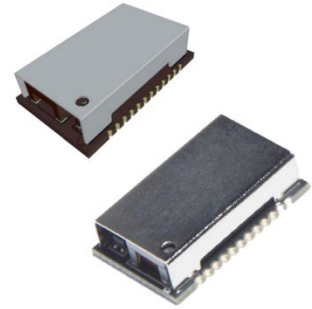


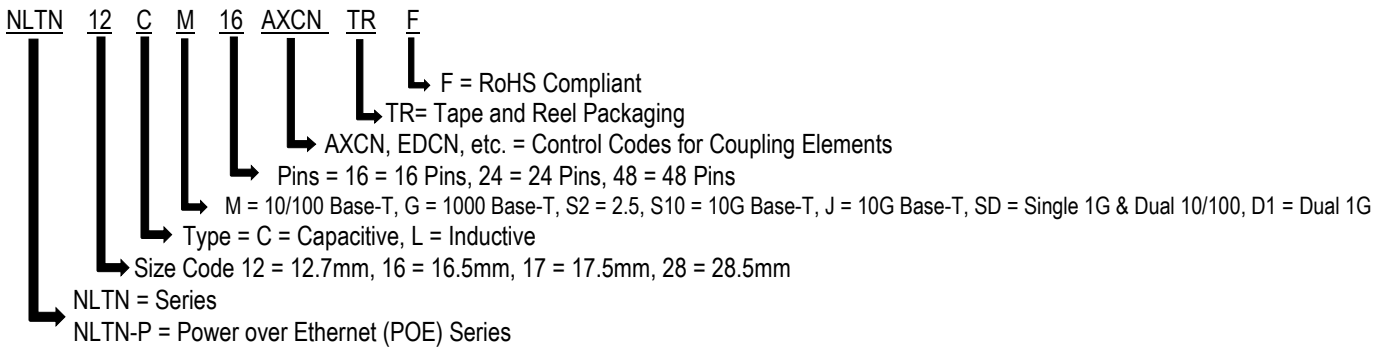
FEATURES

- 10/100 Ethernet Applications
- Gigabit Ethernet Applications
- Single 1G Ethernet Applications
- Single 2.5G Ethernet Applications
- Single 10G Ethernet Applications
- Dual 1G Ethernet Applications
- IEC 61000-4-5 10/700us 4KV (CM)
- IEC 61000-4-5 10/700us 1KV (DM)
- Small SMT Packages
- Wide Temperature: -40°C to +85°C
- RoHS Compliant
- Taped And Reeled for Automatic Insertion



RoHS Compliant
 includes all homogeneous materials
 * See Part Number System for Details

Part Number Designations



CHARACTERISTICS:

PN:	NLTN12CM16EDCNTRF
Application	10/100 Base-T, Single Port, Isolation Transformer
Type	Capacitive 1:1 ratio, 16 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	

PN:	NLTN12LM16BXCNTRF
Application	10/100 Base-T, Single Port, Isolation Transformer, Low Profile
Type	Inductive 1:1 ratio, 16 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>The schematic shows two transformer models: NTXF1812N381TRF (x2) and NCC0805F801HTRF (2x). Both transformers have a 1:1 ratio. The RJ Side (pins 9-16) is connected to the PHY Side (pins 1-8). The connections are as follows:</p> <ul style="list-style-type: none"> RJ Pin 16 connects to PHY Pin 1 RJ Pin 15 connects to PHY Pin 2 RJ Pin 14 connects to PHY Pin 3 RJ Pin 11 connects to PHY Pin 6 RJ Pin 10 connects to PHY Pin 7 RJ Pin 9 connects to PHY Pin 8

PN:	NLTN-P12LM16ABCNTRF
Application	10/100 Base-T, Single Port, Isolation Transformer, 16 Pins, Low Profile
Type	Inductive, Power Over Ethernet (POE) 1:1 ratio, up to 15W, 16 Pins, Low Profile
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>The schematic shows two transformer models: NCC0805F801HTRF (X2) and NTXF1210N121P1TRF (X2). Both transformers have a 1:1 ratio. The PHY Side (pins 1-8) is connected to the RJ Side (pins 9-16). The connections are as follows:</p> <ul style="list-style-type: none"> PHY Pin 1 connects to RJ Pin 16 PHY Pin 2 connects to RJ Pin 15 PHY Pin 3 connects to RJ Pin 14 PHY Pin 6 connects to RJ Pin 11 PHY Pin 7 connects to RJ Pin 10 PHY Pin 8 connects to RJ Pin 9

PN:	NLTN16CM24EDCNTRF
Application	Dual 10/100 Base-T, 1G Single Port, Isolation Transformer
Type	Capacitive , 1:1 ratio, 24 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	

PN:	NLTN16LM24BXCNTRF
Application	Dual 10/100 Base-T, 1G Single Port, Isolation Transformer
Type	Inductive 1:1 ratio, 24 Pins, Low Profile
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	

PN:	NLTN-P16LG24APCNTRF
Application	1000 Base-T (1G) Single Port, Isolation Transformer, Low Profile
Type	Inductive, Power Over Ethernet (POE) 1:1 ratio, up to 15W, 24 Pins, Low Profile
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>The schematic diagram shows the internal wiring of the transformer. On the left, the PHY SIDE has pins 1 through 6. On the right, the RJ SIDE has pins 1 through 12. The connections are as follows:</p> <ul style="list-style-type: none"> PHY 1 to RJ 1 (W1) PHY 2 to RJ 2 (W2) PHY 3 to RJ 3 (W3) PHY 4 to RJ 4 (W4) PHY 5 to RJ 5 (W5) PHY 6 to RJ 6 (W6) PHY 1 to RJ 7 (W7) PHY 2 to RJ 8 (W8) PHY 3 to RJ 9 (W9) PHY 4 to RJ 10 (W10) PHY 5 to RJ 11 (W11) PHY 6 to RJ 12 (W12) <p>Transformer models: NCC0805F801HTRF (X4) and NTXF1210N121P0TRF (X4)</p>

PN:	NLTN-P16LG24ABCNTRF
Application	1000 Base-T (1G) Single Port, Isolation Transformer, Low Profile
Type	Inductive, Power Over Ethernet (POE) 1:1 ratio, up to 30W, 24 Pins, Low Profile
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>The schematic diagram shows the internal wiring of the transformer. On the left, the PHY SIDE has pins 1 through 6. On the right, the RJ SIDE has pins 1 through 12. The connections are as follows:</p> <ul style="list-style-type: none"> PHY 1 to RJ 1 (W1) PHY 2 to RJ 2 (W2) PHY 3 to RJ 3 (W3) PHY 4 to RJ 4 (W4) PHY 5 to RJ 5 (W5) PHY 6 to RJ 6 (W6) PHY 1 to RJ 7 (W7) PHY 2 to RJ 8 (W8) PHY 3 to RJ 9 (W9) PHY 4 to RJ 10 (W10) PHY 5 to RJ 11 (W11) PHY 6 to RJ 12 (W12) <p>Transformer models: NCC0805F801HTRF (X4) and NTXF1210N121P1TRF (X4)</p>

PN:	NLTN16LS224AGCGTRF
Application	Single 2.5G, Single Port, Isolation Transformer
Type	Inductive, 1:1 ratio, 24 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>NCC0805F801HTRF (X4)</p> <p>PHY SIDE: TCT1 1, TD1+ 2, TD1- 3, TCT2 4, TD2+ 5, TD2- 6</p> <p>RJ SIDE: 24 MCT1, TCT3 7, 18 MCT3, 23 MX3+, TD3+ 8, 17 MX3+, 22 MX3-, TD3- 9, 16 MX3-, 21 MCT2, TCT4 10, 15 MCT4, 20 MX2+, TD4+ 11, 14 MX4+, 19 MX2-, TD4- 12, 13 MX4-</p> <p>NTXG1210N121P0TRF (X4)</p>

PN:	NLTN16LS1024ASCSTRF
Application	Single 10G, Single Port, Isolation Transformer
Type	Inductive, 1:1 ratio, 24 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>NCC0805F901HTRF (X4)</p> <p>PHY SIDE: TCT1 1, TD1+ 2, TD1- 3, TCT2 4, TD2+ 5, TD2- 6</p> <p>RJ SIDE: 24 MCT1, TCT3 7, 18 MCT3, 23 MX3+, TD3+ 8, 17 MX3+, 22 MX3-, TD3- 9, 16 MX3-, 21 MCT2, TCT4 10, 15 MCT4, 20 MX2+, TD4+ 11, 14 MX4+, 19 MX2-, TD4- 12, 13 MX4-</p> <p>NTXS1812N121TRF (X4)</p>

PN:	NLTN17CM24EDCNTRF
Application	10/100 Base-T Dual port or 1G Single port.
Type	Capacitive 1:1 ratio, 24 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>NCC0805F901HTRF (X4)</p> <p>NMC-A0402X7R104K25CQYF x8</p> <p>NTXC1206N181TRF x4</p> <p>Cable Side: 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24</p> <p>PHY Side: 12, 11, 9, 8, 7, 6, 5, 4, 3, 2, 1</p> <p>NC: 10, 12, 7, 4, 1</p> <p>GND</p>

PN:	NLTN17LM24BXCNTRF
Application	10/100 Base-T Dual port or 1G Single port.
Type	Inductive 1:1 ratio, 24 Pins, Low Profile
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<p>NCC0805F801HTRF (X4)</p> <p>NTXF1812N381TRF (X4)</p> <p>PHY SIDE: TCT1 1, TD1+ 2, TD1- 3, TCT2 4, TD2+ 5, TD2- 6</p> <p>RJ SIDE: 18 MCT3, 17 MCT3+, 16 MCT3-, 15 MCT4, 14 MCT4+, 13 MCT4-</p> <p>24 MCT1, TCT3 7, 23 MCT2+, TD3+ 8, 22 MCT2-, TD3- 9, 21 MCT2, TCT4 10, 20 MCT2+, TD4+ 11, 19 MCT2-, TD 12</p>

PN: NLTN28LD148BXCNTRF	
Application	Dual 1G, Single Port, Isolation Transformer
Type	Inductive, 1:1 ratio, 48 Pins
Operating Temperature Range	-40°C to +85°C (including self-heating)
Schematic	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>NTXF1812N381TRF (X8)</p> <p>PHY SIDE</p> </div> <div style="text-align: center;"> <p>NCC0805F801HTRF (X8)</p> <p>RJ SIDE</p> </div> </div>

Typical Performance Characteristics

Part Number	Insertion Loss (dB Max)	Return Loss (dB min)			Differential Mode to Common Mode Rejection (DCMR) (dB min)		
		1 to 100Mhz	30Mhz	60Mhz	100Mhz	30Mhz	60Mhz
NLTN12CM16EDCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN12LM16BXCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN16CM24EDCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN16LM24BXCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN17CM24EDCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN17LM24BXCNTRF	-1.0	-20	-15	-10	-25	-25	-25
NLTN28LD148BXCNTRF	-1.0	-20	-15	-10	-25	-25	-25

Part Number	Insertion Loss (dB Max)	Return Loss (dB min)				Differential Mode to Common Mode Rejection (DCMR) (dB min)	
		1 to 100Mhz	1~30Mhz	30~60Mhz	60~80Mhz	80~100MHz	1~60Mhz
NLTN-P12LM16ABCNTRF	-1.1	-20	-18	-14	-12	-35	-30

Part Number	Insertion Loss (dB Max)	Return Loss (dB min)					Differential Mode to Common Mode Rejection (DCMR) (dB min)	
		1 to 100Mhz	1~30Mhz	40Mhz	50Mhz	60~80MHz	100Mhz	1~60Mhz
NLTN-P16LG24APCNTRF	-1.1	-18	-14.4	-13.1	-12	-10	-35	-30
NLTN-P16LG24ABCNTRF	-1.1	-18	-14.4	-13.1	-12	-10	-35	-30

Part Number	Insertion Loss (dB Max)	Return Loss (dB min)		Differential Mode to Common Mode Rejection (DCMR) (dB min)	
		1 to 250MHz	1~40MHz	40~500MHz	1 ~ 250MHz
NLTN16LS224AGCGTRF	-3.0	-16	-5	-30	-22

Part Number	Insertion Loss (dB Max)	Return Loss (dB min)		Differential Mode to Common Mode Rejection (DCMR) (dB min)	
		1 to 500MHz	1~40MHz	40~500MHz	1 ~ 250MHz
NLTN16LS1024ASCSTRF	-3.0	-16	-5	-22	-18

Typical Performance Characteristics Continued

Part Number	OCL (uH Min) @100KHz/0.1V with 8mA DC Bias	Cross Talk (db min)	Inductance Pins	Input-Output Isolation	Resistance to Solder Heat
NLTN12CM16EDCNTRF	200	-35	1-3, 6-8, 9-11,14-16	N/A	+260°C for 10 seconds
NLTN12LM16BXCNTRF	350	-38	1-3, 6-8, 9-11, 14-16	1500VAC/60s	+260°C for 10 seconds
NLTN-P12LM16ABCNTRF	90	-38	1-3, 6-8, 9-11, 14-16	1500VAC/60s	+260°C for 10 seconds
NLTN16CM24EDCNTRF	200	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	N/A	+260°C for 10 seconds
NLTN16LM24BXCNTRF	350	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN-P16LG24APCNTRF	90	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN-P16LG24ABCNTRF	90	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN16LS224AGCGTRF	120	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN16LS1024ASCSTRF	120	-30	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN17CM24EDCNTRF	200	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	N/A	+260°C for 10 seconds
NLTN17LM24BXCNTRF	350	-35	2-3, 5-6, 8-9 ,11-12 ,13-14, 16- 17, 19-20, 22-23	1500VAC/60s	+260°C for 10 seconds
NLTN28LD148BXCNTRF	350	-35	2-3, 5-6, 8-9 ,11-12, 14-15, 17- 18, 20-21, 23-24 ,25-26, 28- 29, 31-32, 34-35, 37-38, 40- 41, 43-44, 46-47	1500VAC/60s	+260°C for 10 seconds

DIMENSIONS: (mm)

Series	Figure	A	B	C	D	E	F	A'	B'	C'
NLTN12_	1	12.7 ±0.25	8.87 ±0.25	4.0 ±0.25	0.6 ±0.25	1.27 ±0.25	1.0 ±0.25	8.87 ±0.25	7.2 ±0.25	0.8 ±0.05
NLTN-P12	2	12.7 ±0.25	8.67 ±0.25	4.0 ±0.25	0.6 ±0.25	1.27 ±0.25	1.0 ±0.25	8.89 ±0.25	7.2 ±0.25	0.8 ±0.05
NLTN16_	3	16.5 ± 0.2	10.0 ± 0.2	4.15 ± 0.2	6.75 ± 0.2	4.75 ± 0.2	3.75 ± 0.2	15.99 ± 0.2	9.5 ± 0.2	0.8 ± 0.2
NLTN-P16	4	16.5 ± 0.25	10.3 ± 0.25	4.1 ± 0.25	6.75 ± 0.25	4.75 ± 0.25	3.75 ± 0.25	16.0 ± 0.25	9.65 ± 0.25	0.8 ± 0.05
NLTN16_LS	5	16.5 ± 0.25	10.3 ± 0.25	4.1 ± 0.25	6.75 ± 0.25	4.75 ± 0.25	3.75 ± 0.25	16.0 ± 0.25	9.65 ± 0.25	0.8 ± 0.05
NLTN17_	6	17.5 ± 0.2	14.6 ± 0.2	4.5 ± 0.2	6.86 ± 0.2	4.32 ± 0.2	3.05 ± 0.2	17.03 ± 0.2	13.92 ± 0.2	1.0 ± 0.2
NLTN28_	7	28.58 ± 0.25	14.6 ± 0.25	5.0 Max	6.64 ± 0.25	4.6 ± 0.25	3.58 ± 0.25	28.08 ± 0.25	13.99 ± 0.25	1.2 ± 0.25

Figure 1

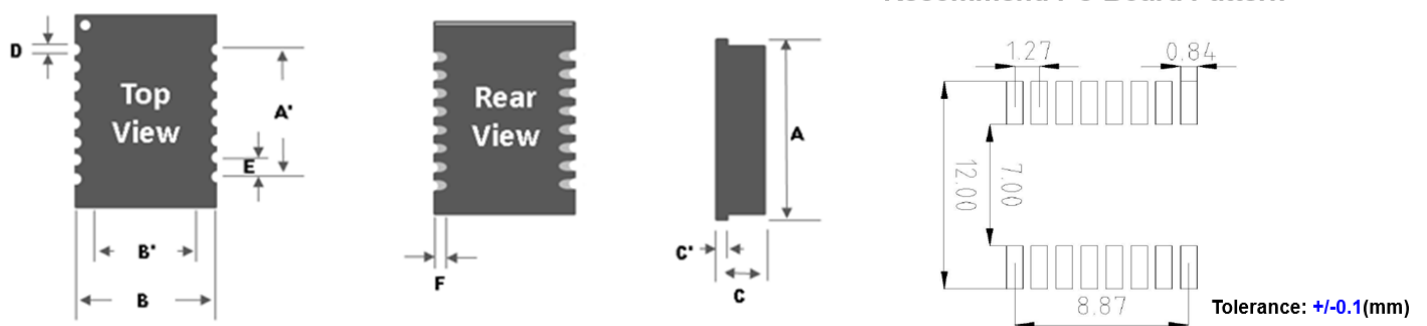


Figure 2

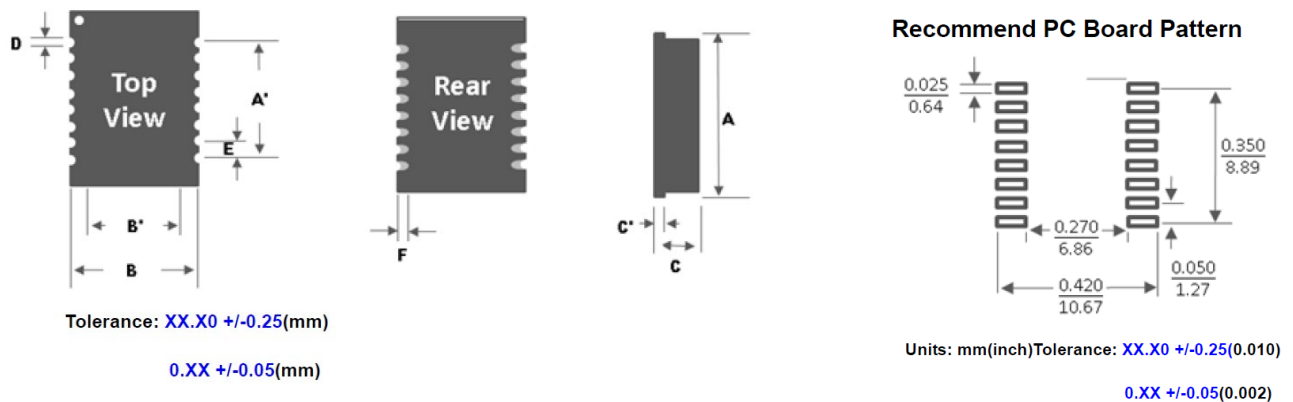


Figure 3

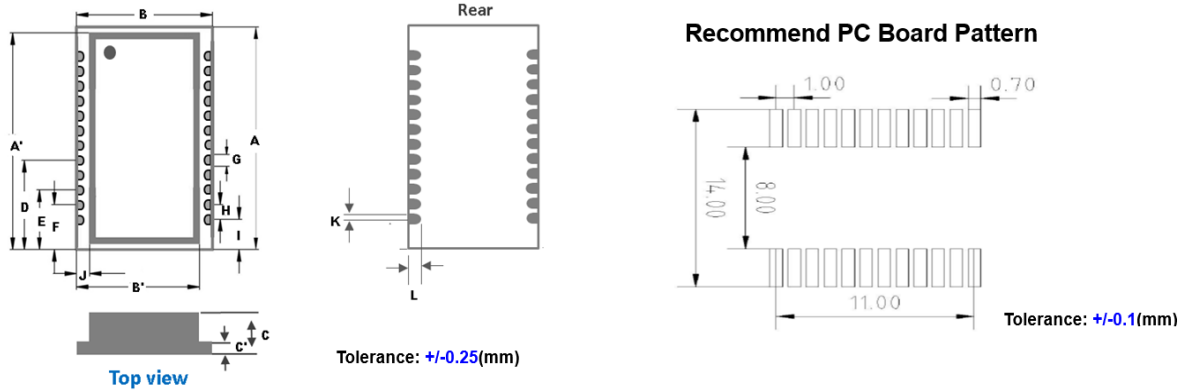


Figure 4

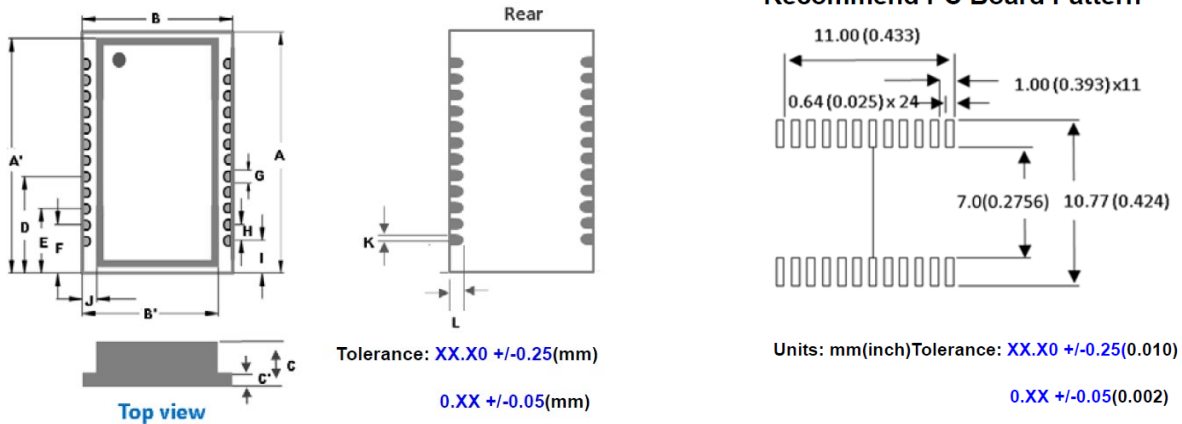


Figure 5

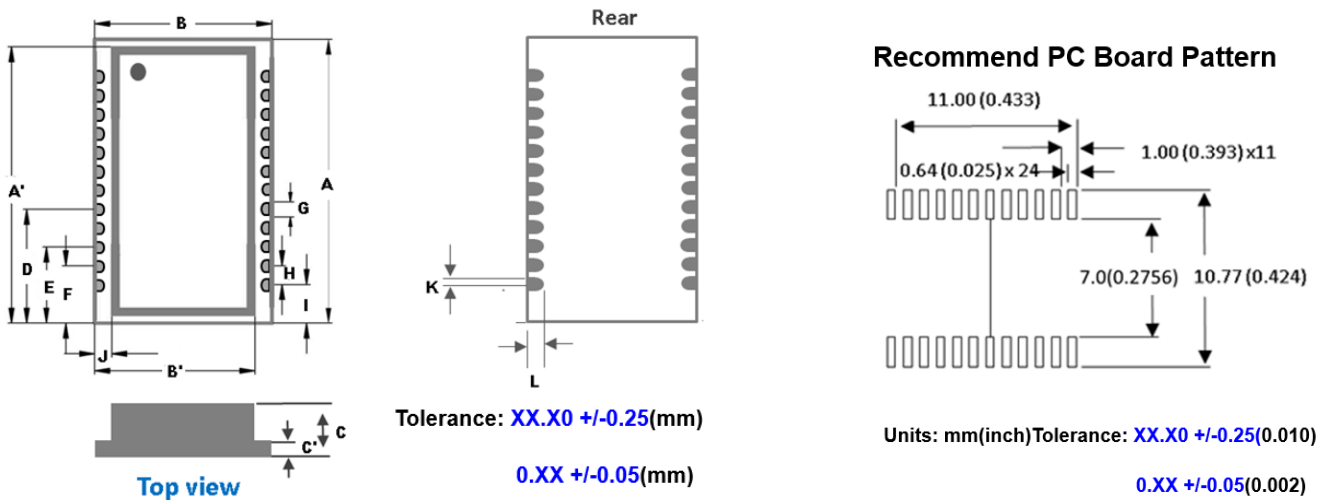
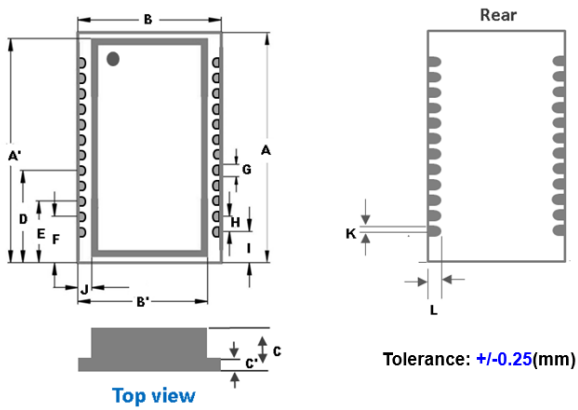
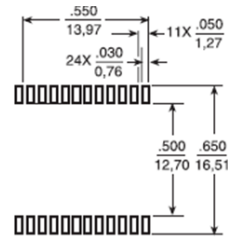


Figure 6



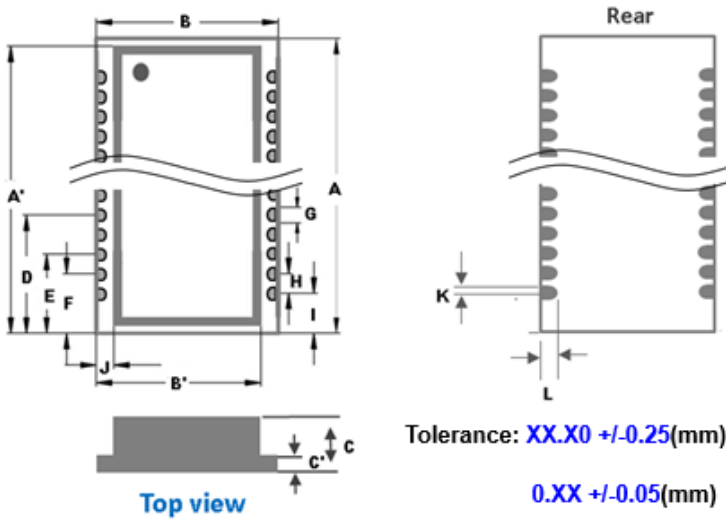
Recommend PC Board Pattern



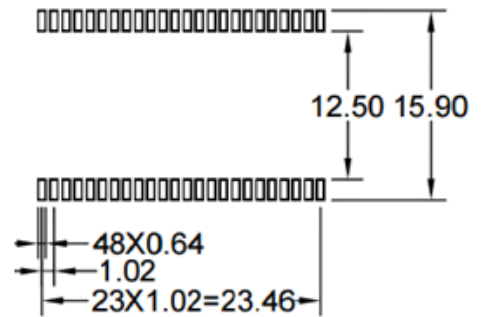
Units: mm (inch) Tolerance:

XX.X0 ± 0.25 (0.010)
0.XX ± 0.05 (0.002)

Figure 7



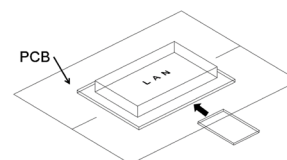
Recommend PC Board Pattern



Units: mm(inch) Tolerance: $XX.X0 \pm 0.25$ (0.010)

$0.XX \pm 0.05$ (0.002)

Reliability Tests										
Item	Performance	Test Condition – Method - Equipment								
Insertion Loss	Refer to standard electrical characteristics list.	Agilent E5071C								
Return Loss										
Cross talk										
DCMR										
Operating Temperature	-40°C~+85°C(Including self - temperature rise)									
Storage Temperature	-40°C~+85°C(Product without taping)									
Life Test	Appearance : No damage. Insertion Loss : within spec. Return Loss : within spec.	Preconditioning: Run through Reflow for 3 times. (IPC/JEDEC J-STD-020E Classification Reflow Profiles) Temperature : 85±2°C Duration : 1000±12hrs Measured at room temperature after placing for 24 hrs								
Humidity Resistance Test		Preconditioning: Run through Reflow for 3 times. (IPC/JEDEC J-STD-020E Classification Reflow Profiles) Humidity : 85±3 * R.H, Temperature : 85°C±2°C Duration : 1000hrs Min. Bead: with 100% rated current. Inductance: with 10% rated current. Measured at room temperature after placing for 24 hrs								
Thermal shock Test	Appearance : No damage. Insertion Loss : within spec. Return Loss : within spec.	Preconditioning: Run through Reflow for 3 times. (IPC/JEDEC J-STD-020E Classification Reflow Profiles) Step1 : -40±2°C 30±5min Step2 : 85±2°C ≤0.5min Step3 : 85±2°C 30±5min Number of cycles : 500 Measured at room temperature after placing for 24 hrs								
Vibration Test		Preconditioning: Run through Reflow for 3 times. (IPC/JEDEC J-STD-020E Classification Reflow Profiles) Oscillation Frequency: 10Hz~2KHz~ 10Hz for 20 minutes Equipment : Vibration checker Total Amplitude:10g Testing Time: 12 hours (20 minutes, 12 cycles each of 3 orientations)								
Solderability Test	More than 95% of bottom terminal electrode should be covered with solder.	a. Method B, 4 hrs @155°C dry heat @235°C±5°C Test time:5 +0/-0.5 seconds. b. Method D category 3. (steam aging 8hours ± 15 min) @ 260°C±5°C Test time: 30 +0/-0.5 seconds.								
Resistance To Solder Heat Test	Appearance : No damage.	Depth: completely cover bottom the termination <table border="1"> <thead> <tr> <th>Temperature(°C)</th> <th>Time(s)</th> <th>Temperature ramp/immersion rate and emersion rate</th> <th>Number of heat cycles</th> </tr> </thead> <tbody> <tr> <td>260 ±5 (solder temp)</td> <td>10 ±1</td> <td>25mm/s ±6 mm/s</td> <td>1</td> </tr> </tbody> </table>	Temperature(°C)	Time(s)	Temperature ramp/immersion rate and emersion rate	Number of heat cycles	260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1
Temperature(°C)	Time(s)	Temperature ramp/immersion rate and emersion rate	Number of heat cycles							
260 ±5 (solder temp)	10 ±1	25mm/s ±6 mm/s	1							
Terminal Strength Test	<table border="1"> <tbody> <tr> <td>Series No.</td> <td>2(Kg)</td> </tr> <tr> <td>LAN</td> <td>1.0(min.)</td> </tr> </tbody> </table>	Series No.	2(Kg)	LAN	1.0(min.)	With the component mounted on a PCB with the device to be tested, apply a force to the side of a device being tested. This force shall be applied for 60 +1 seconds. Also, the force shall be applied gradually as not to apply a shock to the component being tested.				
Series No.	2(Kg)									
LAN	1.0(min.)									



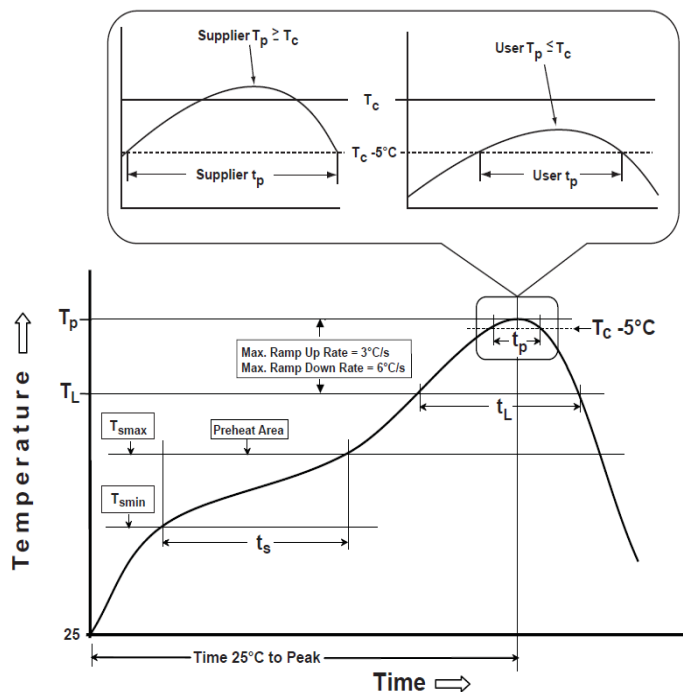
Soldering

MSL Level: Level 1

Soldering Reflow: Recommended temperature profiles for lead-free reflow soldering; Figure 8.

Peak Temperature (Tp) : +260°C for 10 seconds maximum

Figure.8 - Soldering Reflow / Reflow per IPC/JEDEC J-STD-020E



Reflow Cycles: 3 times max

Profile Type:	Pb-Free Assembly
Preheat	
-Temperature Min(T_{smin})	150°C
-Temperature Max(T_{smax})	200°C
-Time(t_s) from (T_{smin} to T_{smax})	60-120seconds
Ramp-up rate(T_L to T_p)	3°C/second max.
Liquidus temperature(T_L)	217°C
Time(t_L) maintained above T_L	60-150 seconds
Classification temperature(T_c)	See Table (1.2)
Time(t_p) at $T_c - 5^\circ\text{C}$ (T_p should be equal to or less than T_c .)	< 30 seconds
Ramp-down rate(T_p to T_L)	6°C./second max.
Time 25°C to peak temperature	8 minutes max.

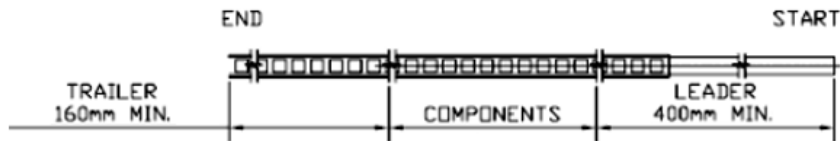
Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

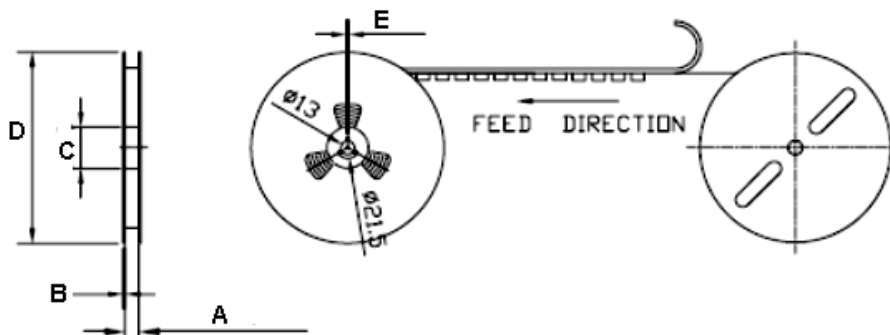
Reflow is referred to standard IPC/JEDEC J-STD-020E °

PACKAGING:

Packaging Information

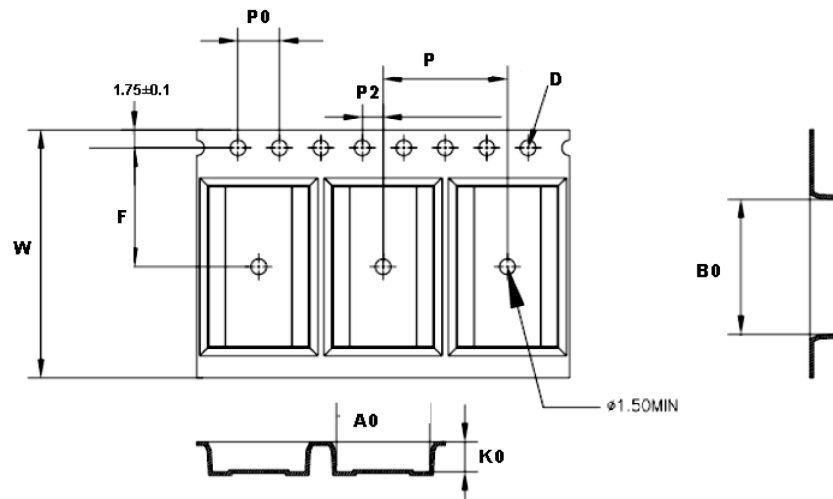


(1) Reel Dimensions



PN	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
NLTN12CM16EDCNTRF	24.4±2.0	2.1±0.15	φ100	φ330±2	2.5
NLTN12LM16BXCNTRF	24.4±2.0	2.1±0.15	φ100	φ330±2	2.5
NLTN-P12LM16ABCNTRF	24.4±2.0	2.1±0.15	φ100	φ330±2	2.5
NLTN16CM24EDCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN16LM24BXCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN-P16LG24APCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN-P16LG24ABCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN16LS224AGCGTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN16LS1024ASCSTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN17CM24EDCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN17LM24BXCNTRF	33.5±2.0	2.0±0.15	φ100	φ330±2	2.5
NLTN28LD148BXCNTRF	45.5±2.0	2.0±0.15	φ100	φ330±2	2.5

(2) Tape Dimension



PN	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	Po(mm)	P2(mm)	W(mm)	F(mm)	D(mm)
NLTN12CM16EDCNTRF	13.0±0.1	9.0±0.1	4.4±0.1	16.0±0.1	4.0±0.1	2.0±0.1	24.0±0.3	11.5±0.1	1.5±0.1
NLTN12LM16BXCNTRF	13.0±0.1	9.0±0.1	4.4±0.1	16.0±0.1	4.0±0.1	2.0±0.1	24.0±0.3	11.5±0.1	1.5±0.1
NLTN-P12LM16ABCNTRF	13.0±0.1	9.0±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN16CM24EDCNTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN16LM24BXCNTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN-P16LG24APCNTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN-P16LG24ABCNTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN16LS224AGCGTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN16LS1024ASCSTRF	16.8±0.1	10.6±0.1	4.9±0.1	16.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	14.2±0.1	1.5±0.1
NLTN17CM24EDCNTRF	17.93±0.1	15.3±0.1	4.8±0.1	24.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	11.5±0.1	1.5±0.1
NLTN17LM24BXCNTRF	17.93±0.1	15.3±0.1	4.8±0.1	24.0±0.1	4.0±0.1	2.0±0.1	32.0±0.3	11.5±0.1	1.5±0.1
NLTN28LD148BXCNTRF	28.9±0.1	14.9±0.1	5.8±0.1	20.0±0.1	4.0±0.1	2.0±0.1	44.0±0.3	20.2±0.1	1.5±0.1

(3) Packaging Quantity

PN	Reel / Pcs
NLTN12CM16EDCNTRF	800
NLTN12LM16BXCNTRF	800
NLTN-P12LM16ABCNTRF	800
NLTN16CM24EDCNTRF	800
NLTN16LM24BXCNTRF	800
NLTN-P16LG24APCNTRF	800
NLTN-P16LG24ABCNTRF	800
NLTN16LS224AGCGTRF	800
NLTN16LS1024ASCSTRF	800
NLTN17CM24EDCNTRF	400
NLTN17LM24BXCNTRF	400
NLTN28LD148BXCNTRF	500

Storage – Shipment - Handling Notice

1.) Storage Conditions (component level)

To maintain the solderability of terminal electrodes:

- Store Indoors
- Temperature: +5°C ~ +35°C (41°F ~ 95°F)
- Relative humidity: 40 to 75%
- Avoid storage where chlorine or sulfur exists in the atmosphere

2.) Period:

- Recommended to use within 12 months from the time of delivery.

Shipment / Handling:

- Products should be handled with care to avoid damage or contamination
- The use of tweezers or vacuum pick up is strongly recommended for individual components
- Bulk handling should ensure that abrasion and mechanical shock are minimized.