

TiF-MEMRiSTOR Chip Carrier – Data Sheet –



• Description

The TiF-MEMRiSTOR Chip Carrier contains a (TiF)-Memristor Chip with 08-16 single memristors packaged in a plastic lid closed printed circuit board as carrier. The novel Memristor device provides a non-linear behavior in parameter space $U(t) \sim I(t)$ as well as a temporal dependency of both variables. The latter provides a stationary and persistent memristor state, which can be utilized to store information. Memristors on the TiF-MEMRiSTOR Chip Carrier typically show a current-voltage single-hysteresis. The TiF-MEMRiSTOR Chip Carrier has a size of 14.1 mm × 35.8 mm × 3.0 mm (maximum height including lid) and can be plugged into the TiF-MEMRiSTOR Measure Kit. Inserting and removing the TiF-MEMRiSTOR Chip Carrier is facilitated by its grip hole on the upper side.

Scope of Delivery

(i) TiF-MEMRiSTOR Chip Carrier, (ii) Data Sheet

Main Features

Easy Plug and Unplug The TiF-MEMRiSTOR Chip Carrier has an ergonomically formed grip hole on the upper side for easy plugging into and unplugging from the TiF-MEMRiSTOR Measure Kit.

Reverse Polarity Detection The TiF-MEMRiSTOR Chip Carrier provides a reverse polarity detection, when used inside the TiF-MEMRiSTOR Measure Kit. It allows the user to identify, if the TiF-MEMRiSTOR Chip Carrier was plugged correctly into the Measure Kit.

Multiple Memristors in one package The TiF-MEMRiSTOR Chip Carrier holds 08-16 single memristors in one package.

Basic Operation

1. The 08-16 single memristors on the TiF-MEMRiSTOR Chip Carrier 08 can be analyzed with the TiF-MEMRiSTOR Measure Kit.
2. For further information on how to operate the TiF-MEMRiSTOR Chip Carrier 08-16 within the TiF-MEMRiSTOR Measure Kit please see the Quick Start Guide for TiF-MEMRiSTOR Measure Kit.

Technical Specification

The 08-16 single TiF-Memristors in the TiF-MEMRiSTOR Chip Carrier show a typical current-voltage single-hysteresis. Maximum values for voltage and current, should not exceed the values indicated in Table.1.

Table 1: Maximum Ratings
(at ambient conditions, $T = 25^\circ\text{C}$)

Item	Value
Maximum forward voltage	5 V
Maximum reverse voltage	5 V
Maximum current	0.01 mA

Precautions

Special precautions shall be undertaken to prevent the TiF-MEMRiSTOR Chip Carrier from damage:

- Electrostatic Discharge (ESD)
- Temperature and Heat
- Sun Irradiation

Please read the Quick Start Guide of the TiF-Memristor Measure Kit to characterize the single memristors of the TiF-MEMRiSTOR Chip Carrier properly using the TiF-MEMRiSTOR Measure Kit.

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