

T-45-23-13 290

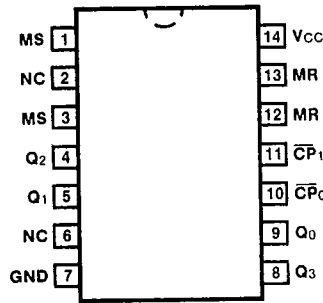
# 54/74290 54LS/74LS290 BCD DECADE COUNTER

**DESCRIPTION** — The '290 is a 4-stage ripple counter containing a high speed flip-flop acting as a divide-by-two and three flip-flops connected as a divide-by-five. HIGH signals on the Master Reset (MR) inputs override the clocks and force all outputs to the LOW state. HIGH signals on the Master Set (MS) inputs override the clocks and MR and force the outputs to the BCD nine state. The '290 is the same circuit as the '90 except that it has corner power pins and is therefore recommended for new designs. For detail specifications, truth tables and functional description, please refer to the '90 data sheet.

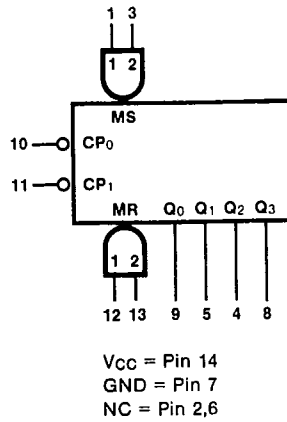
**ORDERING CODE:** See Section 9

PKGS	PIN OUT	COMMERCIAL GRADE	MILITARY GRADE	PKG TYPE
		V <sub>CC</sub> = +5.0 V ±5%, T <sub>A</sub> = 0°C to +70°C	V <sub>CC</sub> = +5.0 V ±10%, T <sub>A</sub> = -55°C to +125°C	
Plastic DIP (P)	A	74290PC, 74LS290PC		9A
Ceramic DIP (D)	A	74290DC, 74LS290DC	54290DM, 54LS290DM	6A
Flatpak (F)	A	74290FC, 74LS290FC	54290FM, 54LS290FM	3I

**CONNECTION DIAGRAM  
PINOUT A**



**LOGIC SYMBOL**



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**INPUT LOADING/FAN-OUT:** See Section 3 for U.L. definitions

PIN NAMES	DESCRIPTION	54/74 (U.L.) HIGH/LOW	54/74LS (U.L.) HIGH/LOW
CP <sub>0</sub>	+2 Section Clock Input (Active Falling Edge)	2.0/2.0	1.0/1.5
CP <sub>1</sub>	+5 Section Clock Input (Active Falling Edge)	3.0/3.0	2.0/2.0
MR <sub>1</sub> , MR <sub>2</sub>	Asynchronous Master Reset Inputs (Active HIGH)	1.0/1.0	0.5/0.25
MS <sub>1</sub> , MS <sub>2</sub>	Asynchronous Master Set (Set to 9) Inputs (Active HIGH)	1.0/1.0	0.5/0.25
Q <sub>0</sub>	+2 Flip-flop Output*	20/10	10/5.0 (2.5)
Q <sub>1</sub> — Q <sub>3</sub>	+5 Flip-flop Outputs	20/10	10/5.0 (2.5)

\*The Q<sub>0</sub> output is guaranteed to drive the full rated fan-out plus the CP<sub>1</sub> input.