



T34 Compensated

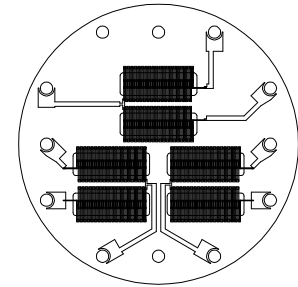
Thin Film Based Thermopile Detector

Features: A three-channel compensated (6 element) thin-film thermopile in a TO-8 package. Each active area is 3.16mm x 0.4mm. Offers thermal compensation to minimize effect of sudden ambient temperature change. Internal aperture minimizes channel-to-channel crosstalk while increasing sensitivity.

Options: 1) See [Standard Windows and Filters](#) for list of optical filter options. 2) Internal 30kΩ 5% NTC chip thermistor provides ambient package temperature measurement. See [Thermistor Options](#) p/n: MT04. See [Thermopile Configuration Table](#) for more options.

Applications: Gas analysis for automotive, environmental air quality, industrial and medical monitoring.

Benefit: 3-channels in a TO-8 package with moderate output.



Detector circuit overlay



T34

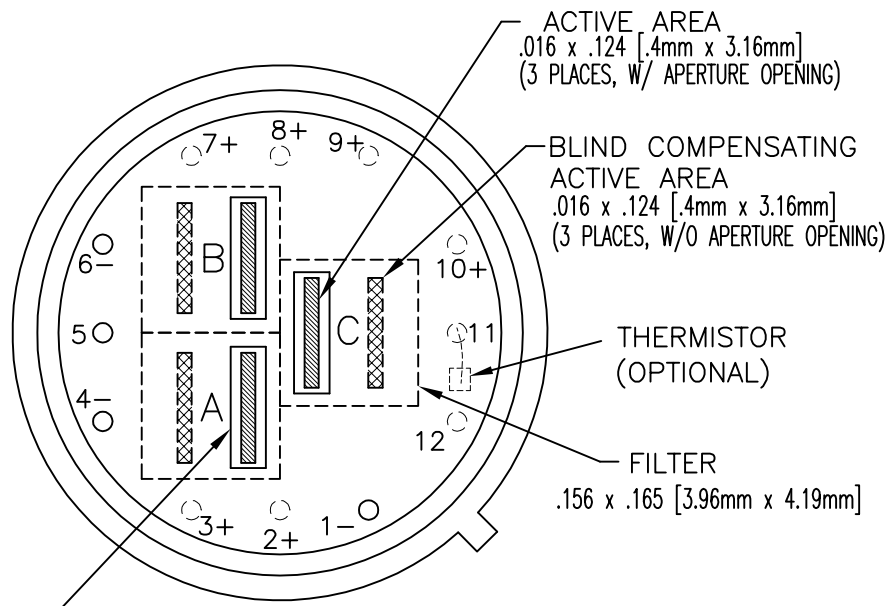
Technical Specifications

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	3 Compensated					Per detector package.
Output Voltage	90	115	130	V _s	μV	DC, H=330μW/cm ² (3)
Signal-to-Noise Ratio	4,545	7,099	11,404	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	8	16	24	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	11.4	16.2	19.8	V _n	nV/√Hz	V _n ² =4kTR
Noise Equivalent Power	.37	.59	.92	NEP	nW/√Hz	DC, NEP= V _n HA/V _s (2)
Detectivity	1.2	1.9	3.1	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-8 with 12 Pins					Standard package hole size: Ø.437"
Element Matching	5			ℳ	%	ℳ= V _A -V _B /V _B (2)
Element Separation	NA				mm	Center to Center
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.

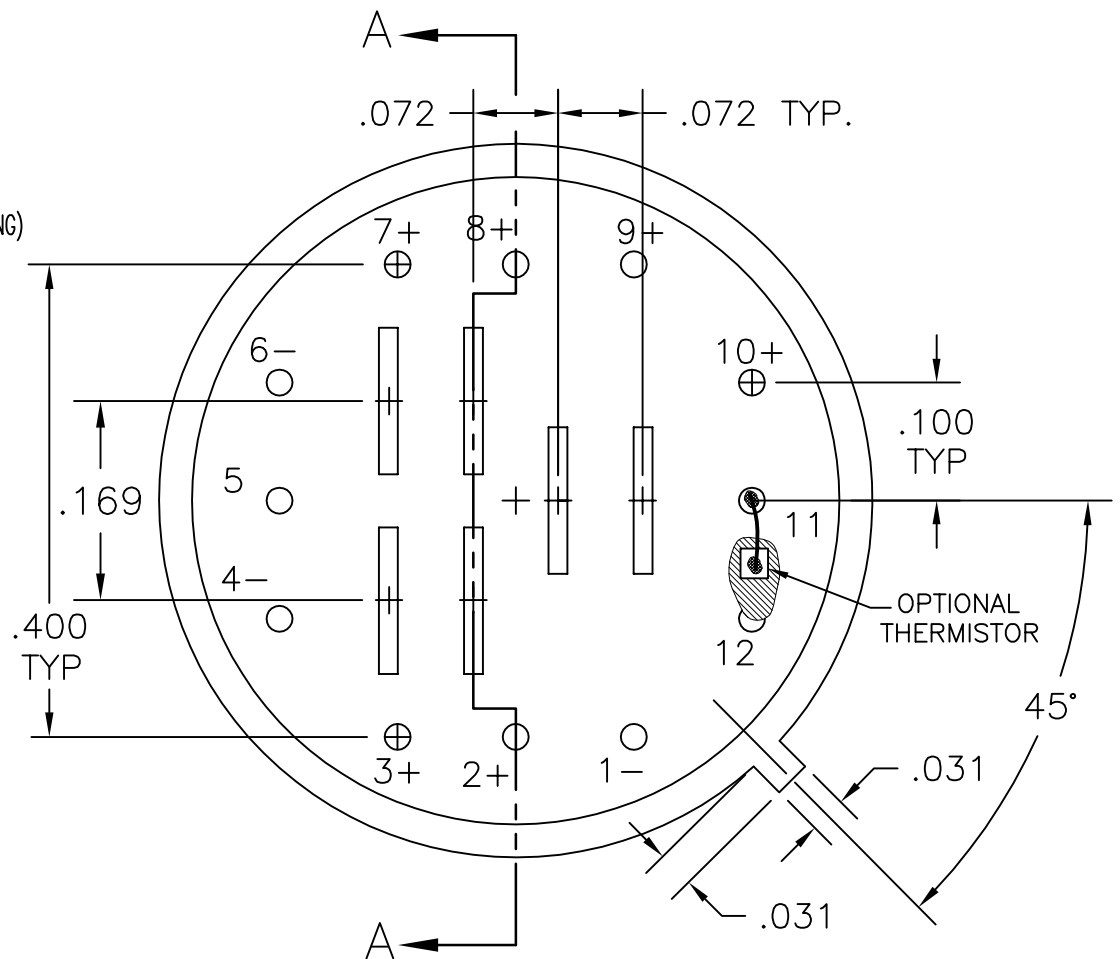


TOP VIEW
WITH APERTURE
WITHOUT COVER
.75X SCALE

PIN	ELEMENT	DESCRIPTION	P/N
2	A(ACTIVE)+		
3	A(BLIND)+		
7	B(BLIND)+		
8	B(ACTIVE)+		
9	C(ACTIVE)+		
10	C(BLIND)+		
1,4, 5,6	COMMON -		
11	THERMISTOR (OPTIONAL)		
12			

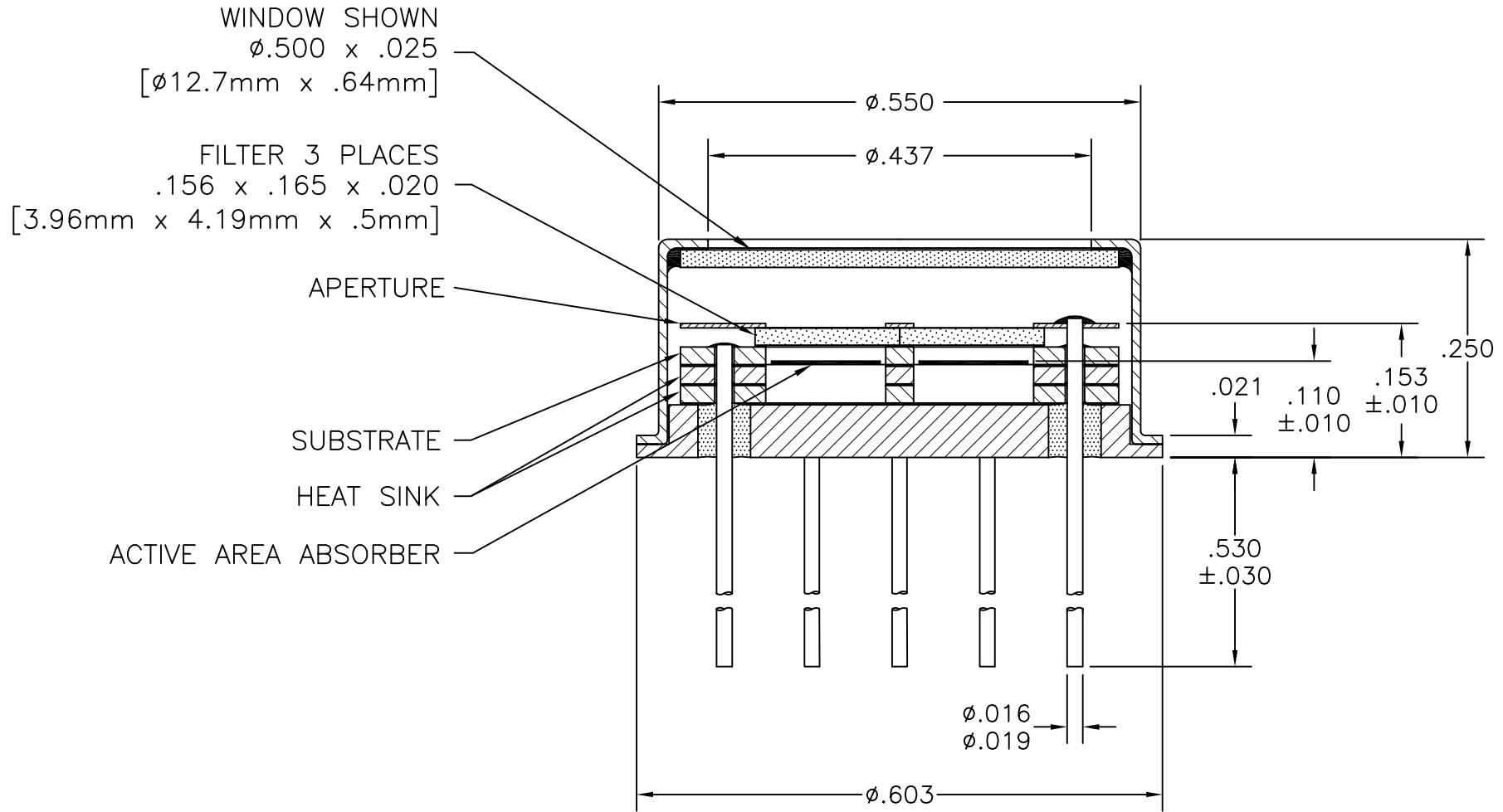
NOTES:

- 1-APERTURE SUPPORTED BY PINS 1,4,5,6
2-SOME FEATURES NOT SHOWN FOR CLARITY



TOP VIEW
WITHOUT COVER, FILTER, OR APERTURE

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. TOLERANCES ARE:		DEXTER RESEARCH CENTER, Inc.			
FRACTIONS ±		DECIMALS .XX ± .01 .XXX ± .005	ANGLES ±		7300 Huron River Dr., Dexter, MI 48130, ph. 734-426-3921 fax 734-426-5090
APPROVALS		DATE		ASSEMBLY, T34, RESISTANCE WELD, TOP VIEW	
DRAWN: DLJ		1/3/11		SIZE: A	SCALE: 6" : 1"
CHECKED:				DWG. NO. 1058.1	REV. D
ENGINEERED:				PAGE: 1 OF 2	
APPROVED:				DRC PART NO.	MATERIAL:
				FINISH:	



SECTION A-A

NOTES:
 SOME FEATURES NOT SHOWN FOR CLARITY.

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TOLERANCES ARE:		7300 Huron River Dr., Dexter, MI 48130, ph. 734-426-3921 fax 734-426-5090			
FRACTIONS	DECIMALS	ANGLES			
\pm	.XX \pm .01	\pm			
	.XXX \pm .005				
APPROVALS	DATE				
DRAWN: DLJ	12/16/10				
CHECKED:		SIZE: A	SCALE: 5.5 : 1	DWG. NO. 1058.2	REV. A
ENGINEERED:		MATERIAL:		PAGE: 2 OF 2	
APPROVED:					FINISH: