

DELAY LINES CHIP MONOLITHIC

LD Series

This delay line has been developed by utilizing advanced multilayer technology. It is comprised of a copper line and temperature compensated dielectric NPO ($0 \pm 60\text{ppm}/^\circ\text{C}$) and includes a metal shield. This results in a very small device that is compatible with high frequency applications and SMD chip processing.



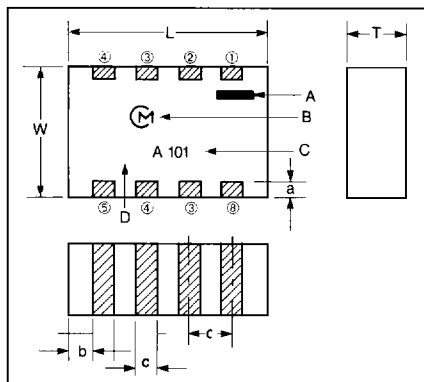
APPLICATIONS

Optical Network Interface

Super Computer/Workstations

FEATURES

- High stability at high frequency 100MHz to 2GHz
- Multilayer construction results in a small, thin and light package
- Metal shield is built inside chip
- Reflow solderable
- Supplied on tape and reel



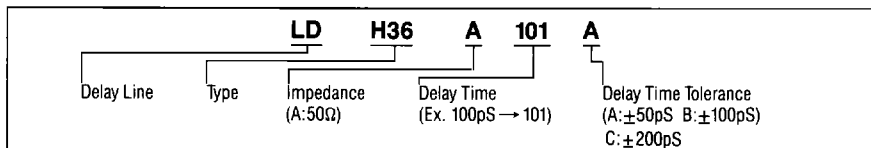
DIMENSIONS: mm

Dimension	LDH36	LDH46
L	6.3 ± 0.3	10.0 ± 0.3
W	5.0 ± 0.3	6.3 ± 0.3
T	2.5 max.	4.3 max.
a	0.4 ± 0.3	0.4 ± 0.3
b	0.5 min.	0.3 min.
c	0.5 min.	0.7 min.
d	0.3 ± 0	0.3 ± 0

TERMINALS

Terminal No.	Function	Terminal No.	Function
①	IN/OUT	⑤	IN/OUT
②	GND	⑥	GND
③	GND	⑦	GND
④	GND	⑧	GND

PART NUMBERING



MARKING

A	Input terminal indicator
B	Company Mark
C	Delay Time (nominal value)
D	Impedance

ELECTRICAL SPECIFICATIONS – LDH36

Part Number	Delay Time (nS)*	Impedance*	Rise Time	D.C. Resistance	Insulation Resistance	Rated Power	Operating Temperature Range
LDH36A101A	0.1 ± 0.05	$50\Omega \pm 5\Omega$	0.1nS max.	0.2Ω max.	100MΩ min.	100mA	-25 to +85°C
LDH36A201A	0.2 ± 0.05			0.4			
LDH36A301A	0.3 ± 0.05			0.6			
LDH36A401A	0.4 ± 0.05		0.15nS max.	0.8			
LDH36A501A	0.5 ± 0.05			1.0			
LDH36A601B	0.6 ± 0.1			1.2			
LDH36A701B	0.7 ± 0.1		0.2nS max.	1.4			
LDH36A801B	0.8 ± 0.1			1.6			
LDH36A901B	0.9 ± 0.1			1.8			
LDH36A102B	1.0 ± 0.1			2.0			

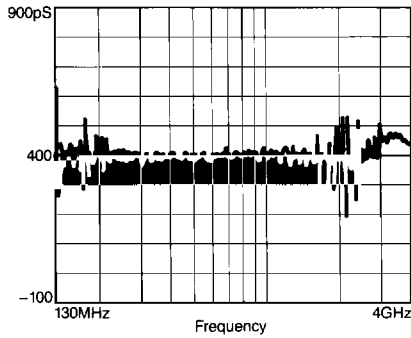
LDH46 TYPE

Part Number	Delay Time (nS)*	Impedance*	Rise Time	D.C. Resistance	Insulation Resistance	Rated Power	Operating Temperature Range
LDH46A152B	1.5 ± 0.1	$50\Omega \pm 10\Omega$	0.3nS max.	3.0Ω max.	100MΩ min.	100mA	-25 to +85°C
LDH46A202B	2.0 ± 0.1			4.0			
LDH46A252B	2.5 ± 0.1		0.25 × DT max.	5.0			
LDH46A302B	3.0 ± 0.1			6.0			
LDH46A402B	4.0 ± 0.1			8.0			
LDH46A502B	5.0 ± 0.1			10.0			
LDH46A602C	6.0 ± 0.2			12.0			
LDH46A702C	7.0 ± 0.2			14.0			
LDH46A802C	8.0 ± 0.2			16.0			
LDH46A902C	9.0 ± 0.2			18.0			
LDH46A103C	10.0 ± 0.2			20.0			

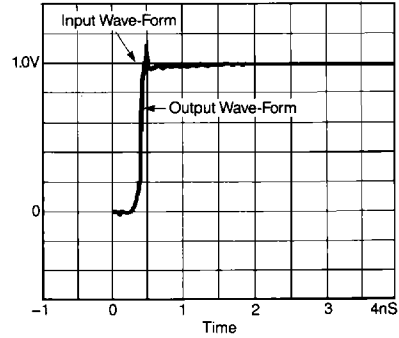
*Delay Time and Impedance are measured at 100MHz.

TYPICAL RESPONSE CHARACTERISTICS

GROUP DELAY

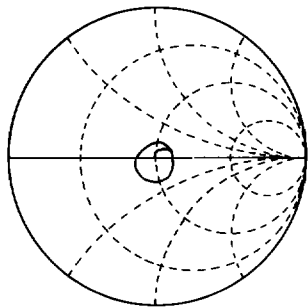


PULSE RESPONSE



Test Sample: LDH36-01A401AB

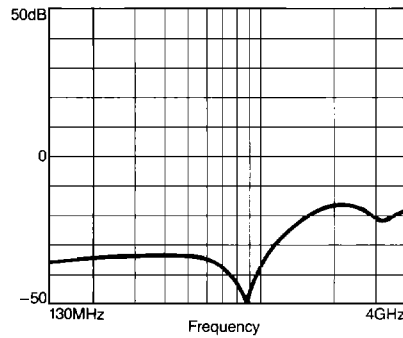
IMPEDANCE



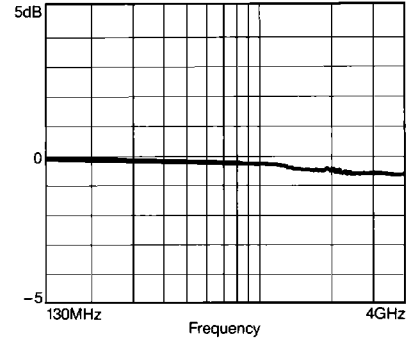
Frequency Range: 130MHz to 4GHz
(Smith Chart)

Test sample: LDH36-01A401A

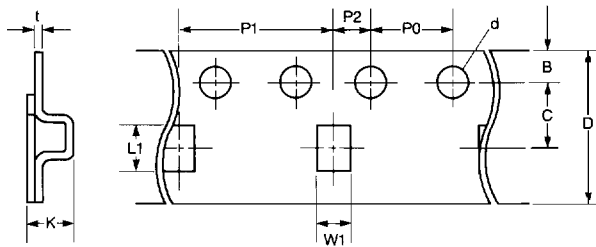
RETURN LOSS



INSERTION LOSS

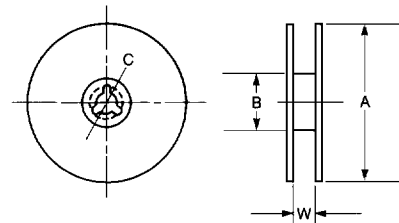


TAPE AND REEL SPECIFICATIONS



Items	Code	Dimensions: mm	
		LDH36	LDH46
Pitch of Sprocket Hole	P0*	4.0±0.1	
Position of Sprocket Hole	B	1.75±0.1	
Length from Hole Center to Component Center	C	5.5±0.1	7.5±0.1
Carrier Tape Width	D	12.0±0.3	16.0±0.3
Diameter of Sprocket Hole	d	φ 1.5 ^{+0.1/-0}	
Pitch of Component	P1	8.0±0.1	12.0±0.1
Length from Hole Center to Component Center	P2	2.0±0.1	
		40±0.3 at accumulated 10 pitches*	
Length of Component	L1	6.9	10.6
Width of Component	W1	5.6	6.9
Total Thickness Tape and Chip	k	3.0 max.	4.8 max.
Base Tape Thickness	t	0.4±0.1	

*Cumulative tolerance of 10 pitches ±0.3



Item	Dimensions: mm	
	LDH36	LDH46
A	178±2.0	330±2.0
B	50 min.	100 min.
C	13±0.5	
W	12.5±1.5	17.5±1.5

*Please confirm the type and rated value upon ordering as they are subject to change for improvement without notice.
Please contact your local Murata Electronics sales office for further information.