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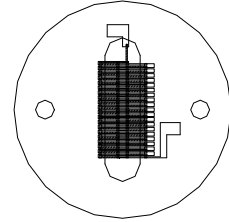
Thin Film Based Thermopile Detector

Features: A thin-film thermopile in a TO-5 package with an active area of 3.16mm x 0.4mm that offers low noise output.

Options: See [Standard Windows and Filters](#) for list of optical filter options. See [Thermopile Configuration Table](#) for more options.

Applications: Non-contact temperature measurement for industrial and medical, including infant incubators.

Benefit: Centered rectangular active area and low noise with moderate output.



Detector circuit overlay

Technical Specifications

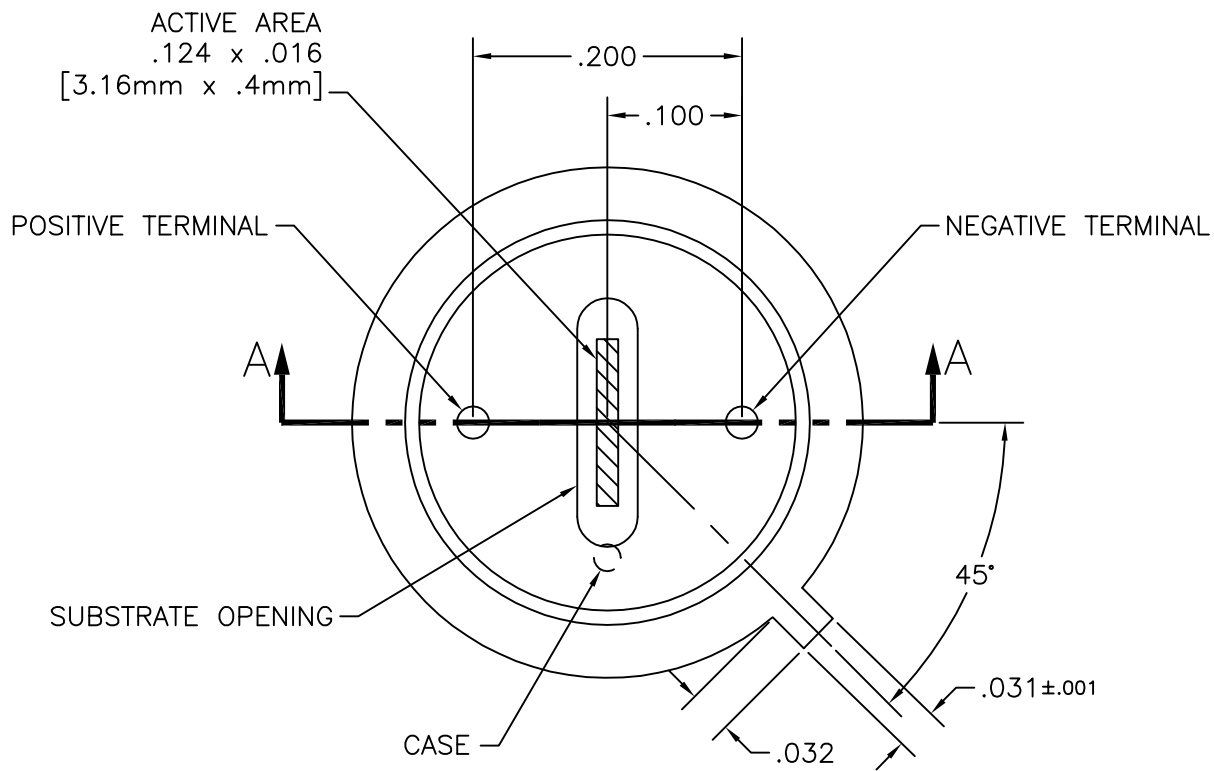
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Specifications apply at 23°C with KBr Window and Argon encapsulating gas

Parameter	Min	Typical	Max	Symbol	Units	Comments
Active Area size	3.16 x .4			AA	mm	Hot junction size, per element.
Element Area	1.264			A	mm ²	
Number of Junctions	40					Per element.
Number of Channels	1					Per detector package.
Output Voltage	90	115	130	V _s	μV	DC, H=330μW/cm ² (3)
Signal-to-Noise Ratio	6,429	10,088	16,049	SNR	√Hz	DC, SNR=V _s /V _n
Responsivity	21.6	27.6	31.2	ℛ	V/W	DC, ℛ=V _s /HA (2)
Resistance	4.0	8.0	12.0	R	kΩ	Detector element
Temperature Coefficient of ℛ		-36			%/°C	Best linear fit, 0° to 85°C (1)
Temperature Coefficient of R		-2			%/°C	Best fit, 0° to 85°C (1)
Noise Voltage	8.1	11.4	14.0	V _n	nV/√Hz	V _n ² =4kTR
Noise Equivalent Power	.26	.42	.65	NEP	nW/√Hz	DC, NEP= V _n HA/V _s (2)
Detectivity	1.7	2.7	4.3	D*	10 ⁸ cm√Hz/W	DC, D*=V _s /V _n H√A (2)
Time Constant		38		τ	ms	Chopped, -3dB point (1)
Field of View	NA			FOV	Degrees	Not Applicable
Package Type	TO-5 with 3 Pins					Standard package hole size: ∅.150"
Operating Temperature	-50		100	T _a	°C	

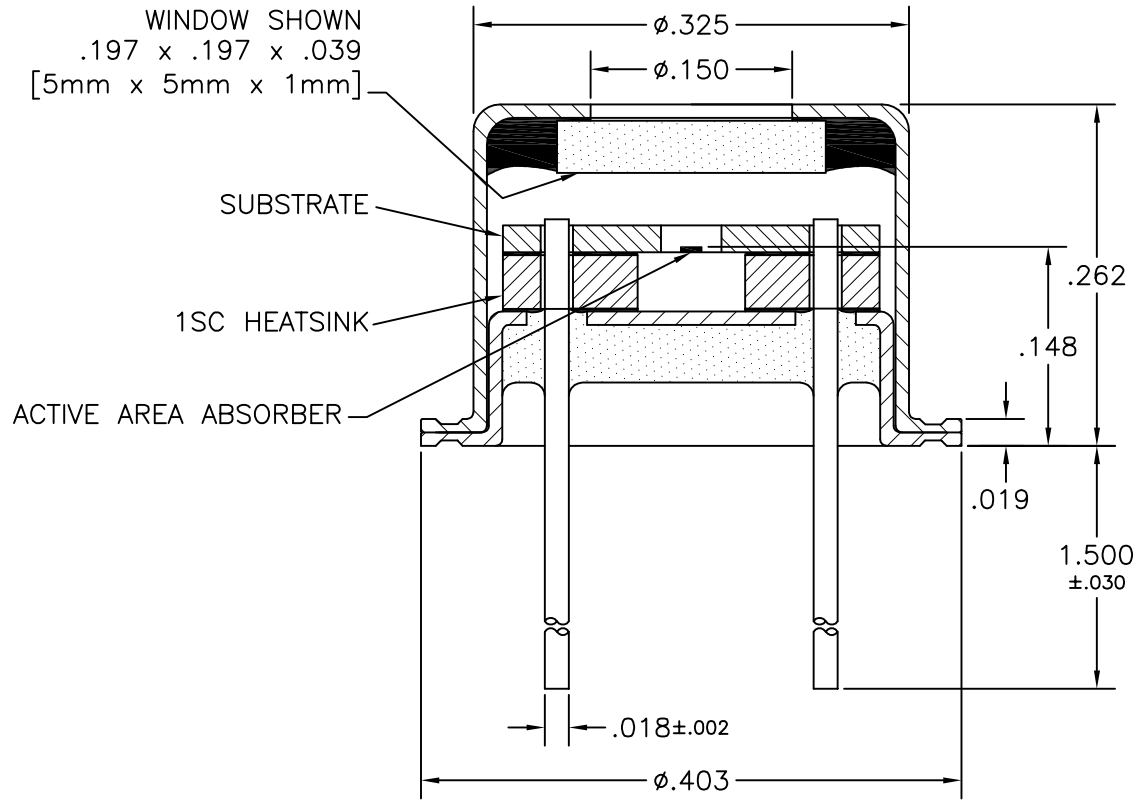
General Specifications: Flat spectral response from 100nm to > 100μm. Linear signal output from 10⁻⁶ to 0.1W/cm². Maximum incident radiance 0.1W/cm², damage threshold ≥ .5W/cm²

Notes: (1) Parameter is not 100% tested. 90% of all units meet these specifications. (2) A is detector area in cm². (3) Test Conditions: 500K Blackbody source; Detector active surface 10cm from 0.6513cm Diameter Blackbody Aperture.



TOP VIEW
WITHOUT COVER

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		DEXTER RESEARCH CENTER, Inc. 7300 Huron River Dr., Dexter, MI 48130, ph. 734-426-3921 fax 734-426-5090			
FRACTIONS ±	DECIMALS .XX ± .01 .XXX ± .005	ANGLES ±	ASSEMBLY, M34		
APPROVALS		DATE			
DRAWN:	DLJ	4/20/05			
CHECKED:					
ENGINEERED:					
APPROVED:					
SIZE:	SCALE:	DWG. NO.	REV.	PAGE:	
A	7" = 1"	1175.1	NC	1 OF 2	
DRC PART NO.		MATERIAL:		FINISH:	



SECTION A-A

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APPROVALS			DATE			
DRAWN: DLJ		11/18/14				
CHECKED:			SIZE: SCALE: DWG. NO. REV. PAGE:			
ENGINEERED:			A 7" = 1"		1175.2 B 2 OF 2	
APPROVED:			DRC PART NO. MATERIAL:		FINISH:	