RESISTANCE THERMOMETERS AND DIODE TEMPERATURE SENSORS

Areas of Application

The resistance thermometers and diode sensors are to be used in static and dynamic temperature measurements in cryogenic liquefiers and storage tanks, in devices for magnetic resonance imaging and diagnostics of superconducting magnet systems, in space and rocket industry, cryogenic medicine, research laboratories, and universities

Specification

Operating temperature range: 0.03 – 500 K (resistance thermometers) and 1.5 – 450 K (diode sensors). Types of sensor packages: cylindrical package (3 mm in diameter and 5.0 mm long), CP package; micropackage (1.2 mm in diameter and 1.0 mm long), MP package; micropackage on plate, MPP package. Thermal response time: <1 ms at 4.2 K (MP package)



Micropackage (MP version)



Cylindrical package (CP version)



Typical resistance temperature dependences of various thermometers

Stage of Development. Suggestions for Commercialization

IRL7, TRL7 Manufactured upon request

Advantages

There are no analogs in Ukraine. As compared with the world counterparts: the smallest cryogenic temperature sensor in the world (MP package); wider operating temperature range; higher sensitivity; excellent interchangeability for diode sensors. The devices comply with the standard calibration curve with a high accuracy; the resistance thermometers have small temperature reading errors in magnetic fields; notable for a high radiation tolerance and a fast response to temperature changes

IPR Protection

IPR1, IPR2, IPR3

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