

Technical data JonDeTech infrared thermopile sensor

Table 1. Technical data of the JonDeTech **JIRS3** infrared thermopile sensor.

Entity	Units	Value
Sensor model		JIRS3
Type of sensor		infrared
No. of thermopile elements		1
Width of full thermopile module	mm	3.0×3.0 (max 3.1×3.1)
Thickness of thermopile ^A	mm	0.20
Side of connection pads		back
Side of absorber layer		front
Thermopile module area	mm ²	9.0
Active thermopile area	mm ²	7.0
No. of thermocouples		152
Max allowed peak temp. (4 min)	°C	240
Max allowed temperature in continuous operation ^B	°C	125
Electrical resistance	kΩ	typ. 1 (max 3.0)
Responsivity (sensitivity) ^C	V/W	typ. 0.40 (min 0.30)
Voltage response ^D	Vmm ² /W	typ. 3.5 (min 3.0)
Specific Detectivity, D*	cm√Hz/W	1.5×10 ⁷ (min 1.0×10 ⁷)
NEP (noise equivalent power)	nW/√Hz	<20
Time constant ^E	ms	<20
S ₄₀ (obj. temp. 40°C, ambient 25°C)	μV/K	>12
S ₁₀₀ (obj. temp. 100°C, ambient 25°C)	μV/K	>14

^A Thickness of sensor including absorber layer and soldermask

^B Tested for 30 days_not fully validated

^C Determined without filter

^D Responsivity to irradiance with thermal mass on back side

^E The actual time constant depends on how sensor is mounted to the PCB board.

Notes on sensor geometry and landpattern

Sensor Drawing
(Scale 20:1)

