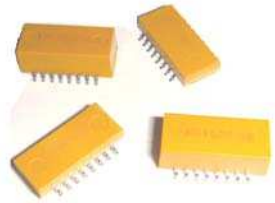
Thin Film Technology Corp.

Product Family: Gull Wing Delay Line - Single Ended

Part Number Series: GL1 Series



Construction:

- High Purity Alumina Substrate
- Stripline construction
- Gull wing, SOIC package
- Available in RoHS and non-RoHS versions. RoHS version utilizes exemption 7a.

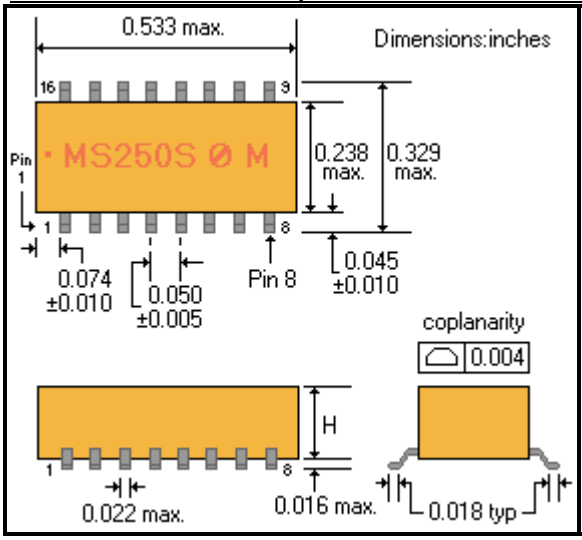
Features:

- Single-ended (1 delay element)
- Time delays of 0.1ns to 5.0ns
- Tolerances as tight as ±0.05ns
- 50Ω impedance
- High volume production suitable for commercial and special applications

Description:

These surface mount delay lines offer excellent performance and small size. The shielded stripline construction is ideal for high frequency and tight tolerance timing and deskew applications. The performance of these equally distributed capacitance delay lines is significantly better than lumped element delay lines and the physical size is much smaller than delays obtained by using cable.

Product Dimensions, Schematic and Marking:



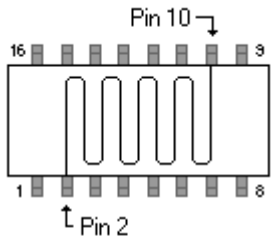
Time Delay	"H" dimension
0.100ns ~ 1.000nS (LS)	0.093 max.
1.100ns ~ 5.000ns (MS)	0.191 max.

Marking:

Product marking will be composed of the following:

- Pin 1 end identifier
- Characters "LS" or "MS". Td dependant.
- 3-digit time delay code as explained in part numbering section
- Character "S"
- TFT "Don't Stop" logo
- 1-digit manufacturing code

Schematic:



Notes:
- Part is symmetrical (orientation can be reversed)
- Pins 2 & 10 are input/output
- All other pins are ground

GL1 Series Part Numbering: Ex: GL1L5MS250S-C

Product Designator	Number of Elements	Impedance Code	Package Code and Height	Time Delay	Delay Type	T&R Packaging Quantity	RoHS Indicator
GL	**1L** = 1	**5** = 50Ω	**LS** = 0.093" **MS** = 0.191"	Three numeric characters representing nanoseconds x 100 (i.e. 250=2.50ns)	**S** = Single	**-T#** where # stands for tape qty x 100 (100~700 available)	**-C** = RoHS (leave blank for leaded)

Examples:

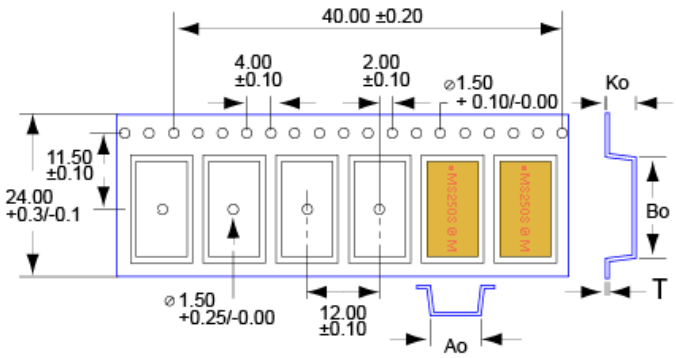
Part Number	Product Height	Time Delay	T&R Qty	RoHS
GL1L5MS250S-T1-C	0.191"	2.50ns	100 pcs/reel	Yes
GL1L5LS030S-T7	0.093"	0.30ns	700 pcs/reel	No
GL1L5MS500S-T5-C	0.191"	5.00ns	500 pcs/reel	Yes

Electrical Specifications:

Time Delay -->	0.1ns ~ 1.0ns (LS)	1.1ns ~ 5.0ns (MS)
Product Height	0.093”	0.191”
Time delay increments	0.1ns steps	
Time delay tolerance	±0.05ns	
Impedance	50Ω ±10%	
DC Resistance	1.0 Ω max.	1.0 Ω/ns max.
Rated Current	100 mA	
Temp. coef. of time delay	150 ppm/°C	
Insulation Resistance	100 Vdc (1 minute minimum)	
Isolation Resistance (Sgn-Gnd)	100MΩ minimum @ 50 Vdc	
Operating Temp. Range	-40°C ~ +85°C	
Storage Temp. Range	-55°C ~ +125°C	
Packaging	100 ~ 700 pcs in increments of 100 pcs	

Packaging:

Tape Drawing:



Dimensions : mm

Packaging Specification	General Guidelines & Recommendations
General Notes	All dimensions are in mm. Not drawn to scale
Drawing Dimensional Call-outs	GL1L5LS***S: Ao = 8.510± 0.100 mm; Bo =14.200 ± 0.100 mm; Ko = 3.000 ± 0.100 mm; T = 0.343 ± 0.013 mm GL1L5MS***S: Ao = 8.430 ± 0.100 mm; Bo =13.72 ± 0.100 mm; Ko = 5.310 ± 0.100 mm; T = 0.356 ± 0.013 mm
Packaging Materials	“LS” Carrier tape part #: US044441. “MS”Carrier tape part #: US042911. Cover tape part #: Vendor determined. Reel size: Quantity dependent
Packaging Requirements	All taping done in accordance with EIA 481 standards. Pieces taped with the marking facing up and showing through the cover tape.
Labeling Requirements	Labels will contain the TFT part number and quantity of pieces taped.