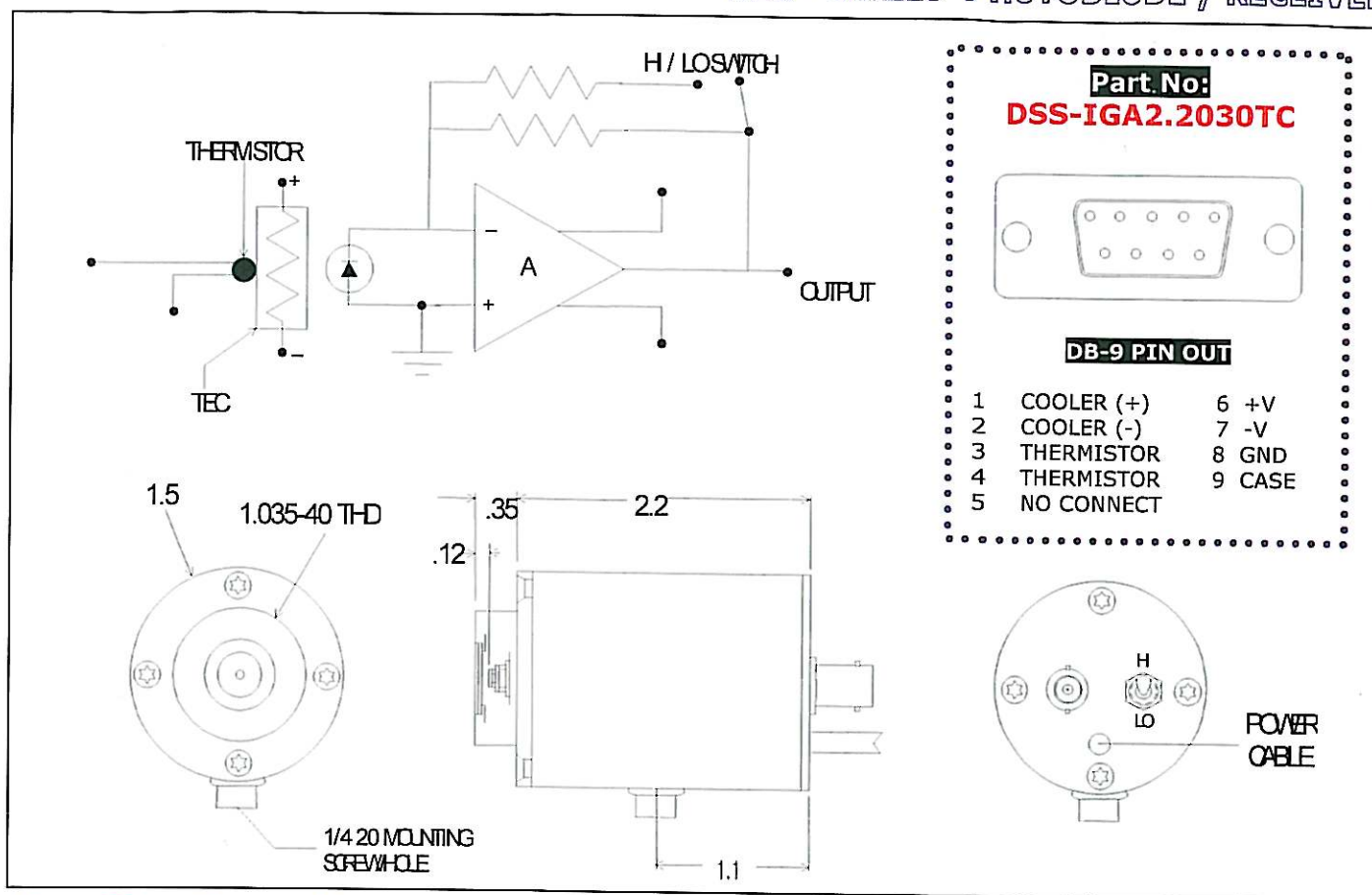


HORIBA JOBIN YVON

DSS - SERIES PHOTODIODE / RECEIVER



Application Note This unit is a high performance photodiode/receiver operated with a thermoelectric cooler for stabilization/cooling with a dual gain FET input transimpedance amplifier. The output voltage is proportional to the input signal current: $V_{out} = I_{signal} \cdot R_f$. The PD/AMP is a DC coupled dual gain system. Care should be taken in shielding the unit from stray light during operation to prevent saturation of the amplifier (and potential failure).

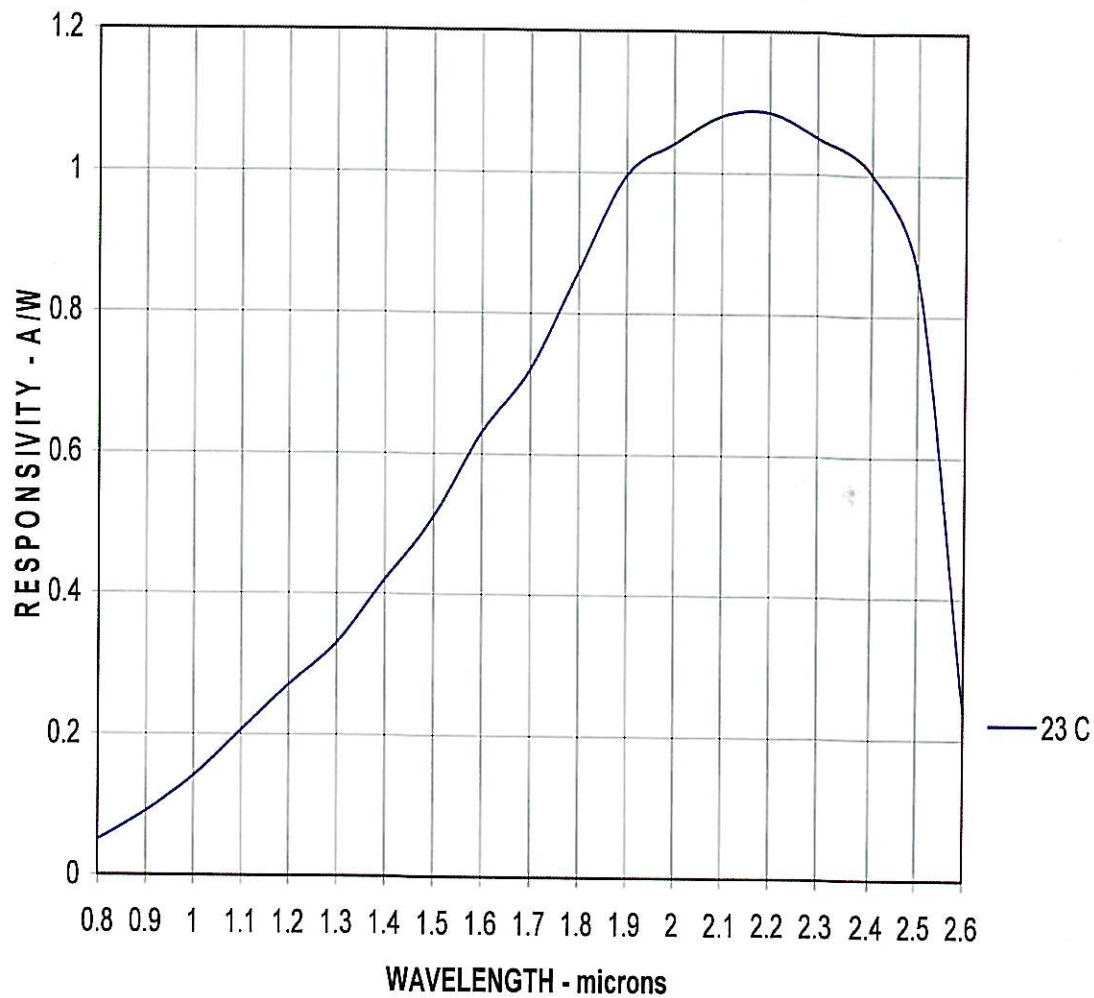
SPECIFICATIONS

Detector Type	3 mm ex-InGaAs Photodiode	
Operating Temperature - °C	25 @ $I_{tec} = 0.0$ A	-30 @ $I_{tec} = 0.6$ A
Operating Wavelength - μm	1.2 - 2.5	1.2 - 2.5
Responsivity - V/W @ pk	$1.2 \times 10^6 / 10^5$	$1.2 \times 10^6 / 10^5$
Noise - V/Hz ^{1/2} @ 100 Hz	$1.0 \times 10^{-7} / 10^{-6}$	$2 \times 10^{-6} / 10^{-5}$
NEP - W/Hz ^{1/2} @ 1.95 μm	$< 8.0 \times 10^{-12}$	$< 1.5 \times 10^{-12}$
Bandwidth (-3dB) - Hz	DC - 2k	DC - 2k
Power Requirements	+/- 9 VDC to +/- 15 VDC	
Connections	BNC signal output. Shielded power cable terminated with a DB-9 connector directly couples the unit with the PS/TC -1 Low Noise Power Supply.	

DSS-SERIES SPECTRAL RESPONSE

DSS-IGA2.2TC PHOTODIODES

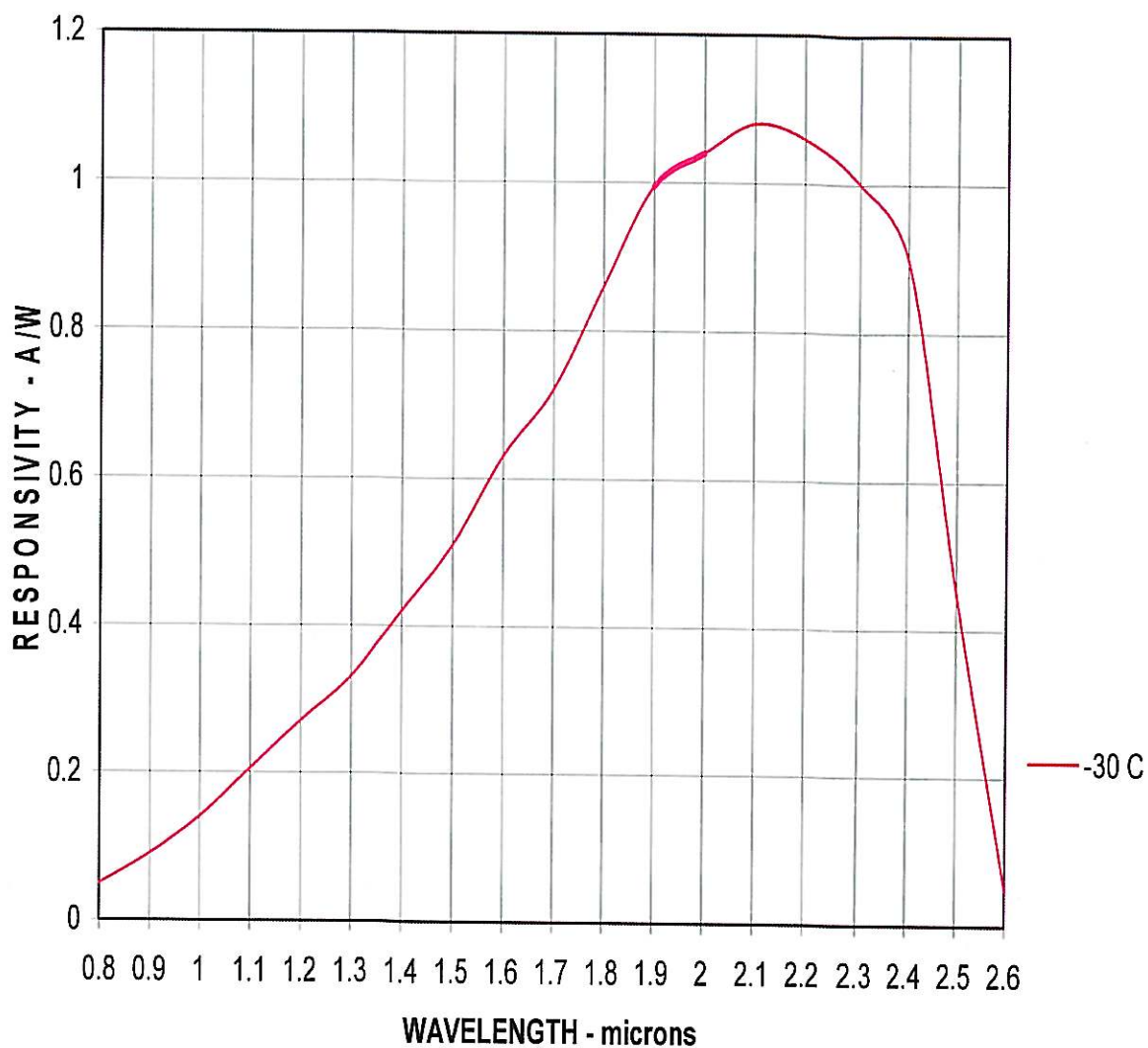
SPECTRAL RESPONSE - IGA2.2 AMBIENT-series



DSS-SERIES SPECTRAL RESPONSE

DSS-IGA2.2TC PHOTODIODES

SPECTRAL RESPONSE - IGA2.2 TC-series



OPERATING THE DSS-SERIES PHOTODIODE/RECEIVER

POWER SUPPLY: A bipolar power supply is required, $\pm 6\text{VDC}$ to $\pm 15\text{VDC}$, 20mA. This means a +V, central/common ground and a -V connection - 3 wires total, to pins 6, 7, & 8 on the D-sub connector. The power supply pins should be bypassed physically close to the amplifier module. Double check wiring prior to turning on power. Improper /reverse wiring will damage the unit.

GAIN SELECT: The unit is supplied with a switch which provides a 10:1 HI/LO gain function. HI Gain is the up position on the switch; LO Gain is the down position. Consult the individual data sheet for specific values.

AMBIENT LIGHT: Because of the high gains involved, the unit must be shielded from ambient background light during operation. Measurement errors and/or saturation can result from improper shielding.

OUTPUT CONNECTION: The signal output is thru a BNC connector (or BNC terminated cable in the case of the 2-color units) located on the back of the module.