

1-Wire iButton

Overview

The DS1990A serial number iButton® is a rugged data carrier that serves as an electronic registration number for automatic identification. Data is transferred serially through the 1-Wire® protocol, which requires only a single data lead and a ground return. Every DS1990A is factory lasered with a guaranteed unique 64-bit registration number that allows for absolute traceability. The durable stainless-steel iButton package is highly resistant to environmental hazards such as dirt, moisture, and shock. Its compact coin-shaped profile is self-aligning with mating receptacles, allowing the DS1990A to be used easily by human operators. Accessories enable the DS1990A iButton to be mounted on almost any object, including containers, pallets, and bags.



Features

- Driver authorization
- Immobilizer
- Auto - Geofencing
- Can be read in less than 5ms
- Operating range: 2.8V to 6.0V, -40°C to +80°C
- Unique factory-lasered 64-bit registration number ensures error-free device selection and absolute traceability because no two parts are alike.
- Economically communicates to bus master with a single digital signal at 16.3kbps.
- Button shape is self-aligning with cup-shaped probes.

Absolute maximum Rating

IO Voltage Range to GND..... -0.5V to +6.0V
Junction Temperature..... 125°C
IO Sink Current..... 20mA
Storage Temperature Range..... -55°C to +125°C

Technical Specifications

PARAMETER	MIN	TYP	MAX	UNITS
1-Wire Pull-up Voltage	2.8			V
1-Wire Pull-up Resistance	0.6			K
Input Capacitance		100		pF
Input Lead Current		0.25		µA
Input Low Voltage			0.3	V
Input High Voltage	2.2			V
Output Low Voltage at 4mA			0.4	V
Operating Charge		30		nC
Recovery Time	1			µs
Time Slot Duration	61			µs