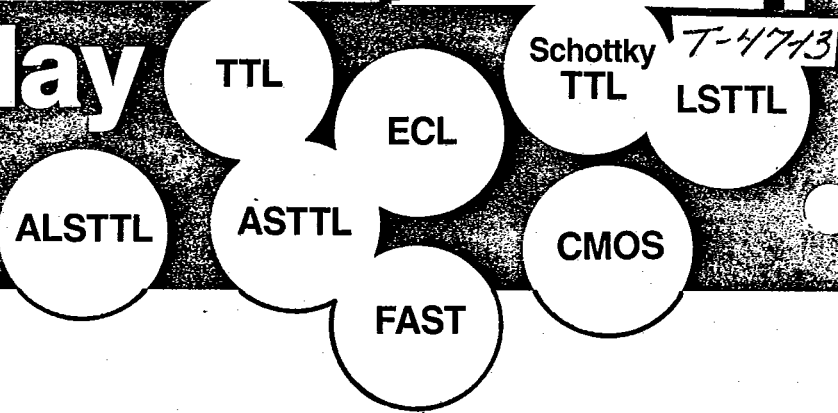


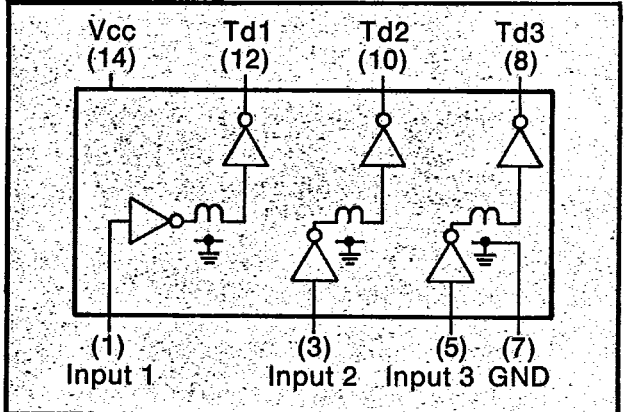
Multiple Delay Modules



In one module you can have up to three individual delay lines. One, two, or three individual inputs and outputs. These modules are available with identical delays or with two or three different delays.

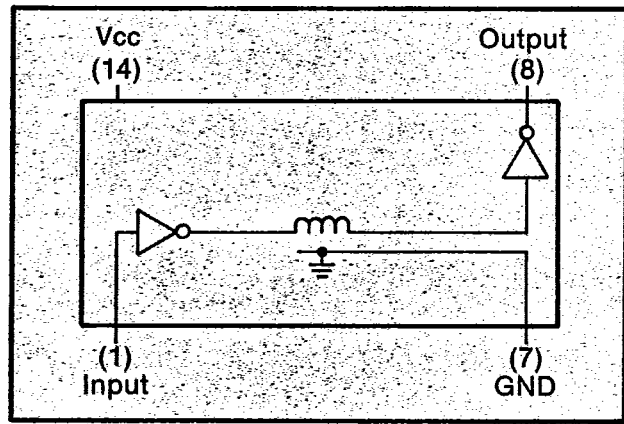
- Three separate delays from 10 to 110 ns.
- Supply voltage +5Vdc ±10%.
- Temperature range of 0 to 70°C.
- Pin compatible to 74/54 series TTL/SSI 14 DIP package.
- Manufactured to meet Mil-D-23859.
- Military models with temperature range of -55 to +125°C and ceramic package IC to meet Mil Std 883C but not screened to that specification. Add suffix "M" to part number.
- Military models as above, but with ceramic package IC screened to Mil Std 883C and 38510 and military temperature range, add suffix "MX" to part number.
- Military models as "MX" above, but with in-house burn-in and thermal shock, add suffix "MY" to part number.
- For delay module with QPL JAN IC, contact factory for details.
- Fanout: Logic 1—20 loads; logic 0—10 loads.

Three delays per module



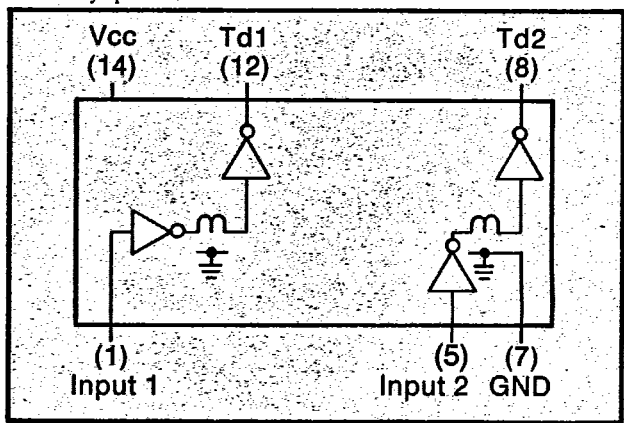
For dimensions, see drawings 1 and 8, on page 22.

One delay per module



For dimensions, see drawings 1, 8, and 12, on pages 22 and 23.

Two delays per module



For dimensions, see drawings 1 and 8, on page 22.

Three separate delays

Part number	Nanoseconds			All Taps (Max.)	
	Delay ①	Delay ②	Delay ③	T _{R+}	T _{R-}
TTL3S010	10.0 ns	10.0 ns	10.0 ns	2.0	2.0
TTL3S015	15.0 ns	15.0 ns	15.0 ns	2.0	2.0
TTL3S020	20.0 ns	20.0 ns	20.0 ns	2.0	2.0
TTL3S050	50.0 ns	50.0 ns	50.0 ns	2.0	4.0
TTL3S100	100.0 ns	100.0 ns	100.0 ns	2.0	7.0
TTL3S110	110.0 ns	110.0 ns	110.0 ns	2.0	8.0

Delay Characteristics measured at V_{CC} = 5.0V, 25°C, 15 pf load.
Delay Tolerance ±1.5 ns or 5% W.I.G.

Also available: One module, three different delays of 10 to 110 ns. Specify as follows—TTL3D_---. Contact factory for complete P/N.

Two separate delays

Part number	Nanoseconds		All Taps (Max.)	
	Delay ①	Delay ②	T _{R+}	T _{R-}
TTL2S010	10.0 ns	10.0 ns	2.0	2.0
TTL2S015	15.0 ns	15.0 ns	2.0	2.0
TTL2S020	20.0 ns	20.0 ns	2.0	2.0
TTL2S050	50.0 ns	50.0 ns	2.0	2.0
TTL2S100	100.0 ns	100.0 ns	2.0	5.0
TTL2S110	110.0 ns	110.0 ns	2.0	5.0

Delay Characteristics measured at 5.0V, 25°C, 15 pf load.
Delay Tolerance 1.5 ns or 5% W.I.G.

Also available: One module, two different delays of 10 to 110 ns. Specify as follows—TTL2D_---. Contact factory for complete P/N.

Available in these packages (not all are applicable to each product):

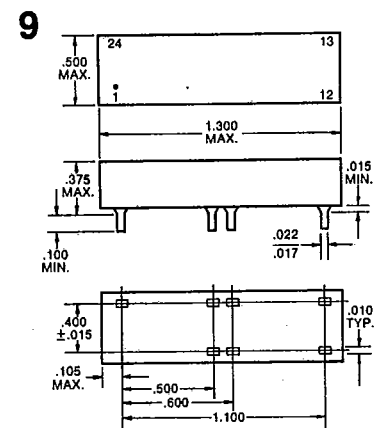
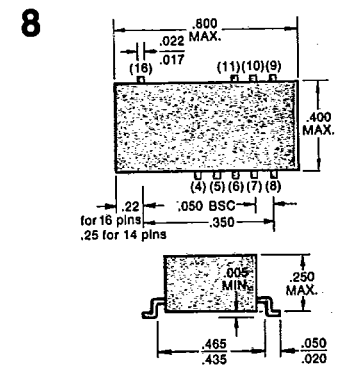
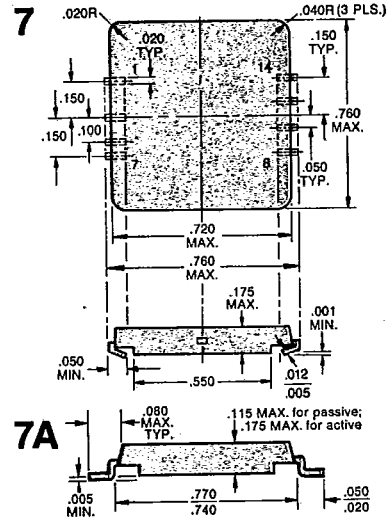
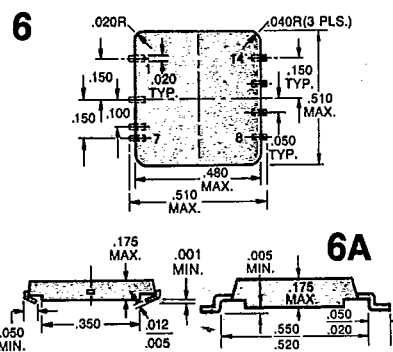
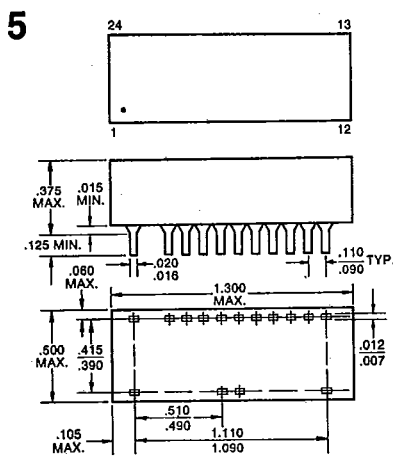
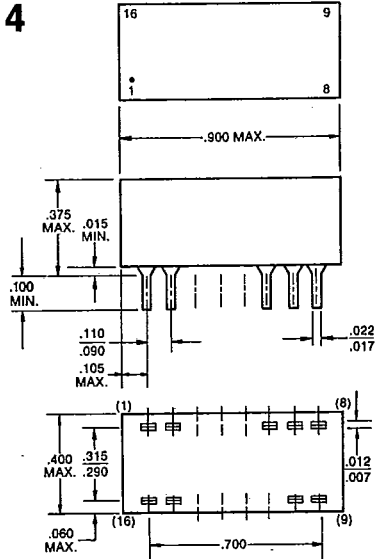
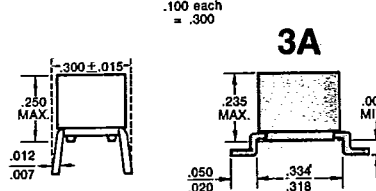
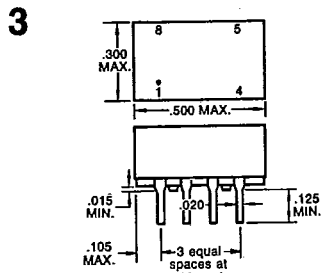
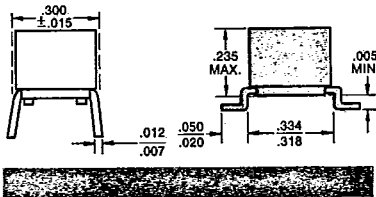
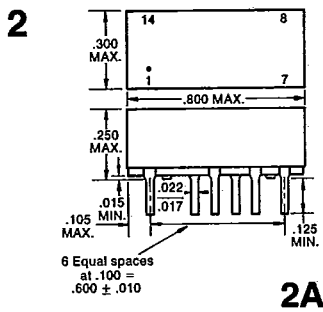
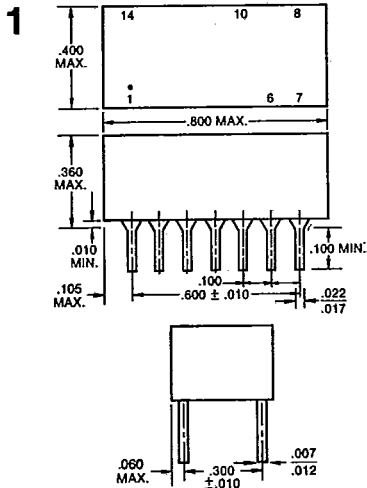


Numbers of the drawings below are referenced in the catalog at the locations describing specific modules. One drawing may be referenced by two, three, or more modules. Only the pins specified in the applicable schematic are provided with each package.

Pin numbers shown are for identification only, and are not necessarily marked on unit.

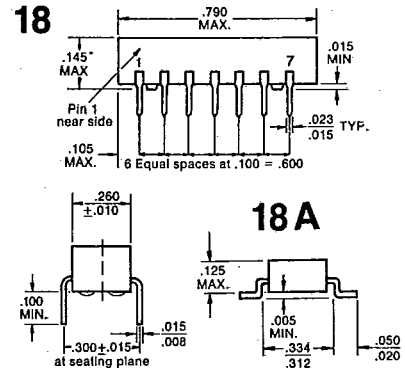
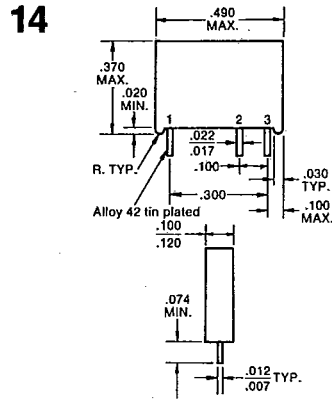
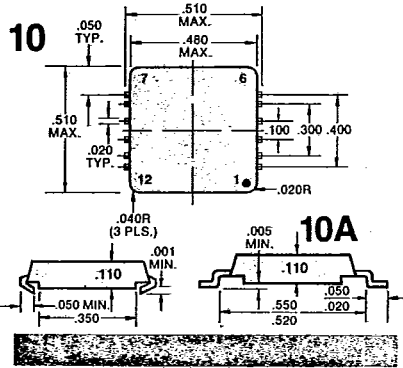
Dimensions

T-50-23

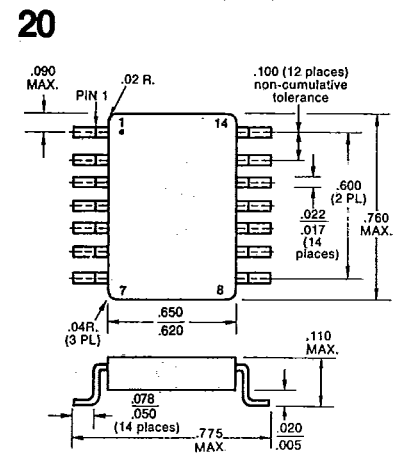
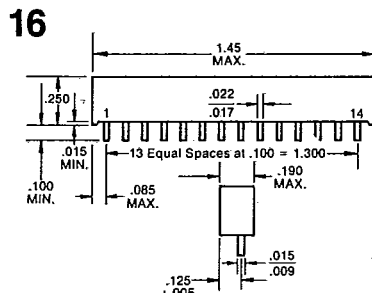
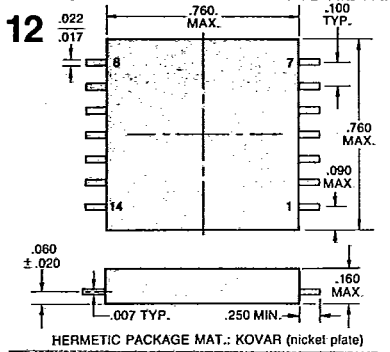
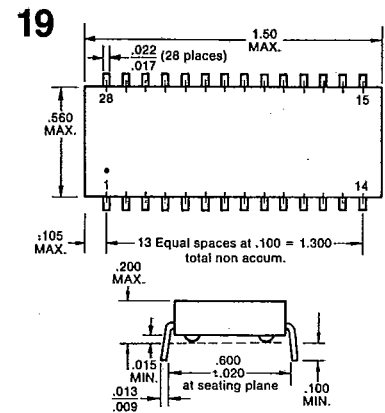
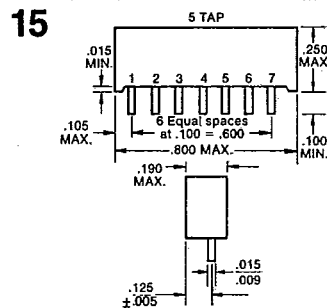
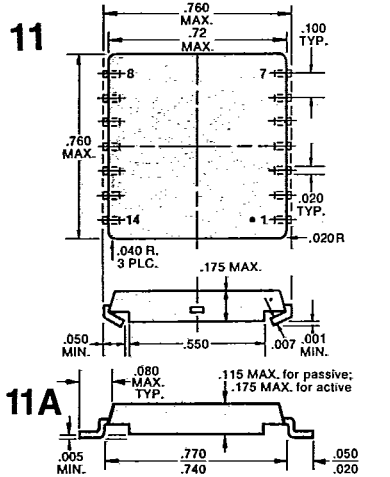


T-50-23

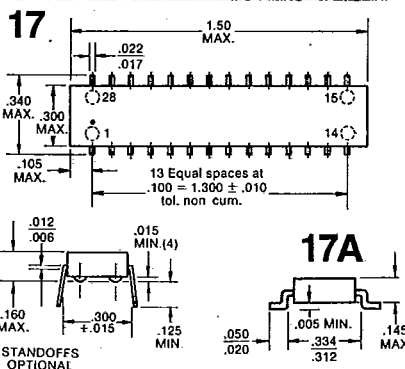
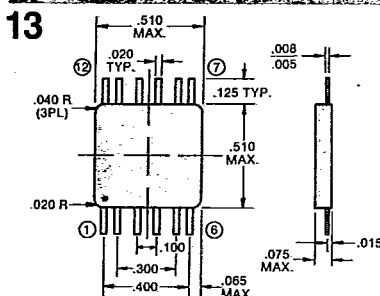
Surface-mount models are shown in shaded color.



*For delays above 200 ns, height is .200 MAX.



Can be used for ceramic-substrate applications.



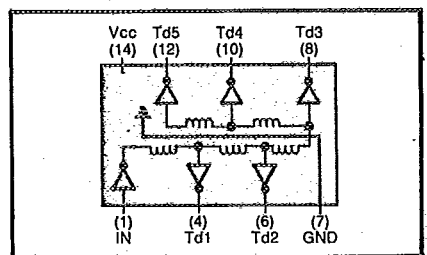
High-Performance 5-Tap TTL Delay Modules— $\frac{3}{4}$ " Sq.

High-Performance Surface-Mount TTL Delay Modules

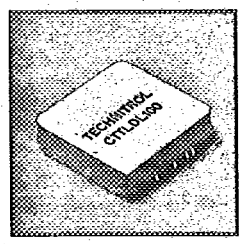
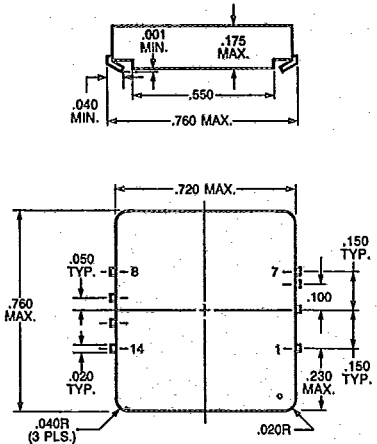
Part No.	NANOSECONDS					All Taps (Max.)	
	T _{D1}	T _{D2}	T _{D3}	T _{D4}	T _{D5}	T _{R+}	T _{R-}
CTTLDL025	5.0	10.0	15.0	20.0	25.0	2.0	2.0
CTTLDL050	10.0	20.0	30.0	40.0	50.0	2.0	2.0
CTTLDL075	15.0	30.0	45.0	60.0	75.0	2.0	2.0
CTTLDL100	20.0	40.0	60.0	80.0	100.0	2.0	5.0
CTTLDL125	25.0	50.0	75.0	100.0	125.0	2.0	5.0
CTTLDL150	30.0	60.0	90.0	120.0	150.0	2.0	6.0
CTTLDL200	40.0	80.0	120.0	160.0	200.0	2.0	7.0

Delay Characteristics measured @ V_{CC} = 5.0V, 25°C no load.
 Delay Tolerance ±2 ns or 5% (whichever is greater).
 Minimum input-pulse width 20% of total delay.

Schematic and Pin-Out for CTTLDL



C-Lead CTTLDL



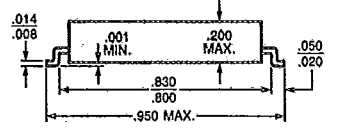
Actual Size

High-Performance Hermetic 5-Tap TTL Delay Modules— $\frac{3}{4}$ " Sq.

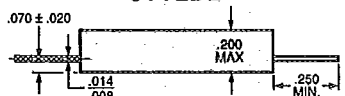
Part No.	Part No.	NANOSECONDS					All Taps (Max.)	
		T _{D1}	T _{D2}	T _{D3}	T _{D4}	T _{D5}	T _{R+}	T _{R-}
GJTTLDL025	JTTLDL025	5.0	10.0	15.0	20.0	25.0	2.0	2.0
GJTTLDL050	JTTLDL050	10.0	20.0	30.0	40.0	50.0	2.0	2.0
GJTTLDL075	JTTLDL075	15.0	30.0	45.0	60.0	75.0	2.0	2.0
GJTTLDL100	JTTLDL100	20.0	40.0	60.0	80.0	100.0	2.0	5.0
GJTTLDL125	JTTLDL125	25.0	50.0	75.0	100.0	125.0	2.0	6.0
GJTTLDL150	JTTLDL150	30.0	60.0	90.0	120.0	150.0	2.0	7.0
GJTTLDL200	JTTLDL200	40.0	80.0	120.0	160.0	200.0	2.0	8.0

Delay Characteristics measured @ V_{CC} = 5.0V, 25°C no load.
 Delay Tolerance ±2 ns or 5% (whichever is greater).
 Minimum input-pulse width 40% of total delay.

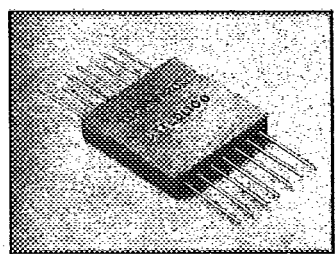
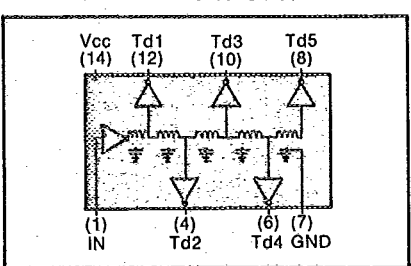
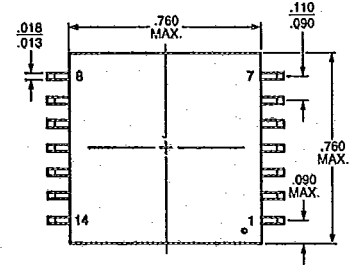
Hermetic Gull Wing GJTTLDL



Hermetic Flat-Pack JTTLDL



Schematic and Pin-Out for GJTTLDL and JTTLDL



Actual Size

Lead material: electro tin plated (alloy 42)
 Note: Pin numbers shown are for reference only and not necessarily marked on unit.

Technitrol

1952 East Allegheny Avenue
 Philadelphia, PA 19134 USA
 Phone: 215-426-9105
 Fax: 215-426-2836