

Embeddable RFID

Low, high and ultrahigh-frequency transponders for enclosure into virtually any form factor



Embeddable RFID transponders allow manufacturers to integrate HID Global electronic components seamlessly into tag designs optimized for any application.

Leveraging HID experience, manufacturers and integrators can combine their specialized market expertise to deliver optimized tagging solutions for custom automation applications. Manufacturers can save the time and expense of electronics design and production, and better focus resources on providing customer solutions.

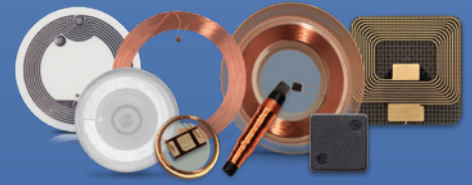
With a variety of integrated chips, HID offers a range of Embeddable RFID components various operating frequencies, and form factors for incorporation into finished tagging solutions.

Choose from:

- **E-Unit Disc transponders** – low frequency HID coils and chips, ideal for keyfobs and similar simple applications.
- **Inlays & Labels** - NFC or UHF inlays or printable labels are easy to apply via glue to smart posters etc.

- **Logi Tag™ 180** - UHF near-field transponders, small and robust.
- **MuTRAK™** - UHF ultra-small and robust transponders, ideal to identify small items.
- **Clear Disc transponders** – low and high frequency electronics sealed in a transparent plastic coating that provides resistance to chemical exposure, shock, vibration and thermal fluctuations, both during and after production.
- **e-Module transponders** - high frequency coils in a robust housing, to withstand the high heat manufacturing processes of special finished tags.
- **Piccolino Tag transponders** – for space-constrained applications, our smallest disc-shaped units deliver high frequency performance and up to a 16 kbit read-write memory.

When a rod form factor suits the target housing better than a coil – E-Unit Rod transponders provide the same high-performance coil design at the heart of the HID Glass Tag family, for embedding into your preferred housing. Rod-shaped units may also be preferred when a more precisely directed radio frequency field is needed. If a standard configuration does not fulfill your needs, HID engineers can customize a transponder unit to meet your requirements.



KEY BENEFITS

- Customizable – choose a size, chip and a disc or rod to fit any custom enclosure
- Unsurpassed quality – fully automated manufacturing and innovative DBond™ technology ensure tag reliability
- Reliable operation – built to withstand the rigors of tag processing, including plastic injection molding

TECHNOLOGY HIGHLIGHTS:

- A selection of housing materials to meet a variety of production process demands
- A multitude of available integrated chip options
- Embeddable in a broad spectrum of materials
- LF, HF and RAIN UHF Options

For more information, contact tagsales@hidglobal.com

Embeddable RFID									
Clear Disc									
Hitag S			Q5		Unique		MIFARE 1K	MIFARE DESFire EV1 4K	
20 mm		30 mm	22 mm	30 mm	20 mm	30 mm	25 mm	25 mm	
									
Base Model Number	623116	624116	624117	612116	612117	601116	601117	607119	7A1119
ELECTRONIC									
Operating Frequency	125 kHz						13.56 MHz		
Chip Type	HITAG S			Q5		Unique		MIFARE Classic EV1	MIFARE DESFire EV1
Memory	256 bit EEPROM	2048 bit EEPROM	2048 bit EEPROM	256 bit EEPROM		64 bit read-only		1 KB EEPROM	4 KB EEPROM
Anti-collision	Yes			Yes			Yes		
Reading Distance	Dependent upon reader, environment and application								
PHYSICAL									
Outer Coil Diameter	Ø 0.79 in (20 mm)		Ø 1.18 in (30 mm)	Ø 0.87 in (22 mm)	Ø 1.18 in (30 mm)	Ø 0.79 in (20 mm)	Ø 1.18 in (30 mm)	Ø 0.98 in (25 mm)	
Inner Coil Diameter	0.02 in (0.6 mm)								
Thickness	0.02 in (0.6 mm)						0.03 in (0.75mm)		
Mounting Method	Embed, glue								
Housing Material	Polyethylen + Polyester (outside)								
CHEMICAL AND MECHANICAL									
Water	Depends on finished product								
Withstands Exposure To	Depends on finished product								
Vibration	Depends on finished product								
Shock	Depends on finished product								
THERMAL									
Storage	-4° to +140° F (-20° to +60° C)								
Operating	-4° to +140° F (-20° to +60° C)								
OTHER									
Standards									
Box Size	5000 pcs		2000 pcs	5000 pcs	2000 pcs	5000 pcs	2000 pcs	500 pcs	
Options	Alternative sizes and chips (e.g. HDX). See separate datasheet for inlays & labels.								
Warranty	2 Years								

APPLICATION AREAS:

- Asset tracking and logistics
- Gas bottles
- Utility lines

AUTOMATION AND MANUFACTURING

- Tool maintenance
- Process accountability

MEDICAL AND HEALTH

- Consumables
- Instruments

Embeddable RFID														
Base Model Number	E-Unit Disc				E-Unit Rod	e-Module	ARIO XS-SM	Piccolino Tag				Logi Tag	MuTRAK	
	EM4305 / HITAG S				HITAG S	ICODE SLIX	ICODE SLIX-S	ICODE SLIX2		ICODE DNA	Vigo™	F-Mem	Monza R6-P	M730
	24 mm		28 mm		15 mm	15 mm	13.9 mm	7.5 mm	9.5 mm		6/9.5 mm	6/9.5 mm	18 mm	7 mm
														
	684620 (EM4305) 623620 (HITAG S)	684680 (EM4305) 623610 (HITAG S)	623620	623610	201045	629601	TM370E11	629191-012	629190-012 629190-312 (OM)	6K3190	6B0192 (6 mm) 6A9190 (9mm)	6C9192 (6 mm) 634190 (9mm)	6H2112	TM730E01
ELECTRONIC														
Operating Frequency	134.2 kHz					13.56 MHz					860-960 MHz (Worldwide)			
Chip Type	EM4305/HITAG S				HITAG S	ICODE SLIX	ICODE SLIX-S	ICODE SLIX2		ICODE DNA	Vigo	F-Mem	Monza R6-P	M730
Memory	512 bit EEPROM (EM4305) 256 bit EEPROM(HITAG S)		256 bit EEPROM		256 bit EEPROM	1024 bit EEPROM	2048 bits EEPROM	2560 Bit UM		2016 Bit UM	1664 bit (6 mm) 1024 bit (9 mm) EEPROM	2 kbit (6 mm) 16 kbit (9 mm) FRAM	28/96 bit EPC, 32/64 bit UM	128 bits EPC
Anti-collision	Yes													
Reading Distance	Dependent upon reader, environment and application													
PHYSICAL														
Outer Coil Diameter	Ø 0.97 in (Ø 24.3 mm)	Ø 1.09 in (Ø 27.8 mm)	Ø 0.97 in (Ø 24.3 mm)	Ø 1.09 in (Ø 27.8 mm)		Ø 0.57 in (14.5 mm)	0.53 x 0.55 in (13.6 x 13.9 mm)	Ø 0.30 in (Ø 7.5 mm)	Ø 0.37 in (Ø 9.5 mm)	Ø 0.23/0.37 in (Ø 6/9.5 mm)		Ø 0.6 in (18 mm)	0.27 x 0.27 in (7 x 7 mm)	
Inner Coil Diameter	Ø 0.79 in (Ø 20 mm)	Ø 0.93 in (Ø 23.5 mm)	Ø 0.79 in (Ø 20 mm)	Ø 0.93 in (Ø 23.5 mm)		Ø 0.27 in (Ø 6.8 mm)								
Thickness	0.03 in (0.85 mm)	0.09 in (2.2 mm)	0.03 in (0.85 mm)	0.09 in (2.2 mm)	Ø 0.07 x 0.59 in (Ø 1.8x15mm)	0.04 in (0.9 mm)	0.11 in (1 mm) 0.04 in (1 mm) / 0.03 in (0.8 mm) for 6 mm Piccolino					0.1 in (3 mm)	0.05 in (1.4 mm)	
Mounting Method	Embed, glue												Sew into hem or pouch or heat seal under a patch for textile applications. Embed, glue for other applications.	
Housing Material	Depends on finished product					Epoxy glob top			Epoxy			Polycarbonate	Epoxy	
CHEMICAL AND MECHANICAL														
Water	Depends on finished product							IP67, 68° F (20° C), 3.3 ft (1 m) x 1 h				IP68, 6.6 ft (2 m) x 24 h		
Withstands Exposure To	Depends on finished product										Impact IEC 62262-1K07, 100 drops 5.9 ft (1.8 m), Axial/radial force 1000N			
Vibration	Depends on finished product							IEC 68.2.6 [10 g, 10 to 2000 Hz, 3 axis, 2.5 h]						
Shock	Depends on finished product							IEC 68.2.29 [40 g, 18 ms, 6 axis, 2000 times]						
THERMAL														
Storage	-40° to +140° F (-40° to +60° C)					-40° to +248° F (-40° to 120° C)	-40° to 257° F (-40° to 125° C)	-40° to +185° F (-40° to 85° C), 1000 h						
Operating	-13° to +140° F (-25° to +60° C)					-13° to +185° F (-25° to +85° C)	-40° to +185° F (-40° to 85° C)			-4° to +185° F (-20° to 85° C)		-40° to +185° F (-40° to 85° C) Peak: Up to 284° F (140° C), 100 h	-40° to +185° F (-40° to 85° C) Peak: Up to 392° F (200° C), 15 sec	
OTHER														
Standards	ISO 11784, ISO 11785					ISO 15693, ISO 18000-3					ISO 15693	UHF EPC Class 1 Gen 2, ISO 18000-63		
Box Size	1250 pcs	1000 pcs	1250 pcs	1000 pcs	39 912 pcs	2000 pcs	1000 pcs	2000 pcs						
Options	Alternative sizes and chips (e.g. HDX). See separate datasheet for inlays & labels.												Chip reference and date code laser-engraved on transponder housing	
Warranty	2 Years													



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