

# AD Minitrack NFC ST25TN

## Overview

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**Frequency Band**  
NFC 13.56 MHz

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**Chip**  
ST25TN512  
ST25TN01K

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**Antenna Dimensions**  
31x14 mm / 1.22x0.55 in

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**International Standard**  
ISO 14443A

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**Industry Segments**  
Electronics  
Beauty  
Apparel  
Healthcare

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**Applications**  
NFC  
Customer Experience  
Packaging

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**RoHS**  
EU Directive 2011/65/EC and  
Directive (EU) 2015/863

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**REACH**  
Regulation (EC) No. 1907/2006



## Small-sized, high-end product for demanding NFC applications

Our AD Minitrack NFC ST25TN inlays and tags are designed for various applications, such as smart poster and sticker, connection handover, Bluetooth pairing, Wifi protected set-up, device authentication, wristbands and many other demanding applications. AD Minitrack NFC ST25TN is an ideal match for electronics pairing applications where an embedding the inlay is a must.

Our AD Minitrack NFCST25TN equipped with ST Microelectronics ST25TN512 and ST25TN01K chips is based on an aluminum antenna and offers high reliability and a great performance.

AD Minitrack NFC ST25TN with the ST25TN512 chip is a cost-efficient solution for applications where 64 bytes of user memory is required. If large user memory is needed, then AD Minitrack NFC ST25TN with ST25TN01K chip is the product of choice. It offers up to 208 bytes of user memory.

Both chip options support augmented NDEF to answer dynamic NDEF message without modifying the user memory. The IC also features TruST25™ Digital Signature feature to fight against counterfeiting.

The product is ISO 14 443A and NFC Forum Type 2 compliant. Our inlays and tags are compliant with ISO 9001:2015 Quality Management and ISO 14001:2015 Environmental Management. This ensures a reliable and state-of-the-art product that meets a variety of application needs.

## Technical features

Chip	ST25TN512	ST25TN01K
Chip Attachment Technology	Direct Chip Attach	Direct Chip Attach
User Memory	64 bytes	160 bytes
Product Code	3008848 / IL-604636	3008835 / IL-604627
Delivery Format	Wet+ inlay	Wet+ inlay
Die-Cut Dimension	36 x 18 mm / 1.42 x 0.71 in	36 x 18 mm / 1.42 x 0.71 in
Inlay Substrate	PET	PET
Face Sheet	Clear PET	Clear PET
Standard Pitch	24 mm / 0.95 in	24 mm / 0.95 in
Total Thickness	136µm	136µm
Web Width	40 mm / 1.5 in	40 mm / 1.5 in
Core Size	76 mm / 3 in	76 mm / 3 in
Quantity / Reel	10,000 pcs/reel 20,000 pcs/box	10,000 pcs/reel 20,000 pcs/box
Operating Temperature	-40 °C to 85 °C / -40 °F to 185 °F	-40 °C to 85 °C / -40 °F to 185 °F

### Contact information

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**Warranty:** Please refer to Avery Dennison standard terms and conditions: [rfid.averydennison.com/termsandconditions](http://rfid.averydennison.com/termsandconditions)

**Care and handling:** RFID inlays are sensitive to ESD. Observe standard industry practices relating to electronics / RFID to keep environmental impact and static charge to a minimum.

**Applications:** This product should be tested by the customer / user thoroughly under end use conditions to ensure the product meets the particular requirements. Avery Dennison does not represent that this product is fit for any particular purpose or use. Avery Dennison reserves the right to modify, change, supplement or discontinue product offerings at any time without notice. The information contained herein is believed to be reliable but Avery Dennison makes no representation concerning the accuracy or correctness of the data.

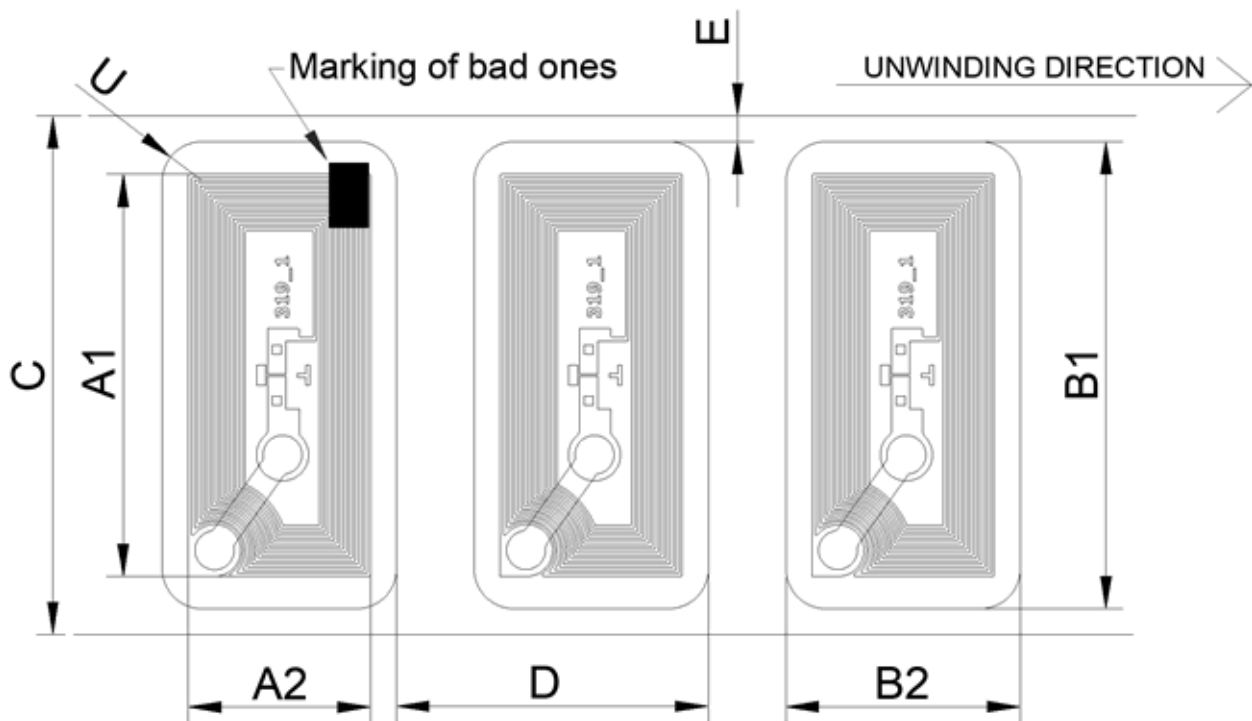


**MiniTrack NFC Wet Inlay +**  
**ISO 14 443 A**  
**STM ST25TN512**  
**Sales Code 3008848**

**Item Code : IL-604636**

**Mechanical dimensions**

A1 x A2	Antenna size	31 x 14 mm	± 0,5 mm	1.220 x 0.551 in
B1xB2	Die-cut size	36 x 18 mm	± 0,2 mm	1.417 x 0.709 in
C	Web width	40 mm	± 0,5 mm	1.575 in
D	Pitch, length per piece MD	24 mm	± 1,5 mm	0.945 in
E	Die-cut to web edge	2 mm	± 1,5 mm	0.079 in
U	Radius	3 mm		0.118 in
	Overall thickness of transponder package (excluding IC)	136 µm	± 10 %	
	Thickness of the IC	120 µm		0,118 in



### Electrical characteristics

Integrated Circuit (IC)	STM ST25TN512
Air interface protocol	ISO 14 443 A
Operation frequency	13,56 MHz
Unloaded resonance frequency	13,60 MHz ± 0,35 MHz
Memory	64 bytes

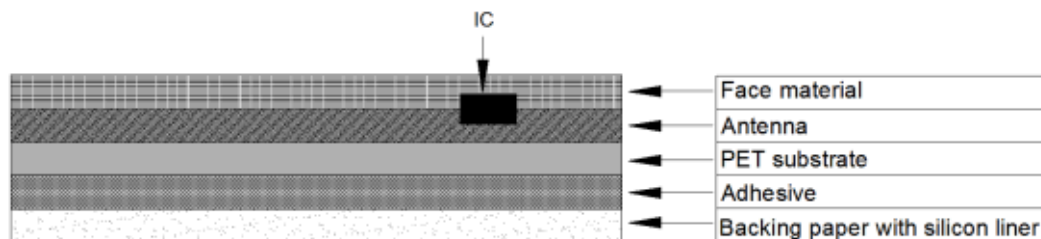
### General characteristics of transponder

Operating temperature (electronics parts)	-40 °C / +85 °C	-40 °F / 185 °F
ESD voltage immunity	± 2 kV peak HBM	
Shelf life: From the date of manufacture 2 years in	+20 °C, 50 % RH	68 °F, 50 % RH
Bending diameter (D)	> 50 mm, tension less than 10 N	

### Delivery form

Transponder format	Die-cut	
Transponder face material	Clear PET 12	
Transponder antenna, antenna carrier	Aluminum, clear PET	
Transponder adhesive	RA-5	
- labelling temperature	min. +0 °C	min. 32 °F
- usage temperature	-20 °C - 80 °C	-4 °F - 176 °F
- peel	min. 10 N / 25 mm (FTM 1)	
Final inspection	100 %, known faulty ones marked	
Minimum delivery yield	97 %	
Reel Label	Reel number, Material number, Material description, Yield, Qty of functional inlays, Qty of non-functional inlays, Date	
Printability	Needs to be tested by customer	

### Structure



### Delivery details

Appearance	Single row reel form
Reel core	Paper core inner diameter 76 mm (3 in)
Transponder alignment	Chip in front of transponder
Winding of the reel	Face out
Reel size	10 000 pcs/reel
Package size	20 000 pcs/box Deliveries only in full packages.

### Disclaimer:

Avery Dennison Smartrac reserves the right to change its products and services at any time without notice. Our recommendations are based on our best knowledge and experience. Printability needs to be tested by the Customer. As the products are used outside our control we cannot take responsibility for any damage that may be caused when using the product. Use extra care in handling the product.

This technical specification replaces all earlier ones.

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