FIBER OPTIC TEMPERATURE SENSOR
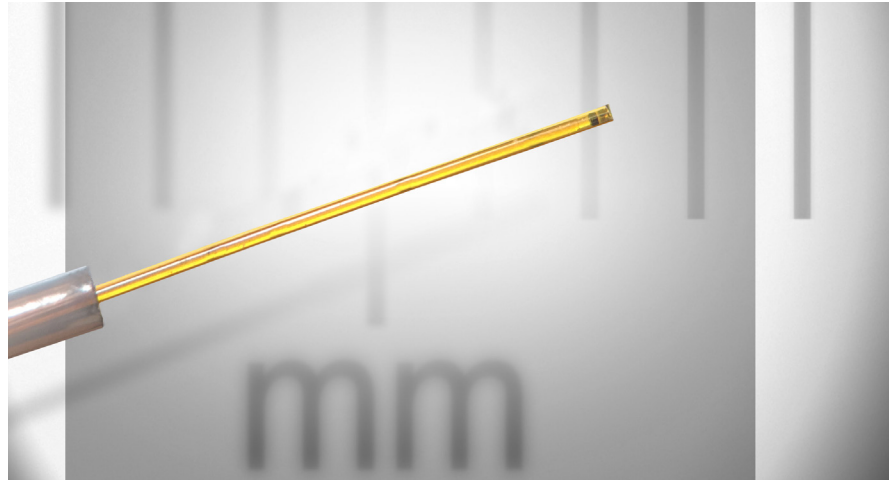
FAST RESPONSE TIME GaAs-BASED FIBER OPTIC TEMPERATURE SENSOR FOR POWER ELECTRONIC

OTG-I220 Compatible with Opsens Solutions' GaAs (SCBG) signal conditioners

DESCRIPTION

The OTG-I220 is made with industry standard optical fiber and is compatible with all Opsens Solutions' GaAs (SCBG) signal conditioners. Its small size and fast response time are perfectly tailored for complicated instrumentation projects, such as those related to **power semiconducto**r devices.

The **smart retractable design** protects the sensor head during cable manipulation and test preparation. Once ready for instrumentation, the sensor head is exposed to reach the surface to monitor. Protected by a small but robust polyimide tubing, the sensor head has the required rigidity to pierce easily through silicon gel to position the sensor on a precise location of a die or a circuit board.

Such extra protection does not limit sensor flexibility: the cable can still be **wrapped around a finger**. And it will not impair response time by much: sensor will detect temperature within 30 ms approximately.
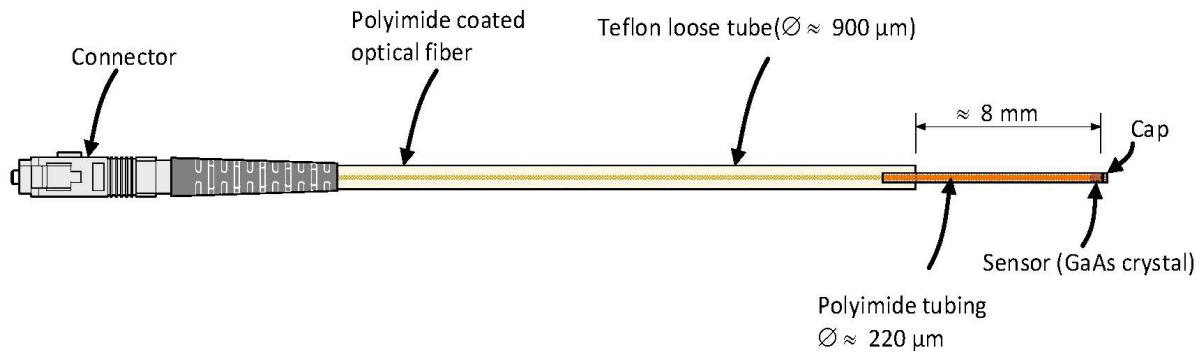
Delivering unprecedented repeatability and reliability in the most adverse conditions such as high levels of EM, RF, MR and microwave field environments, the sensor is deployed in many power electronics modules or converters for quality control, reliability assessment, or permanent surveillance of those critical devices.

APPLICATIONS

- Detection of fast temperature transient
- Thermal stress analysis
- High voltage environments
- Junction temperature evaluation of transistor

- Temperature mission profile of power modules
- Quality control of integrated circuit
- Thermal modeling assessment
- Active monitoring of power electronics during service

opSens Solutions

Enlightenment through smart measurements

OTG-I220

FIBER OPTIC TEMPERATURE SENSOR

SPECIFICATIONS

TEMPERATURE OPERATING AND CALIBRATED RANGE	-40 °C to +250 °C (other ranges available upon request)
RESOLLUTION	0.05 °C
ACCURACY	± 0.8 °C or better (including both signal conditioner and sensor errors)
RESPONSE TIME	< 35 ms
OPERATING HUMIDITY RANGE	0-100 %
EMI/RFI SUSCEPTIBILITY	Complete immunity
CALIBRATION	NIST traceable
CABLE LENGTH	1.5 meters standard (other lengths available)
OPTICAL CONNECTOR	LCA, ST standard
CABLE SHEATHING	Teflon™ PTFE (other materials for sheathing available)
SIGNAL CONDITIONER COMPATIBILITY	All Opsens Solutions' GaAs (SCBG) signal conditioners