



MC12020 • MC12520

Functional Truth Table				
Input			Output	
R/T	Clock		Q	$\bar{Q}$
0	0	0	0	1
0	1	1	1	1
1	1	1	0	0
1	0	1	0	0
1	1	0	0	1

VCC - Pin 14 - 5.0 Vdc  
 Gnd - Pin 7  
 0 @ Clock, R/T - 0.5 Vdc  
 1 @ Clock, R/T - 4.0 Vdc

$P_D = 50 \text{ mW/typ}$

## Offset Control

The MC12020/MC12520 is an IF offset control block that provides a digital means of producing automatic IF offset generation for synthesizer tuned transceivers when used in conjunction with the MC12021 or MC12521. It is a modified D-type flip-flop that is capable of two modes of operation. The mode of operation is controlled by the receive/transmit input. When the R/T input is at a logical one level, the part becomes simply a toggle flip-flop and divides by two at both Q and  $\bar{Q}$  outputs. With the R/T input at a logical zero level, the Q output becomes a buffer gate that follows the clock input and the  $\bar{Q}$  output produces a constant one level. An inverter gate is provided which can be used to invert the clock polarity. This option is to ensure the device can always be clocked on the same edge that clears the counter presets. This device was designed for low frequency operation which allows low power operation. Its maximum current drain is 9.6 mA over temperature.