

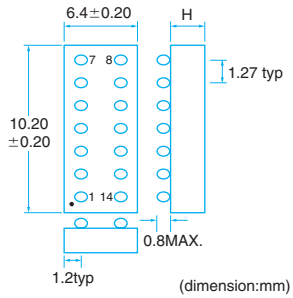
BL1L series, ball-grid-array thin film delay lines

Now under development These delay lines offer the same excellent frequency performance as GL delay lines but come in a solder bump configuration that takes up less board space than the GL series. As with all of TFT's delay lines, these feature stripline conductors on ceramic for high speed, high stability performance.

RoHS compliant

SPECIFICATIONS

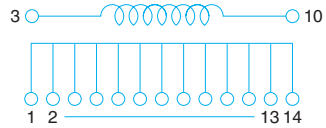
Mechanical



(dimension:mm)

Time Delay	H	Code
0.1~0.9n sec	1.70max	L
1.0~1.8n sec	2.30max	M
1.9~2.7n sec	2.80max	N
2.8~3.5n sec	2.90max	O

Equivalent circuit



Electrical

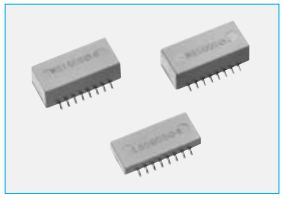
Type	BL1L5
Time Delay	0.1~3.5n sec.(0.1n sec. Step)
Time Delay Tolerance	±0.05n sec.
Characteristic Impedance	50±5Ω
Rated Current	100mA
DC Resistance	1.0Ω/n sec. Max.
Insulation resistance	100Ω(DC50V)
Operating Tem. Range	−40~85°C
Storage Tem. Range	−55~125°C

Contact us for RoHS compliant products

PART NUMBER

BL1L 5 N T 250 S T1

- Package (T=Tape, 1=100)
- Serial code
- Time Delay (250=2.50n sec)
- solder bump
- Height code
- Impedance
- Part Code, Number of elements



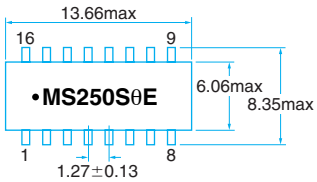
GL1L/GL2L series, SOP(small outline package) thin film differential delay lines

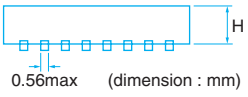
These delay lines offer the same excellent frequency performance as SIP delay lines but come in a gullwinged surface mount package. The differential SMT is useful for PECL application, and contains two identical transmission lines matched for the time delay. Featuring a stripline shielded construction, these parts offer very low EMI/RFI, and are ideal for high frequency/tight tolerance timing and deskew applications.

RoHS compliant

SPECIFICATIONS

Mechanical

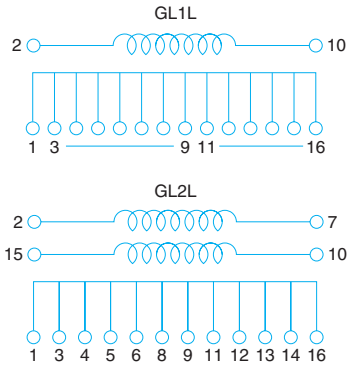




(dimension : mm)

Time Delay	H	Code
0.1~1.0ns	2.37max	L
1.1~5.0ns	4.85max	M

Equivalent circuit



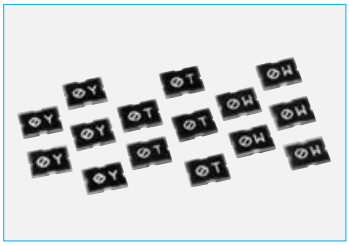
Electrical

Type	GL1L	GL2L
Time Delay	0.1~5.0ns(0.1ns step)	0.1~3.0ns(0.1ns step) 3.5~4.5ns(0.5ns step)
Time Delay Tolerance	±0.05ns	±0.05ns(0.1~2.9ns) −0.5/+0.1ns(3.0ns) ±0.1ns(3.5~4.5ns)
Temp. coefficient of Td	0~150ppm/°C	
Characteristic Impedance	50±5Ω	
Rise/fall time	200ps/ns	
Rated Currrent	100mA	
Operating Temperature	−25~85°C	

PART NUMBER

GL1L 5 M S 250 S -T* (-C)

- Given to RoHS compliant products
- Package(T1:100pcs, T5:500pcs)
- Circuit : S(GL1L),D(GL2L)
- Time Delay : (250=2.50ns)
- Lead Frame
- Height code
- Impedance : (5=50V)
- Part Code



CL1L, CL2L series, surface-mount thin film delay lines

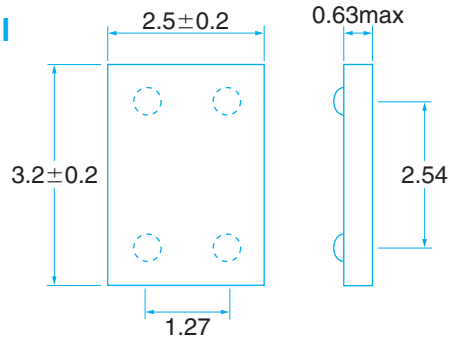
SSM THIN FILM TECHNOLOGY

This series permits ultra-precision timing adjustment from 20 to 200 picoseconds with accuracy of ±picoseconds for ultrahigh-speed signal processing applications.
Differential delay line:CL2L

RoHS compliant | Completely lead free

SPECIFICATIONS

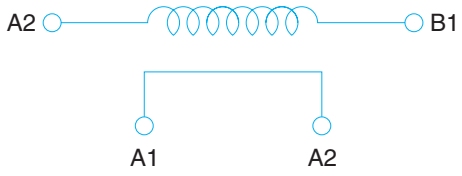
Mechanical



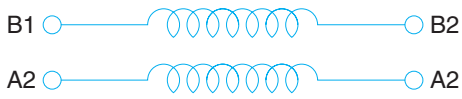
CL1L5, CL2LA

(dimension:mm)

Equivalent circuit



CL1L5



CL2LA

Electrical

Type	CL1L5	CL2LA
Time Delay	40～220ps(20ps step)	
Time Delay Tolerance	±10%	
Temp. coefficient of Td	±100ppm/°C	
Characteristic Impedance	50Ω±10%	100Ω±10%
DC Resistance	0.3Ω(100ps or less) 3.0Ω/ns max(100ps or more)	1.0Ω Max.
Insertion loss	0.5dB or less (at 0.75GHz)	0.5dB or less (at 1.0GHz)
Rated Current	100mA	
Operating temperature	−40°C～85°C	

PART NUMBER

CL 1L 5 A T 020 L T1 (-C)

- (-C) — Given to RoHS compliant CL2LA series products
- T1 — Package(T1:100pcs, T5:500pcs, TA:1,000pcs)
- L — Serial code (L=CL1L5A, D=CL2LA)
- 020 — Time Delay (020=200ps)
- T — Termination type (T)
- A — Height code (A)
- 5 — Impedance (5=50Ω, A=100Ω)
- 1L — Number of elements (1L=CL1L5, 2L=CL2LA)
- CL — Part Code, Number of elements