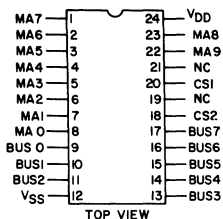


CDP1834, CDP1834C



NC = NO CONNECTION
92CS-28727
TERMINAL ASSIGNMENT

1028-Word x 8-Bit Static Read-Only Memory

Features:

- Industry pin compatible
- Three-state outputs

The RCA-CDP1834 and CDP1834C are 8192-bit mask-programmable CMOS read-only memories organized as 1024-words x 8-bits and designed for use in CDP1800-series microprocessor systems. The CDP1834-series ROM's are completely static; no clocks are required

programmable. The CDP1834-series is pin-compatible with industry type 2708 EPROM. The CDP1834C is functionally identical to the CDP1834. The CDP1834 has a recommended operating voltage range of 4 to 10.5 volts and the CDP1834C has a recommended operating voltage range of 4 to 6.5 volts. The CDP1834 and the CDP1834C are supplied in 24-lead dual-in-line ceramic packages (D suffix) and in 24-lead dual-in-line plastic packages (E suffix). The CDP1834C is also available in chip form (H suffix).

Two Chip-Select inputs (CS1, CS2) are provided for memory expansion. The polarity of each Chip-Select is user mask-

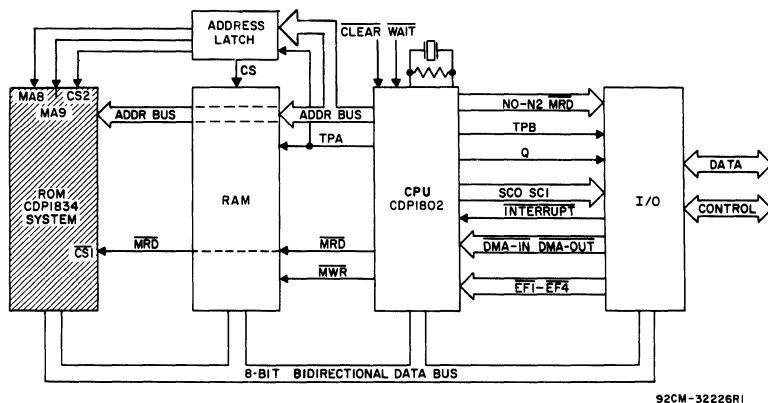


Fig 1 - Typical CDP1802 microprocessor system.

CDP1834, CDP1834C

MAXIMUM RATINGS, Absolute-Maximum Values:

DC SUPPLY-VOLTAGE RANGE, (V_{DD}):

(All voltage values referenced to V_{SS} terminal)

CDP1834	0.5 to +11 V
CDP1834C	-0.5 to +7 V

INPUT VOLTAGE RANGE, ALL INPUTS -0.5 to V_{DD} +0.5 V

DC INPUT CURRENT, ANY ONE INPUT ±10 mA

POWER DISSIPATION PER PACKAGE (P_D):

For T _A = -40 to +60° C (PACKAGE TYPE E)	500 mW
For T _A = +60 to +85° C (PACKAGE TYPE E)	Derate Linearly at 12 mW/°C to 200 mW
For T _A = -55 to +100° C (PACKAGE TYPE D)	500 mW
For T _A = 100 to +125° C (PACKAGE TYPE D)	Derate Linearly at 12 mW/°C to 200 mW

DEVICE DISSIPATION PER OUTPUT TRANSISTOR

For T_A = FULL PACKAGE-TEMPERATURE RANGE 100 mW

OPERATING-TEMPERATURE RANGE (T_A):

PACKAGE TYPE D	-55 to +125° C
PACKAGE TYPE E	-40 to +85° C

STORAGE TEMPERATURE RANGE (T_{stg}) -65 to +150° C

LEAD TEMPERATURE (DURING SOLDERING):

At distance 1/16 ± 1/32 inch (1.59 ± 0.79 mm) from case for 10 s max. +265° C

STATIC ELECTRICAL CHARACTERISTICS at T_A = -40 to +85° C, V_{DD} 5%, Except as noted

CHARACTERISTIC		CONDITIONS			LIMITS						UNITS
		V _O (V)	V _{IN} (V)	V _{DD} (V)	CDP1834			CDP1834C			
					Min.	Typ.*	Max.	Min.	Typ.*	Max.	
Quiescent Device Current	I _{DD}	—	5	5	—	0.01	50	—	0.02	200	μA
		—	10	10	—	1	200	—	—	—	
Output Low Drive (Sink) Current	I _{OL}	0.4	0, 5	5	0.8	—	—	0.8	—	—	mA
		0.5	0, 10	10	1.8	—	—	—	—	—	
Output High Drive (Source) Current	I _{OH}	4.6	0, 5	5	-0.8	—	—	-0.8	—	—	mA
		9.5	0, 10	10	-1.8	—	—	—	—	—	
Output Voltage Low-Level	V _{OL}	—	0, 5	5	—	0	0.1	—	0	0.1	V
		—	0, 10	10	—	0	0.1	—	—	—	
Output Voltage High Level	V _{OH}	—	0, 5	5	4.9	5	—	4.9	5	—	V
		—	0, 10	10	9.9	10	—	—	—	—	
Input Low Voltage	V _{IL}	0.5, 4.5	—	5	—	—	1.5	—	—	1.5	V
		1, 9	—	10	—	—	3	—	—	—	
Input High Voltage	V _{IH}	0.5, 4.5	—	5	3.5	—	—	3.5	—	—	V
		1, 9	—	10	7	—	—	—	—	—	
Input Leakage Current	I _{IN}	Any	0, 5	5	—	—	±1	—	—	±1	μA
		Input	0, 10	10	—	—	±2	—	—	—	
3-State Output Leakage Current	I _{OUT}	0, 5	5	5	—	—	±1	—	—	±1	μA
		0, 10	10	10	—	—	±2	—	—	—	
Input Capacitance	C _{IN}	—	—	—	—	5	7.5	—	5	7.5	pF
Output Capacitance	C _{OUT}	—	—	—	—	10	15	—	10	15	pF
Operating Device Current	I _{DD1} †	—	0, 5	5	—	7	10	—	7	10	mA
		—	0, 10	10	—	14	20	—	—	—	

*Typical values are for T_A = 25° C and nominal V_{DD}.

†Outputs open-circuited; cycle time = 2.5 μs.

CDP1834, CDP1834C

OPERATING CONDITIONS at T_A = Full Package Temperature Range. For maximum reliability, operating conditions should be selected so that operation is always within the following ranges:

CHARACTERISTIC	LIMITS				UNITS
	CDP1834		CDP1834C		
	Min.	Max.	Min.	Max.	
DC Operating Voltage Range	4	10.5	4	6.5	V
Input Voltage Range	V_{SS}	V_{DD}	V_{SS}	V_{DD}	

DYNAMIC ELECTRICAL CHARACTERISTICS at T_A = -40 to +85°C, $V_{DD} \pm 5\%$, Input $t_r, t_f = 10$ ns, $C_L = 50$ pF, $R_L = 200$ k Ω

CHARACTERISTIC	TEST CONDITIONS V_{DD} (V)	LIMITS						UNITS
		CDP1834			CDP1834C			
		Min.	Typ.*	Max.	Min.	Typ.*	Max.	
Access Time from Address Change, t_{AA}	5	—	575	750	—	575	750	ns
	10	—	350	425	—	—	—	
Access Time from Chip Select, t_{ACS}	5	—	600	700	—	600	700	ns
	10	—	325	410	—	—	—	
Chip Select Delay, t_{CS}	5	—	480	580	—	480	580	ns
	10	—	250	340	—	—	—	

*Typical values are for $T_A = 25^\circ\text{C}$ and nominal V_{DD} .

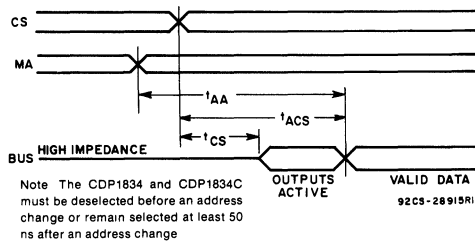


Fig. 2 - Timing waveforms.

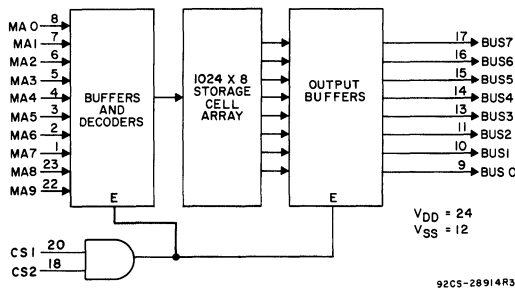


Fig. 3 - Functional diagram.