

Description

RFID tag with high temperature resistance and good performance for metallic surfaces

Electrical specifications

Device type

UHF RFID / EPCglobal Gen2v2

Operational frequency

ETSI: 865-869 MHz

FCC: 902-928 MHz

IC type

NXP UCODE 7xm™

Memory configuration

EPC 448 bit, user 2048 bit, TID 96 bit

EPC memory content

Unique number encoded

Read range (2W ERP)*

On metal up to 7 m / 23 ft

On plastic up to 2 m / 7 ft

Applicable surface materials*

Optimized for metallic surfaces

* Read ranges are theoretical values that are calculated for non-reflective environment, in where antennas with optimum directivity are used with maximum allowed operating power according to ETSI EN 302 208 (2W ERP). Different surface materials may have an effect on performance.

Mechanical specifications

Tag materials

Special epoxy-based engineering composite designed for extreme temperatures.

Weight

9,5

Delivery format

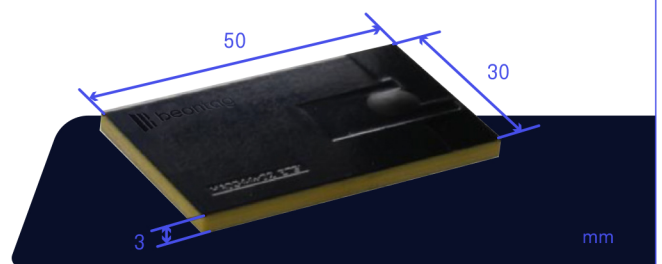
Single

Amount in box

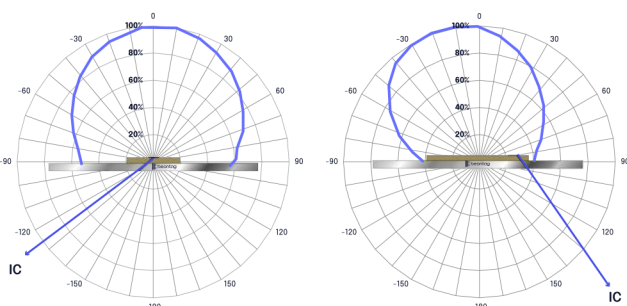
100pcs

Dimensions

50 (±0,3) x 30 (±0,3) x 3 (±0,2) mm / 1.97 x 1.18 x 0.12 in
IC bump maximum height 1,6mm / 0.06 in



Radiation pattern



Personalization Options

Pre-encoding

- Customer-specific encoding of EPC with or without locking

Visual marking

- Laser engraving of customer-specific content

Backside adhesive

- Optional backside adhesive for high temperatures



Environmental resistance

Operating temperature

-40°C to +85°C / -40°F to +185°F

Peak temperature

Peak temperature 50min at 250°C / 482°F

IP classification

IP68

Chemical resistance

No physical or performance changes in:

- 168h Salt water (salinity 10%)

- 168h Motor oil
- 168h Acetone
- 24h NaOH (10%, pH 13)
- 1h Sulfuric Acid (10%, pH 2)

Expected lifetime

Lifetime is years in normal operating conditions. Not designed to be used in specified peak temperatures several times but can withstand for example drying cycles of vehicle chassis during the paint shop process.

Values in the table are the best recommendations; resistance against environmental conditions depends on the combination of all influencing factors, exposure duration and chemical concentrations. Thus, product's final suitability for certain environmental conditions is recommended to be tested. Contact Beontag for more specific information.



Installation instructions

Beontag Heatwave Tough can be attached with below fixing methods:

1. High performance acrylic foam adhesive (not included by default)

When background foam adhesive is ordered the tag is delivered with adhesive attached. When mounting the tag with its adhesive background, clean and dry the surface for obtaining the maximum bond strength. Ideal application temperature is from +21°C to +38°C (+70°F to +100°F). Installation at temperatures below 10°C (50°F) is not recommended. Backside adhesive is not the optimal attachment method in most extreme temperatures.

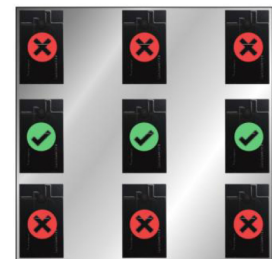
2. Other adhesive fixings

- Polyurethane adhesives
- Epoxies
- Silicone sealants

There are several high temperature resistant structural adhesives available. We recommend contacting adhesive suppliers for recommendations and exact fixing instructions. When tag is attached with structural adhesive, insert a layer of adhesive under the tag and press the tag on

the surface. Adhesive type and thickness may influence tag performance. In general, more than 1mm layer of adhesive under the tag should be avoided.

When attaching the tag on the metallic asset please ensure there is always metal left on top and below the tag for optimal performance.



Polarization of **Beontag Heatwave Tough** is as shown below. This should be considered when using linear reader antennas.



**Order information**Product number: **3004164**Product Name: **Beontag Heatwave Tough 7xm ETSI**Product number: **3004163**Product Name: **Beontag Heatwave Tough 7xm FCC**

For other versions, additional information and technical support please contact Beontag.

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From the science of graphic and label materials, RFID and wireless IoT enablers, we create solutions across the value chain to deliver digital transformation for businesses around the world.

Sustainability is at the core of what we do and we strongly believe that by substituting non-renewable materials and innovating through more sustainable and renewable products, we act as an ESG enabler for our customers' value chain.

Beontag is one of the world's leading providers of RFID and wireless IoT solutions, being present in more than 40 countries with 7 R&D centers and 2,000 employees, in constant development of technological and sustainable solutions designed to connect items, and gain efficiency and end-to-end traceability

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