

File E235993  
Project 05NK28906

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REPORT

on

COMPONENT - INTRINSICALLY SAFE EQUIPMENT AND SYSTEMS  
FOR USE IN HAZARDOUS LOCATIONS

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Dallas, TX

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## DESCRIPTION

## PRODUCT COVERED:

Component - Touch Memories Models DS1904L, DS1921G, DS1922L, DS1922T, and DS1923, intrinsically safe for use in Class I, Groups A, B, C and D Hazardous Locations.

## GENERAL:

The products covered by this Report are designed to allow for storage and retrieval of information by touching the product's enclosure with a wand interface and computer approved under the entity concept and meeting the electrical ratings marked on the products. The products have been approved under the entity concept. The battery circuit also provides protection from a reverse charging current into the battery.

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

Use - For use only in products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability - Consideration should be given to the following when the acceptability of these devices in specific applications.

1. These devices are intended for use as components in circuits where the case temperature is not expected to exceed: 70°C for model number DS1904L; 85°C for models DS1921G, DS1922L, and DS1923; and 125°C for model number DS1922T, suitable for T4 temperature code and the voltage on any pin relative to ground is a maximum of 7 V dc. Reverse charge current under these conditions is negligible.

2. These devices are provided with the applicable reverse charging current protection circuit.

3. All applicable markings relative to the requirements for intrinsically safe equipment and circuits shall be satisfied by the completed product.

4. All electrical spacings pertinent to intrinsic safety shall be maintained in the completed product in which the device is mounted.

5. Where the completed product specifies and provides live maintenance procedures, the word "WARNING" and the following or equivalent: "To prevent ignition of flammable or combustible atmospheres, read, understand, and adhere to the manufacturer's live maintenance procedures."

## RATINGS:

## Models DS1904L

Vmax = 7 V dc      Voc = 3.45 V dc  
Imax = 67 mA      Isc = 57.4 mA  
Li = 0 uH  
Ci = 0 nF

Temperature range from -40°C to +70°C

## Model DS1921G

Vmax = 7 V dc      Voc = 3.45 V dc  
Imax = 67 mA      Isc = 57.4 mA  
Li = 0 uH  
Ci = 0 nF

Temperature range from **-40°C to +85°C**

## Model DS1922L

Vmax = 7 V dc      Voc = 3.45 V dc  
Imax = 67 mA      Isc = 57.4 mA  
Li = 0 uH  
Ci = 0.264  $\mu$ F

Temperature range from **-40°C to +85°C.**

## Model DS1922T

Vmax = 7 V dc      Voc = 3.45 V dc  
Imax = 67 mA      Isc = 57.4 mA  
Li = 0 uH  
Ci = 0.264  $\mu$ F

Temperature range from 0°C to +125°C.

## Model DS1923

Vmax = 7 V dc      Voc = 3.45 V dc  
Imax = 67 mA      Isc = 57.4 mA  
Li = 0 uH  
Ci = 12.186  $\mu$ F

Temperature range from **-20°C to +85°C.**

Values for Ca and La must be assessed as part of the evaluation of the end-use device.