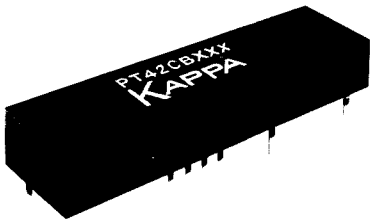
SERIES PT42 TTL SCHOTTKY (32-PIN)

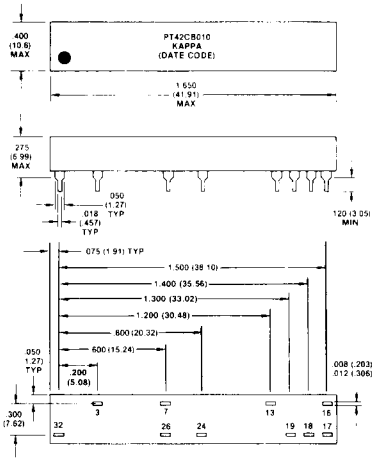
4-BIT PROGRAMMABLE DELAY LINE

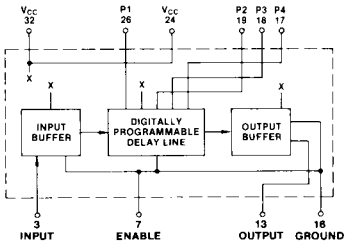


FEATURES

- Inherent Delay: 15 ns ±1 ns
- Input signal requirements: TTL logic
- Output fan-out: TTL Schottky load
- Total Delay Tolerance: ±5% or ±1 ns, WIG

MARKINGS AND DIMENSIONS, in (mm)





RECOMMENDED OPERATING CONDITIONS

		MIN	TYP	MAX	UNIT
V_{CC}	Supply Voltage	4.75	5.00	5.25	V
V_{IH}	High-Level Input Voltage	2.0			V
V_{IL}	Low-Level Input Voltage			0.8	V
I_{IK}	Input Clamp Current			−18	mA
I_{OH}	High-Level Output Current			−1.0	mA
I_{OL}	Low-Level Output Current			20	mA
T_A	Operating Free-Air Temperature	0	+25	+70	°C

DC ELECTRICAL CHARACTERISTICS

		TEST CONDITIONS				
V_{OH}	High-Level Output Voltage	V_{CC} = min, V_{IL} = max, I_{OH} = max	2.7	3.4		V
V_{OL}	Low-Level Output Voltage	V_{CC} = min, V_{IH} =min, I_{OL} =max			0.5	V
V_{IK}	Input Clamp Voltage	V_{CC} = min, I_I = I_{IK}			−1.2	V
I_{IH}	High-Level Input Current	V_{CC} = max, V_{IN} = 2.7V			50	μA
		V_{CC} = max, V_{IN} = 5.25V			1.0	mA
I_{IL}	Low-Level Input Current	V_{CC} = max, V_{IN} = 0.5V			−2	mA
I_{OS}	Short Circuit Output Current	V_{CC} = max, V_{OUT} = 0, one output at a time	−40		−100	mA
I_{CCH}	High-Level Supply Current	V_{CC} = max, V_{IN} = OPEN			90	mA
I_{CCL}	Low-Level Supply Current	V_{CC} = max, V_{IN} = 0			115	mA
N_H	Fanout High-Level Output	V_{CC} = max, V_{OH} = 2.7V			20	TTL load
N_L	Fanout Low-Level Output	V_{CC} = max, V_{OL} = 0.5V			10	TTL load

INPUT PULSE TEST CONDITIONS

E_{IN}	Pulse Voltage	3.1	3.2	3.3	V
T_{RI}	Pulse Rise-Time			2.0	ns
T_W	Pulse Width, of Total Delay	50	100		%
d	Duty Cycle		40	50	%

FUNCTION TABLE

Enable	Address (Bit No.) 4	3	2	1	Delay Out
L	L	L	L	L	T_0
L	L	L	L	H	T_1
L	L	L	H	L	T_2
L	L	L	H	H	T_3
L	L	H	L	L	T_4
L	L	H	L	H	T_5
L	L	H	H	L	T_6
L	L	H	H	H	T_7
L	H	L	L	L	T_8
L	H	L	L	H	T_9
L	H	L	H	L	T_{10}
L	H	L	H	H	T_{11}
L	H	H	L	L	T_{12}
L	H	H	L	H	T_{13}
L	H	H	H	L	T_{14}
L	H	H	H	H	T_{15}
H	X	X	X	X	L

L = Logic 0
H = Logic 1
X = Don't care
T_0 = Reference or Inherent delay of circuit.
T_1 to T_{15} = Multiplier of incremental delay.

Part [2] Number	Incremental Delay Per Step [3]	Total Delay [1] Change
PT42CB010	1 ns	15 ns
PT42CB020	2 ns	30 ns
PT42CB030	3 ns	45 ns
PT42CB040	4 ns	60 ns
PT42CB050	5 ns	75 ns
PT42CB060	6 ns	90 ns
PT42CB080	8 ns	120 ns
PT42CB100	10 ns	150 ns
PT42CB120	12 ns	180 ns
PT42CB150	15 ns	225 ns
PT42CB200	20 ns	300 ns
PT42CB250	25 ns	375 ns
PT42CB300	30 ns	450 ns
PT42CB350	35 ns	525 ns
PT42CB400	40 ns	600 ns
PT42CB450	45 ns	675 ns
PT42CB500	50 ns	750 ns
PT42CB600	60 ns	900 ns
PT42CB800	80 ns	1,200 ns
PT42CB101	100 ns	1,500 ns

1. This delay value does not include the T_0 delay.
2. **Other delays also available upon request.**
3. V_{CC} = Typ. E_{IN} = Typ. T_{RI} = Max. T_W = Typ. d = Typ. T_A = Typ

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