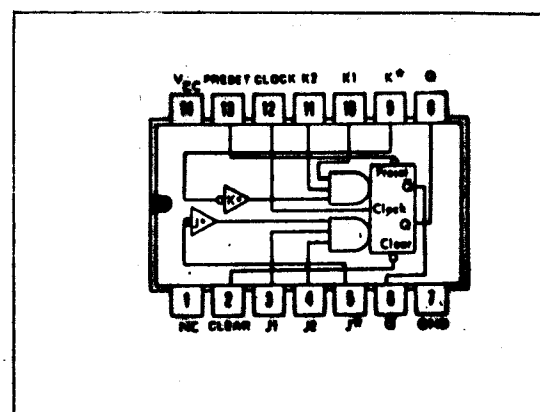


REVISIONS							
ZONE	LTR	DESCRIPTION	DATE	E.M.N.NO	DRAFT	CHKD	APPD
	A	REDRAWN WITH ADDITIONS	3/25/69	19351	JK	JK	GP
	B	SN7470 WAS SN5470	4/28/72	20652	GE	EP	EP

**RECOMMENDED OPERATING CONDITIONS**

SUPPLY VOLTAGE $V_{CC}$	4.75 V TO 5.25V
FAN-OUT FROM EACH OUTPUT, N	1 TO 10
CLOCK PULSE TRANSITION TIME TO LOGICAL 1 LEVEL, $t_{clock}$	5 TO 150 ns
WIDTH OF CLOCK PULSE, $t_p(clock)$	$\geq 20$ ns
WIDTH OF PRESET PULSE, $t_p(preset)$	$\geq 25$ ns
WIDTH OF CLEAR PULSE, $t_p(clear)$	$\geq 25$ ns

**LOGIC**



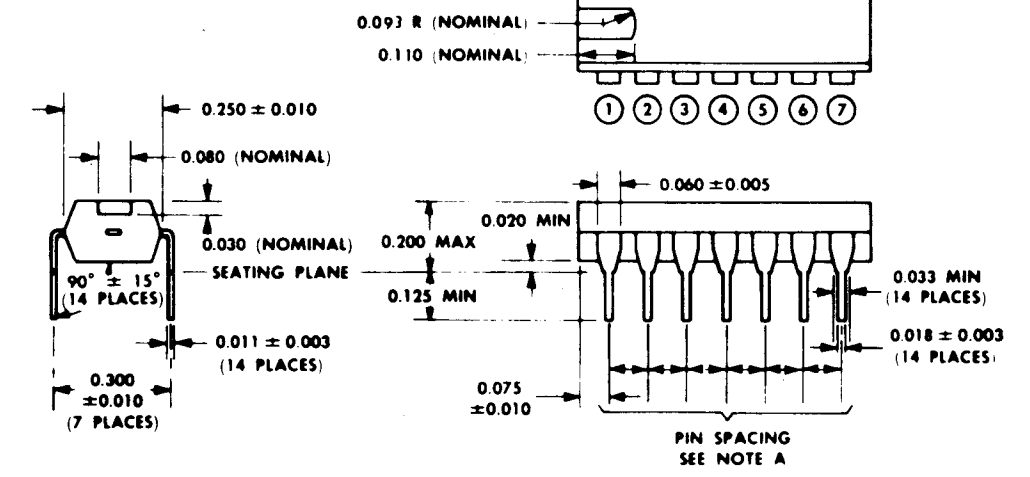
**POSITIVE LOGIC**  
 LOW INPUT TO PRESET SETS Q TO LOGICAL 1  
 LOW INPUT TO CLEAR SETS Q TO LOGICAL 0  
 PRESET OR CLEAR FUNCTION CAN OCCUR ONLY WHEN CLOCK INPUT IS LOW

TRUTH TABLE		
$t_n$		$t_{n+1}$
J	K	Q
0	0	$Q_n$
0	1	0
1	0	1
1	1	$Q_n$

**NOTES:**

- $J = J1 \cdot J2 \cdot J^*$
- $K = K1 \cdot K2 \cdot K^*$
- $t_n =$  BIT TIME BEFORE CLOCK PULSE
- $t_{n+1} =$  BIT TIME AFTER CLOCK PULSE
- IF INPUTS  $J^*$  OR  $K^*$  ARE NOT USED THEY MUST BE GROUND

NOTES A. The true-position pin spacing is 0.100 between centerlines. Each pin centerline is located within  $\pm 0.010$  of its true longitudinal position relative to pin 1 and 14.  
 B. All dimensions in inches unless otherwise noted.



HFRR-4		
QTY / UNIT	MODEL USED ON	ASS'Y NO.
APPLICATION		
CODE		
NOTICE TO PERSONS RECEIVING THIS DRAWING THE TECHNICAL MATERIEL CORPORATION claims proprietary right in the material disclosed hereon. This drawing is issued in confidence for engineering information only and may not be reproduced or used to manufacture anything shown hereon without permission from THE TECHNICAL MATERIEL CORPORATION to the user. This drawing is loaned for mutual assistance and is subject to recall at any time.		

REQ'D	ITEM	PART NUMBER	DESCRIPTION	SYM.
LIST OF MATERIAL				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES		FINAL APPROVAL OP	DATE	<b>THE TECHNICAL MATERIEL CORP.</b> MAMARONECK, NEW YORK  NETWORK, J-K FLIP FLOP
DECIMALS .X ± .05 FRACTIONS 1/64		MECH. DES.	DATE	
.XX ± .01 TOLS. ANGLES		ELECT. DES.	DATE	
.XXX ± .005 0° - 30'		CHECKED SG	DATE 10/22/68	
MATERIAL		DRAWN CY	DATE 8/29/68	
FINISH		SA01-265 (SN7470N)	SIZE B	CODE IDENT. NO. 82679
			DWG NO. NW 157	ISSUE B
			SCALE	SHEET OF