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DM74LS112A

Dual Negative-Edge-Triggered Master-Slave J-K Flip-Flop with Preset, Clear, and Complementary Outputs

General Description

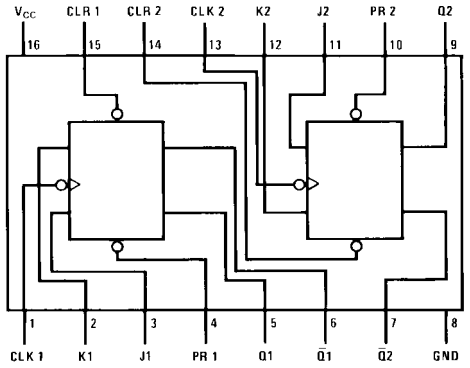
This device contains two independent negative-edge-triggered J-K flip-flops with complementary outputs. The J and K data is processed by the flip-flop on the falling edge of the clock pulse. The clock triggering occurs at a voltage level and is not directly related to the transition time of the falling edge of the clock pulse. Data on the J and K inputs may be changed while the clock is HIGH or LOW without affecting the outputs as long as the setup and hold times are not violated. A low logic level on the preset or clear inputs will set or reset the outputs regardless of the logic levels of the other inputs.

Ordering Code:

Order Number	Package Number	Package Description
DM74KS112AM	M16A	16-Lead Small Outline Integrated Circuit (SOIC), JEDEC MS-012, 0.150 Narrow
DM74LS112AN	N16E	16-Lead Plastic Dual-In-Line Package (PDIP), JEDEC MS-001, 0.300 Wide

Devices also available in Tape and Reel. Specify by appending the suffix letter "X" to the ordering code.

Connection Diagram



Function Table

Inputs					Outputs	
PR	CLR	CLK	J	K	Q	$\overline{Q}$
L	H	X	X	X	H	L
H	L	X	X	X	L	H
L	L	X	X	X	H (Note 1)	H (Note 1)
H	H	↓	L	L	Q_0	$\overline{Q}_0$
H	H	↓	H	L	H	L
H	H	↓	L	H	L	H
H	H	↓	H	H	Toggle	
H	H	H	X	X	Q_0	$\overline{Q}_0$

H = HIGH Logic Level
L = LOW Logic Level
X = Either LOW or HIGH Logic Level
↓ = Negative Going Edge of Pulse
Q_0 = The output logic level before the indicated input conditions were established.
Toggle = Each output changes to the complement of its previous level on each falling edge of the clock pulse.

Note 1: This configuration is nonstable; that is, it will not persist when preset and/or clear inputs return to their inactive (HIGH) level.

