Product Bulletin

Tag-it™ Inlays

Description

The Tag-it inlay, a new generation of TIRIS transponders, is the basis for the first consumable smart label for industries needing quick and accurate identification of items such as express parcels and airline baggage.

Exciting new applications are now possible, such as tracking goods throughout the assembly and distribution chain and product authentication of valuable branded goods. Further Tag-it inlays allow for automatic document identification for office and records management applications.

Ultra-thin and batteryless, this general purpose read/write transponder is placed on a polymer tape substrate and delivered in reels. It fits between layers of laminated paper or plastic to create inexpensive stickers, labels, tickets and badges. Tag-it inlays can be embedded into products and items, and can include magnetic stripes, barcodes or other printed information.

User data is read and stored in a 256-bit non-volatile user memory that is organized in eight blocks. Each block is user pro-grammable and can be locked to protect data from modification.

Information about delivery check points, place of origin/destination, pallet assignments, inventory numbers, and even transportation routes can be coded into the transponder. A special feature, unique to Tag-it, is the factory-programmed Simultaneous Identification (SID) algorithm that allows multiple transponders to be read simultaneously.

Tag-it inlays are available in three sizes for standard labeling requirements.
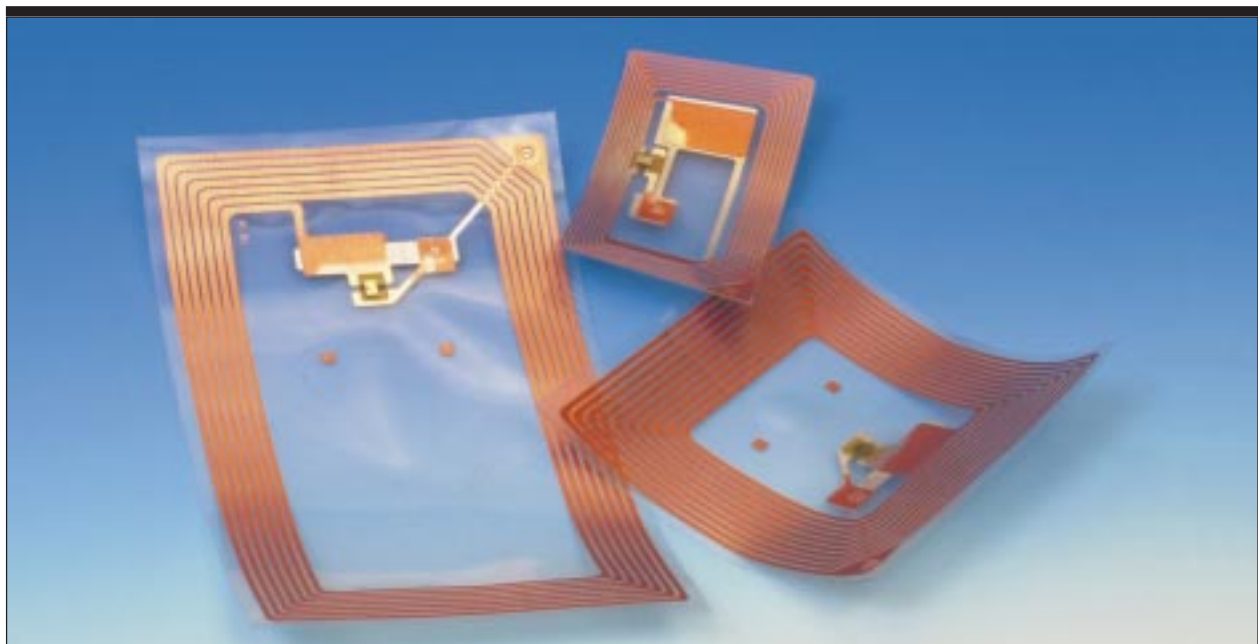
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TIRIS Technology by Texas Instruments™

Specifications:

Device name	Tag-it Inlay (square)	Tag-it Inlay (rectangle-large)	Tag-it Inlay (rectangle-miniature)
Part number: (Pitch options)	RI-I01-110A-00 (Metric) RI-I11-110A-00 (Imperial)	RI-I02-110A-00 (Metric) RI-I12-110A-00 (Imperial)	RI-I03-110A-00 (Metric)
Operating frequency	13.56MHz		
Memory	256-bit programmable user memory in 8x32-bit blocks		
Antenna size	45 x 45 mm (1.8 x 1.8 in)	45 x 76 mm (1.8 x 3 in)	22.5 x 38 mm (0.9 x 1.5 in)
Foil width	48 mm ± 0.5 mm (1.9 in ± .02 in)		
Foil pitch - metric Foil pitch - imperial	48 mm 2 in	96 mm 4 in	48 mm
Operating temperature	-25°C to +70°C		
Storage temperature	-40°C to +85°C		
Uplink/downlink data rates	26.7 kBd/ 6.2 and 9 kBd secured with CRC		
RX modulation	Pulse-width coded, AM 100% modulation		
TX frequencies	Manchester encoded, A = f_c +/- 423.75 kHz, B = f_c +/- 484.29 kHz Low bit: transition A to B. High bit: transition B to A		
Thickness	Chip and contact: All other areas:	0.355 mm ± 0.005 mm (~0.014 in) 0.085 mm (0.003 in)	
Base material	Substrate: Antenna:	PET (Polyethylenetherephtalate) Aluminum	
Smallest bending radius allowed	18 mm (0.7 in)		
Delivery	On cardboards reels with 500 mm (19.7 in) diameter Reel width: approx. 60 mm (2.4 in); inside 50 mm (2 in) Hub diameter: 76.2 mm (3 in)		
Maximum quantity/reel	10,000	5,000	10,000

For more information, contact the sales office or distributor nearest you. This contact information can be found on our web site at: http://www.tiris.com

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