



**MOTOROLA**

# MC54/74HC221

## Product Preview

### DUAL MONOSTABLE MULTIVIBRATOR

The MC54/74HC221 is identical in pinout to the LS221. The device inputs are compatible with standard CMOS outputs; with pullup resistors, they are compatible with LSTTL outputs.

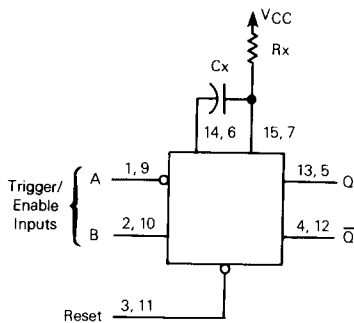
Each multivibrator features an active-low asynchronous reset and both negative- and positive-edge triggered inputs, either of which can be used as an enable. The device may also be triggered by using the Reset pin. The output pulse width is dependent upon an external resistor and capacitor connection as shown in the block diagram.

The HC221 has the same pinout as the HC123 and the HC423 monostable multivibrators. The HC123, however, is retriggerable and the HC423 may not be triggered by using the Reset pin.

If more pulse-width accuracy is required, use the MC54/74HC4538 Precision Monostable Multivibrator.

- Low Power Consumption Characteristic of CMOS Devices
- Output Drive Capability: 10 LSTTL Loads Minimum
- Operating Speeds Similar to LSTTL
- Wide Operating Voltage Range: 2 to 6 Volts
- Low Input Current: 1  $\mu$ A Maximum
- Low Quiescent Current: 80  $\mu$ A Maximum (74HC Series)
- High Noise Immunity Characteristic of CMOS Devices
- Diode Protection on All Inputs

### BLOCK DIAGRAM

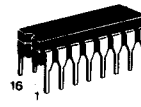


$V_{CC}$  = Pin 16  
GND = Pin 8

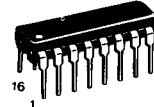
## HIGH-PERFORMANCE CMOS

LOW-POWER COMPLEMENTARY MOS  
SILICON-GATE

## DUAL MONOSTABLE MULTIVIBRATOR



**J SUFFIX**  
CERAMIC PACKAGE  
CASE 620



**N SUFFIX**  
PLASTIC PACKAGE  
CASE 648

### ORDERING INFORMATION

54 Series: -55°C to +125°C  
MC54HCXXXJ (Ceramic Package Only)

74 Series: -40°C to +85°C  
MC74HCXXXN (Plastic Package)  
MC74HCXXXJ (Ceramic Package)

### PIN ASSIGNMENT

A1	1	16	VCC
B1	2	15	Rx/Cx 1
Reset 1	3	14	Cx 1
$\bar{Q}$ 1	4	13	Q1
Q2	5	12	$\bar{Q}$ 2
Cx 2	6	11	Reset 2
Rx/Cx 2	7	10	B2
GND	8	9	A2

### FUNCTION TABLE

Inputs			Outputs	
A	B	Reset	Q	$\bar{Q}$
X	X	L	L	H
H	X	H	L	H
X	L	H	L	H
L	$\neg$	H	$\neg$	$\neg$
$\neg$	H	H	$\neg$	$\neg$
L	H	$\neg$	$\neg$	$\neg$

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