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ABT83 Product Specification

1. Operation Theory

ABT83 is an RFID Active Tag is equipped with built-in battery as its power source. User can replace the battery (CR2032). It works together with our RFID Simple Reader models AB304, AB305 and AB305X. It can continuously operating for about 1 years. By design, it will wake up and transmit its ID code 3 times every second. Since the duration of the transmitted pulse is very short, the power consumption is extremely low. When a reader , for example AB305X, receives the transmitted signal from RFID active tag, Reader will decode and upload the data to Host PC for system application usage.

2. General Features of Active Reader AB305/ AB305X:

Items	Description
Read Rate	Advance Anti-collision to improve Tag IDs reception. Read Rate can achieve up to 100 tags/second
Read Speed	The read speed can tolerate up to 200km/hour.
Security	All data transmission are with encryption
Technology	Use advance 0.18um fabrication process
Directivity	Omni-direction with dipole antenna

3. ABT83 Electrical Specifications :

Items	Description
Standby Current	< 3uA
Operation Current	< 15mA
Battery Life time	1 years (typical)
Wake Up Frequency	3 times / second

4. ABT83 Radio Frequency Specifications :

Items	Description
Modulation	GFSK
Transmit rate	1024 Kbit/s (bi-direction)
Carrier Frequency	2.45GHz
Output Power	10 dBm (typical)
Range	< 80 metre
BER	10^{-9}

5. ABT83 Physical specifications:

Items	Description
Chassis Material	High Temp ABS
Tag Accessibility	Read Only
Dimension	60 mm * 36 mm * 8 mm
Weight	15g
Color	Black (default)
Installation	Key chain

6. ABT83 Operation Conditions

Items	Description
Operating Temperature	-20 ~ +60 degree Celsius
Operating Humidity	< 85%
Storage Temperature	-40 ~ + 80 degree Celsius
Vibration	10 ~ 2000 Hz , 15g 3 axles
Drop Test	Free falling, 1000mm Concrete , 2 times per faces
EMI	10V/m 0.1 ~1000MHz, AM modulation

7. ABT83 Battery Installation :

Step 1 : Open the chassis

User can open the chassis with a small cutter as shown in below photo. First to insert the cutter edge into the parking gap, and then slightly twist the cutter so that the top and bottom plastic to separate slower.

Step 2: Install Button cell CR2032

User need to prepare for one piece of button cell (part number CR2032) because the package is not include this part as shown below

Step 3: Pull-out the PCB board

Please use the left hand fingers to pull-out the PCB board so that the right hand side is slightly out of the chassis. Then use the right hand to insert the button cell into the CR2032 battery holder as shown below.

Step 4 : Complete and close the chassis

After inserting the button ell CR2032, the ABT83 operates immediately. Please close the chassis by pressing both the top and bottom parts together

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