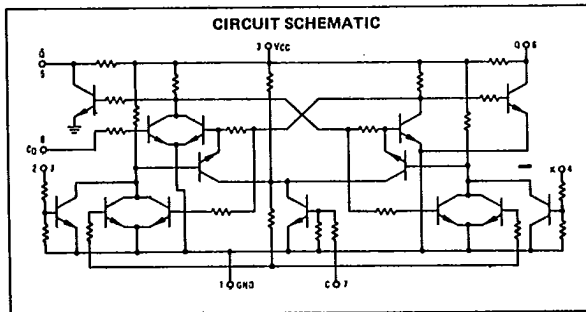
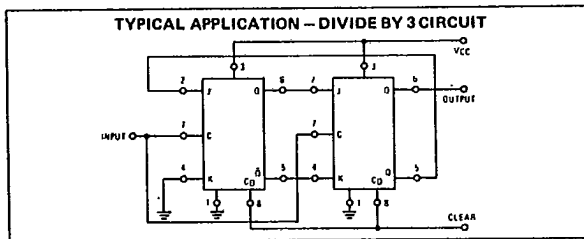
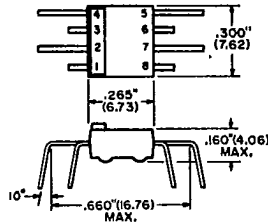
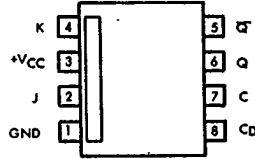


ECG[®] Semiconductors

ECG775 J-K FLIP-FLOP

ECG775 is designed for use in high-level, low-speed logic and timing systems.

- Wide Operating Voltage Range - 4.0 to 16 Volts
- Regulated Supply Not Required
- Compatible with TTL and DTL
- J and K Inputs Allow Control of Desired State
- Direct Clear (C_D) Allows Reset to Zero at Any Time



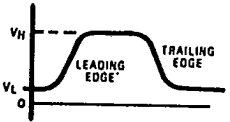
MAXIMUM RATINGS

Rating	Symbol	Value	Units
Power Supply Voltage	V _{CC}	19	Vdc
Output Sinking Current	I _{sink}	10	mA
Negative Input Voltage	V _{in}	0.5	Vdc
Power Dissipation @ T _A = 25°C Derate above 25°C	P _D 1/θ _{JA}	1.0 10	Watt mW/°C
Operating Temperature Range	T _A	-10 to +75	°C

ELECTRICAL CHARACTERISTICS (V_{in} = 4.0 V, Square Pulse, f = 10 kHz, 50% Duty Cycle, t_f = 1.0 V/μs (Min), T_A = 26°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
Operating Power Supply Voltage	V _{CC}	4.0	-	16	Vdc
Toggle Frequency	f _{Tog}	-	3.0	-	MHz
Output Voltage (High) (V _{CC} = 4.0 Vdc) (V _{CC} = 16 Vdc)	V _{OH}	3.5 15.5	- -	- -	Vdc
Output Voltage (Low) (V _{CC} = 4.0 Vdc) (V _{CC} = 16 Vdc)	V _{OL}	- -	- -	0.5 1.0	Vdc
Operating Drain Current	I _D	-	-	20	mA _{dc}
Output Sinking Current (V _O ≤ 1.0 Vdc)	I _{sink}	-	5.0	-	mA _{dc}
Rise Time	t _r	-	250	-	ns
Storage Time	t _s	-	350	-	ns
Fall Time	t _f	-	60	-	ns
Input Resistance	R _{in}	10	-	-	kΩ
Output Resistance (Output High)	R _{OH}	-	-	2.8	kΩ

INPUT PULSE REQUIREMENTS



Characteristic	Symbol	Min	Max	Unit
Pulse Magnitude	V _H	+4.0	-	Volts
Zero Level	V _L	-	+1.0	Volts
Leading Edge	No Requirement			
Trailing Edge	dv/dt	-1.0	-	Volts/μs

TRUTH TABLE

t _n		t _{n+1}		Explanation
J	K	Q _n	Q̄ _n	
1	1	Q _n	Q̄ _n	No change in output
1	0	1	0	Set to Q = 1 state regardless of previous history
0	1	0	1	Set to Q̄ = 1 state regardless of previous history
0	0	Q̄ _n	Q _n	Output reverses (toggle action)

t_n = time period just before and during the negative transition of the clock pulse (Pin B).
 t_{n+1} = the time subsequent to that transition.
 Q_n = state of the Q output in time period t_n.