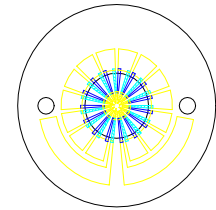


# DEXTER RESEARCH CENTER, INC.

## Model 1M

### Thin Film Based Thermopile Detector



<b>Technical Specifications:</b> Specifications apply at 23°C with KBr Window and Argon encapsulating gas						
Parameter	Min	Typical	Max	Symbol	Units	Comments
Active Area size	Ø1mm Dia.			AA	mm	Hot junction size, per element.
Element Area	.785			A	mm <sup>2</sup>	
Number of Junctions	15					Per element.
Number of Channels	1					Per detector package.
Output Voltage	50	60	80	V <sub>s</sub>	µV	DC, H=330µW/cm <sup>2</sup> (3)
Responsivity	19.3	23.2	30.9	R	V/W	DC, R=V <sub>s</sub> /HA (2)
Resistance	2.0	3.0	4.0	R	kΩ	
Temperature Coefficient of Responsivity		-36			%/°C	Best linear fit, 0° to 85°C (1)
Temperature Coefficient of Resistance		-.2			%/°C	Best fit, 0° to 85°C (1)
Noise Voltage	5.7	7.0	8.1	V <sub>n</sub>	nV/√Hz	V <sub>n</sub> <sup>2</sup> =4kTR
Noise Equivalent Power	.19	.30	.42	NEP	nW/√Hz	DC, NEP= V <sub>n</sub> HA/V <sub>s</sub> (2)
Detectivity	2.1	2.9	4.8	D*	10 <sup>8</sup> cm√Hz/W	DC, D*=V <sub>s</sub> /V <sub>n</sub> H√A (2)
Time Constant		32		T	ms	Chopped, -3dB point (1)
Field of View	56°/85°			FOV	Degrees	See Assembly Drawing for FOV Description.
Package Type	TO-5					Standard package hole size: Ø.150"

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

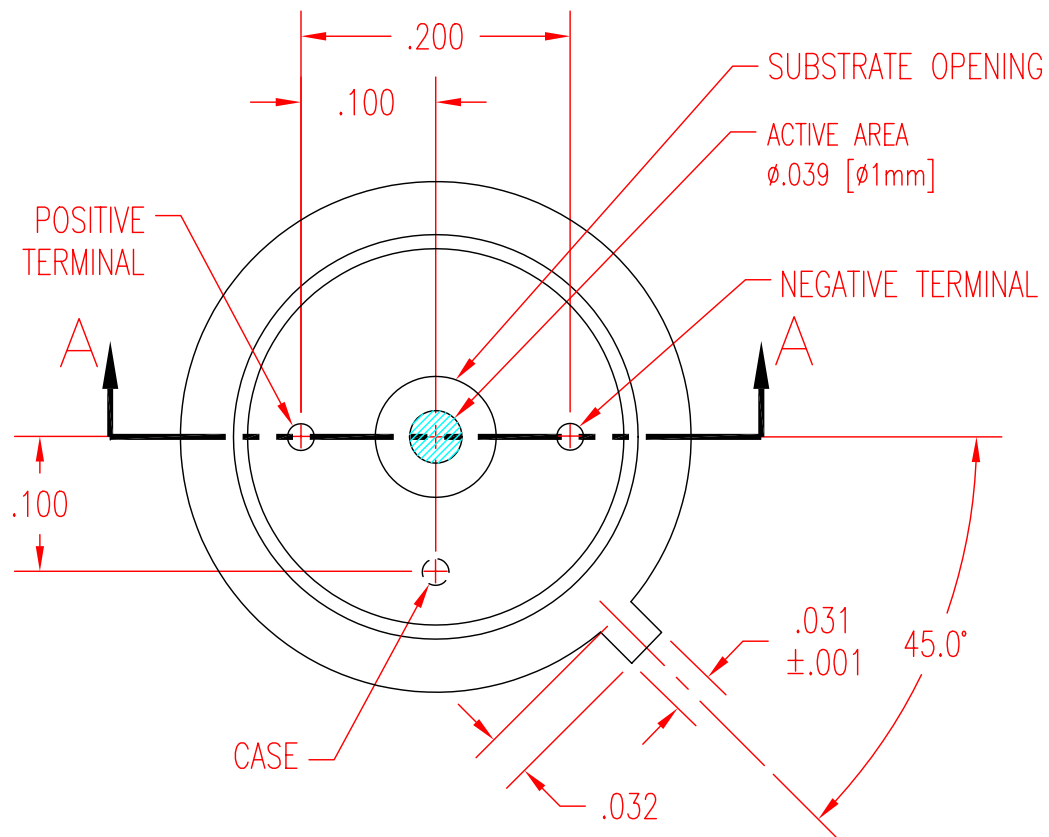
#### General Specifications:

- Flat Spectral Response: UV to Far IR
- Window Material: Over 100 filters in stock.
- Encapsulating Gas Options: Argon, Neon, Nitrogen, or Xenon.
- Operating Temperature Range: -50° to 85°C. Higher temperature range available.
- FOV: Dependent on Window material. Customize with package hole and internal aperture.
- Signal Output: Linear from 10<sup>-6</sup> to .1W/cm<sup>2</sup>
- Maximum Incidence: .1 W/cm<sup>2</sup>

Postal Mail: 7300 Huron River Drive  
Dexter, MI 48130 U.S.A.

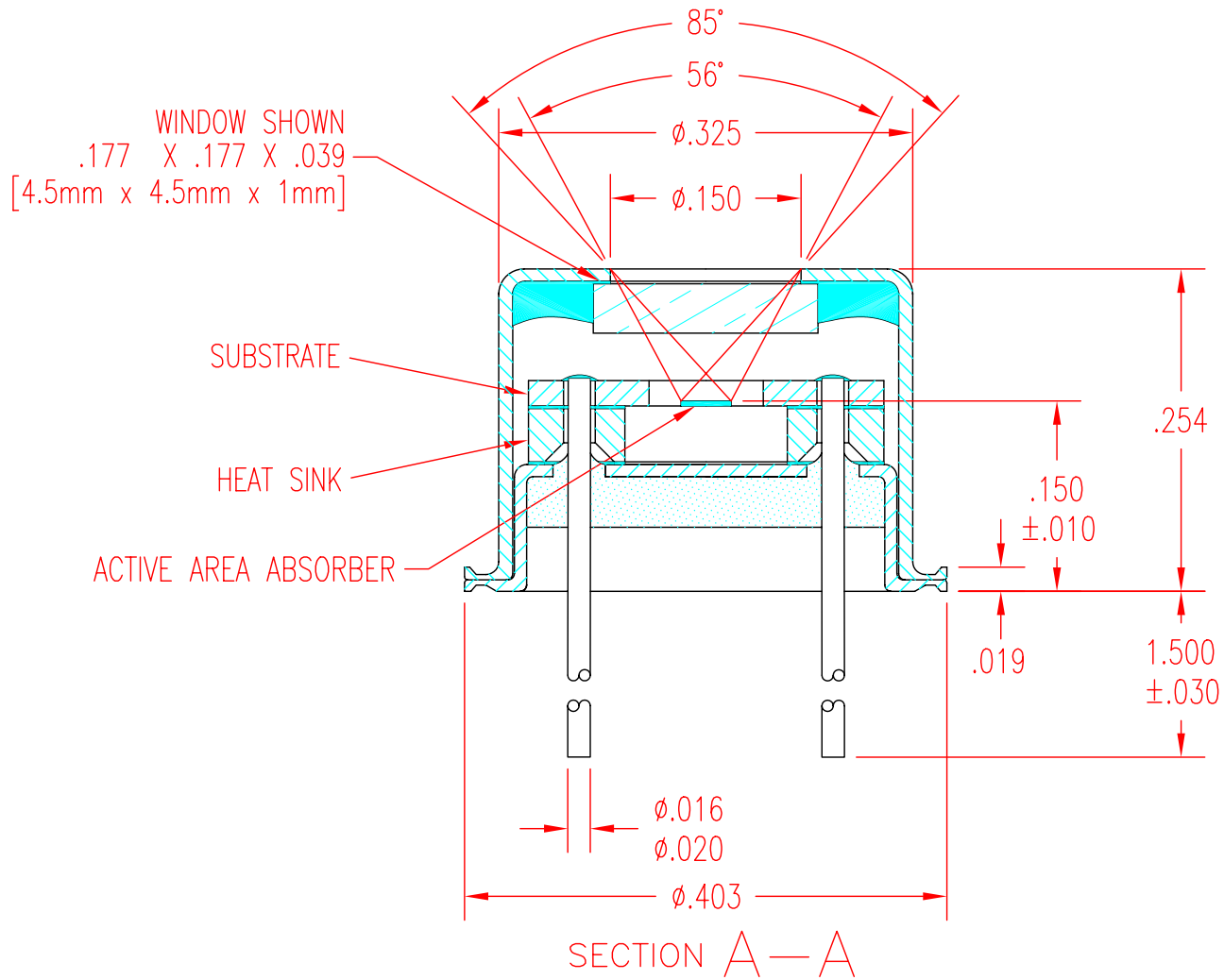
Phone: 734-426-3921  
Fax: 734-426-5090

Email: Sales@DexterResearch.com  
Web: WWW.DexterResearch.com



TOP VIEW  
WITHOUT COVER

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.		DEXTER RESEARCH CENTER, Inc.			
TOLERANCES ARE:		7300 Huron River Dr., Dexter, MI 48130, ph. 734-426-3921 fax 734-426-5090			
FRACTIONS ±	DECIMALS .XX ± .XXX ± .005	ANGLES ±	ASSEMBLY, 1M w/ HEAT SINK, TOP VIEW		
APPROVALS	DATE	SIZE: A	SCALE: 7" = 1"	DWG. NO. 1035.1	REV. PAGE: A 1 OF 2
DRAWN: DLJ	9/22/00	DRC PART NO.		MATERIAL:	FINISH:
CHECKED:					
ENGINEERED:					
APPROVED:					



UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES.

TOLERANCES ARE:

FRACTIONS	DECIMALS	ANGLES
$\pm$	$.XX \pm$	$\pm$
	$.XXX \pm .005$	

APPROVALS	DATE
DRAWN: DLJ	9/20/00
CHECKED:	
ENGINEERED:	
APPROVED:	

DEXTER RESEARCH CENTER, Inc.  
 7300 Huron River Dr., Dexter, MI 48130, ph. 734-426-3921 fax 734-426-5090

ASSEMBLY, 1M w/ HEAT SINK,  
 CROSS SECTION

SIZE: A	SCALE: 7" = 1"	DWG. NO. 1035.2	REV. A	PAGE: 2 OF 2
DRC PART NO.		MATERIAL:	FINISH:	