

September 8, 2020

Mitsubishi Materials Corporation

Super-thin, Quick and Accurate, FPC thermistor sensor developed

Mitsubishi Materials Co., Ltd. (President: Naoki Ono, capital: ¥119.4 billion) has developed and started shipping samples in July of a flexible thermistor sensor that responds faster, has higher accuracy, is thinner than conventional thermistors, and operates even when bent.

Thermistors are electronic components that allow temperature to be measured and are used in many devices surrounding us in our daily lives, such as smartphones, automobiles, motorcycles, air conditioners, and refrigerators. They generally are used to monitor devices to sense if they are getting too hot and might fail. In recent years smaller devices require temperature sensors to be lighter, smaller, and thinner while also being quicker to respond and more accurate.

We developed a previous version of this thermistor for vehicle battery modules in 2019, but our new version responds approximately 7 times more quickly and has twice the thermal accuracy. The previous version was built into a 4mm plastic case, but this new version places the thermistor element on top of the FPC (Flexible PCB) and it has a maximum thickness of 0.5 mm where the thermistor element is. Our new FPC is flexible and can be bent around complex shapes and inserted into tiny spaces. This sensor is expected to be used in a wide range of applications from automotive to medical and wearable devices that come into contact with the human body. This sensor is RoHS-compliant and has lead-free solder and other compliant materials in it.

Our corporate slogan is "For People, Society and the Earth", and we contribute to a sustainable society by using unique technology and through creating new materials for people, society, and the world. We will continue to contribute to the building of a prosperous society by rapidly providing customers with unique electronic components.

Picture of front



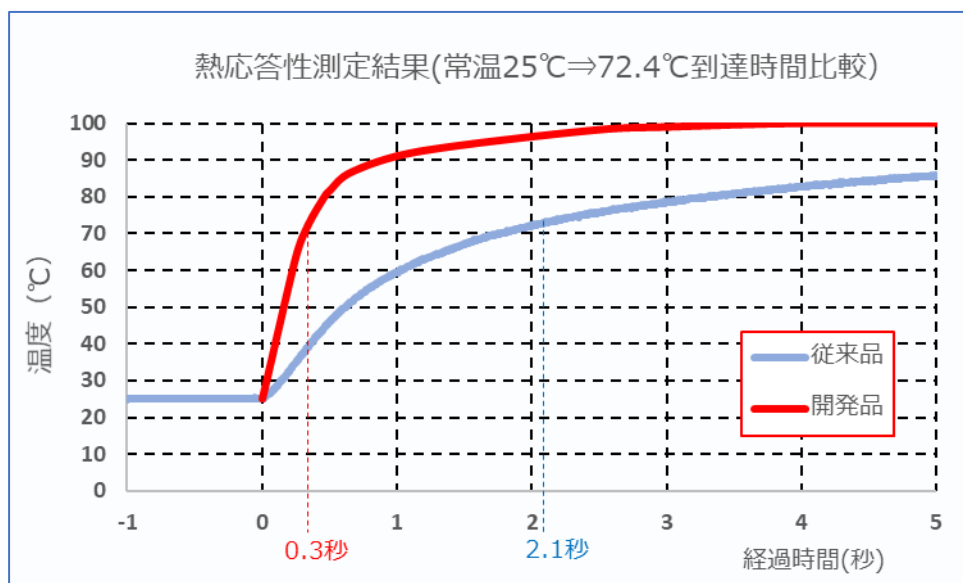
Picture of rear



DCS Series

Length	32mm
Width	4.4mm
Thickness	0.5mm _{max}
Operating temp	-40 to 125°C
Resistance @ 25°C	10kΩ ± 0.5%
B _{25/50}	3380K ± 0.3%
B _{25/85}	3395k ± 0.3%
Thermal time τ	0.5s
Heat dissipation δ	1.5mW/°C
RoHS compliant	

Sensor Response time



(Blue is previous sensor, Red is current sensor)

Mitsubishi Materials U.S.A. Corporation

TEL: +1-847-252-6360

Email: ml-mmusdvs1@mmc.co.jp