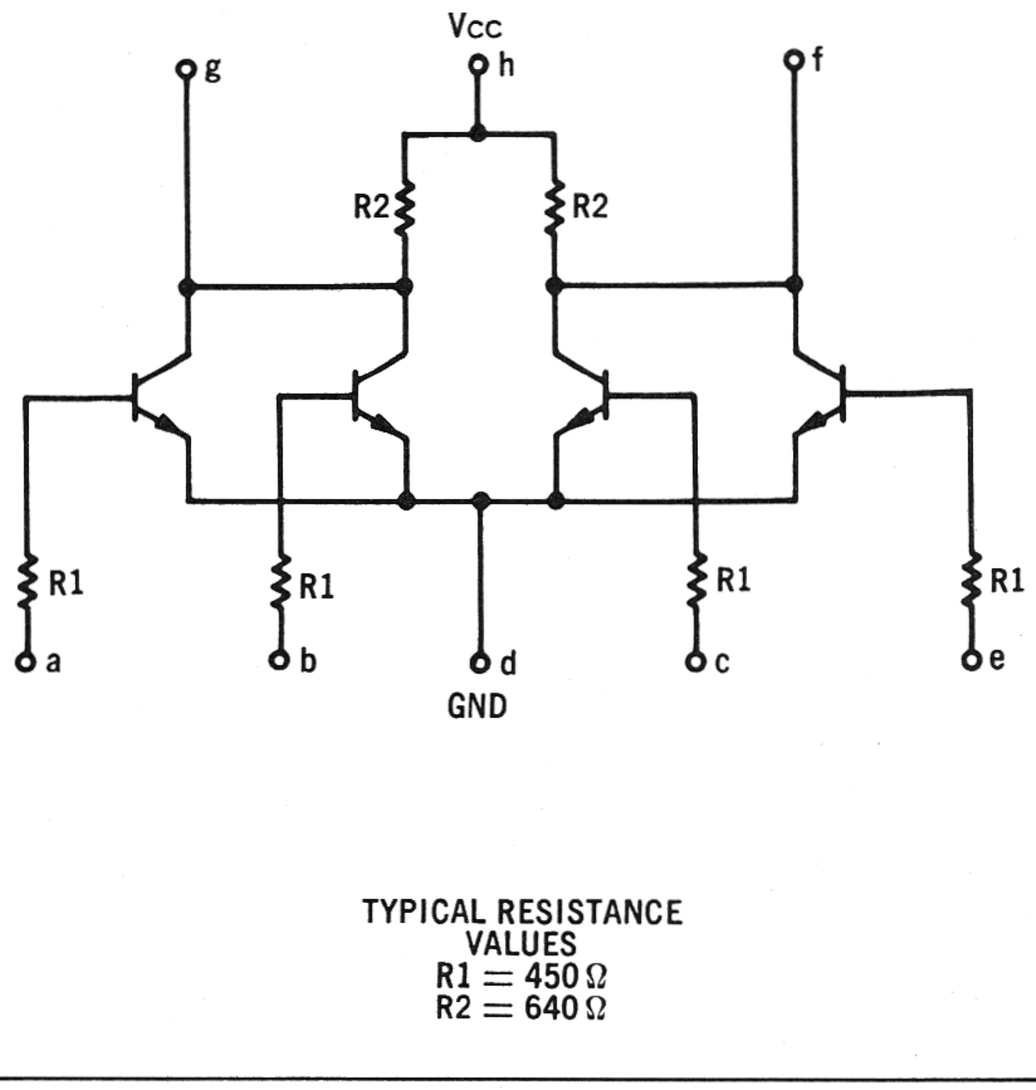
DUAL 2-INPUT GATES

MRTL MC900/800 series

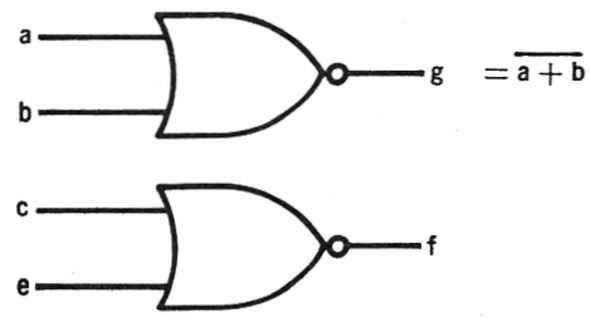
MC914 • MC814

Available in TO-99 Metal Can, Add "G" Suffix.
Available in TO-91 Flat Package, Add "F" Suffix.

Two 2-input positive logic NOR gates in a single package may be used independently, paralleled for increasing the number of inputs (subject to loading rules), or cross-connected to form bistable elements.



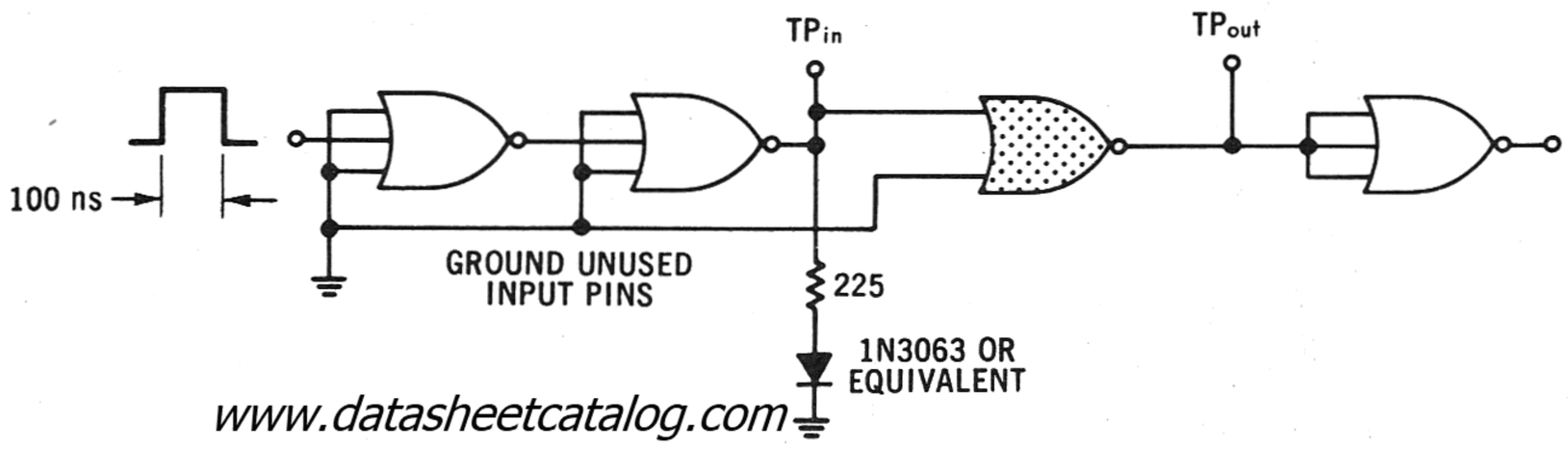
TYPICAL RESISTANCE VALUES
R1 = 450 Ω
R2 = 640 Ω

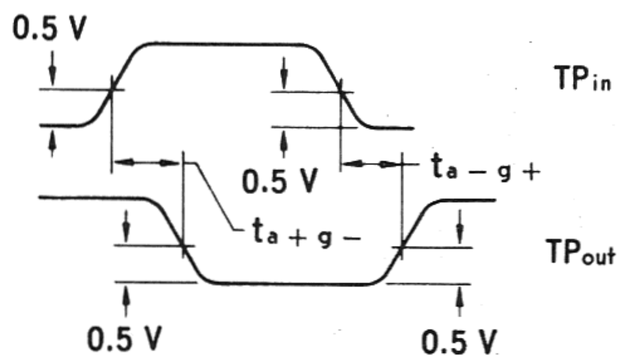


PIN CONNECTIONS

SCHEMATIC	a	b	c	d	e	f	g	h
G PACKAGE (TO-99)	1	2	3	4	5	6	7	8
F PACKAGE (TO-91)	2	3	4	5	7	8	9	10

SWITCHING TIME TEST CIRCUIT AND WAVEFORM





ELECTRICAL CHARACTERISTICS

Test procedures are shown for one gate only.
Other gates are tested in the same manner.

@Test Temperature		TEST VOLTAGE VALUES (Volts) V_{in}	V_{on}	V_{BOT}	V_{off}	V_{CC}
MC914	−55°C	1.014	1.014	1.50	0.710	3.00
	+25°C	0.844	0.815	1.50	0.565	3.00
	+125°C	0.674	0.674	1.50	0.320	3.00
MC814	0°C	0.909	0.909	1.50	0.574	3.00
	+25°C	0.844	0.844	1.50	0.554	3.00
	+100°C	0.710	0.710	1.50	0.370	3.00

Characteristic	Symbol	Pin Under Test	MC914 Test Limits −55°C Min	−55°C Max	+25°C Min	+25°C Max	+125°C Min	+125°C Max	Unit	MC814 Test Limits 0°C Min	0°C Max	+25°C Min	+25°C Max	+100°C Min	+100°C Max	Unit	TEST VOLTAGE APPLIED TO PINS LISTED BELOW: V_{in}	V_{on}	V_{BOT}	V_{off}	V_{CC}	Gnd
Input Current	I_{in}	a	-	495	-	435	-	470	µAdc	-	504	-	450	-	450	µAdc	a	-	b	-	h	d
		b	-	495	-	435	-	470	µAdc	-	504	-	450	-	450	µAdc	b	-	a	-	h	d
Output Current	I_{A5}	g	2.47	-	2.54	-	2.35	-	mAdc	2.52	-	2.38	-	2.25	-	mAdc	-	g	-	a, b	h	d
Output Leakage Current	I_{CEX}	g	-	100	-	218	-	235	µAdc	-	100	-	225	-	225	µAdc	g	-	-	a, b	-	d
Output Voltage	V_{out}	g	-	710	-	300	-	320	mVdc	-	574	-	400	-	370	mVdc	-	a	-	-	h	d
		g	-	710	-	300	-	320	mVdc	-	574	-	400	-	370	mVdc	-	b	-	-	h	d
Saturation Voltage	$V_{CE(sat)}$	g	-	200	-	210	-	280	mVdc	-	290	-	260	-	340	mVdc	-	-	a	-	h	d
		g	-	200	-	210	-	280	mVdc	-	290	-	260	-	340	mVdc	-	-	b	-	h	d
Switching Time	t	a+g-	-	-	-	20	-	-	ns	-	-	-	20	-	-	ns	Pulse In: a	Pulse Out: g	-	-	h	d
		a-g+	-	-	-	28	-	-	ns	-	-	-	28	-	-	ns	a	g	-	-	h	d

Ground inputs of gate not under test. Other pins not listed are left open.