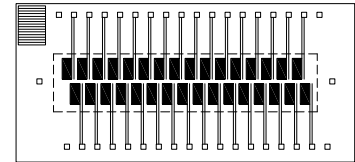




SLA32

Silicon Based Thermopile Detector

Features: A 2 x 16 staggered element silicon-based thermopile array. Each active area is 0.05mm x 0.65mm with a time constant of 7ms and a very low Temperature Coefficient of Responsivity of -0.01%/°C. It is packaged in a 38-pin DIP.



Detector circuit overlay

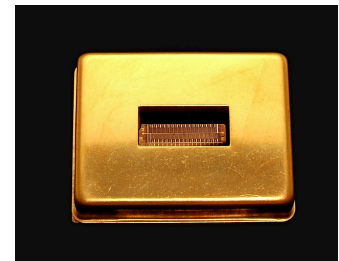
Options: 1) See [Standard Windows and Filters](#) for list of optical filter options. 2) Two internal 30kΩ 5% NTC chip thermistor provides ambient package temperature measurement. See [Thermistor Options](#) p/n: MT04.

Applications: Spectral analysis and line temperature measurements.

Benefits: A proven design with no readout electronics.

Export License Required

Not Currently RoHS Compliant



SLA32

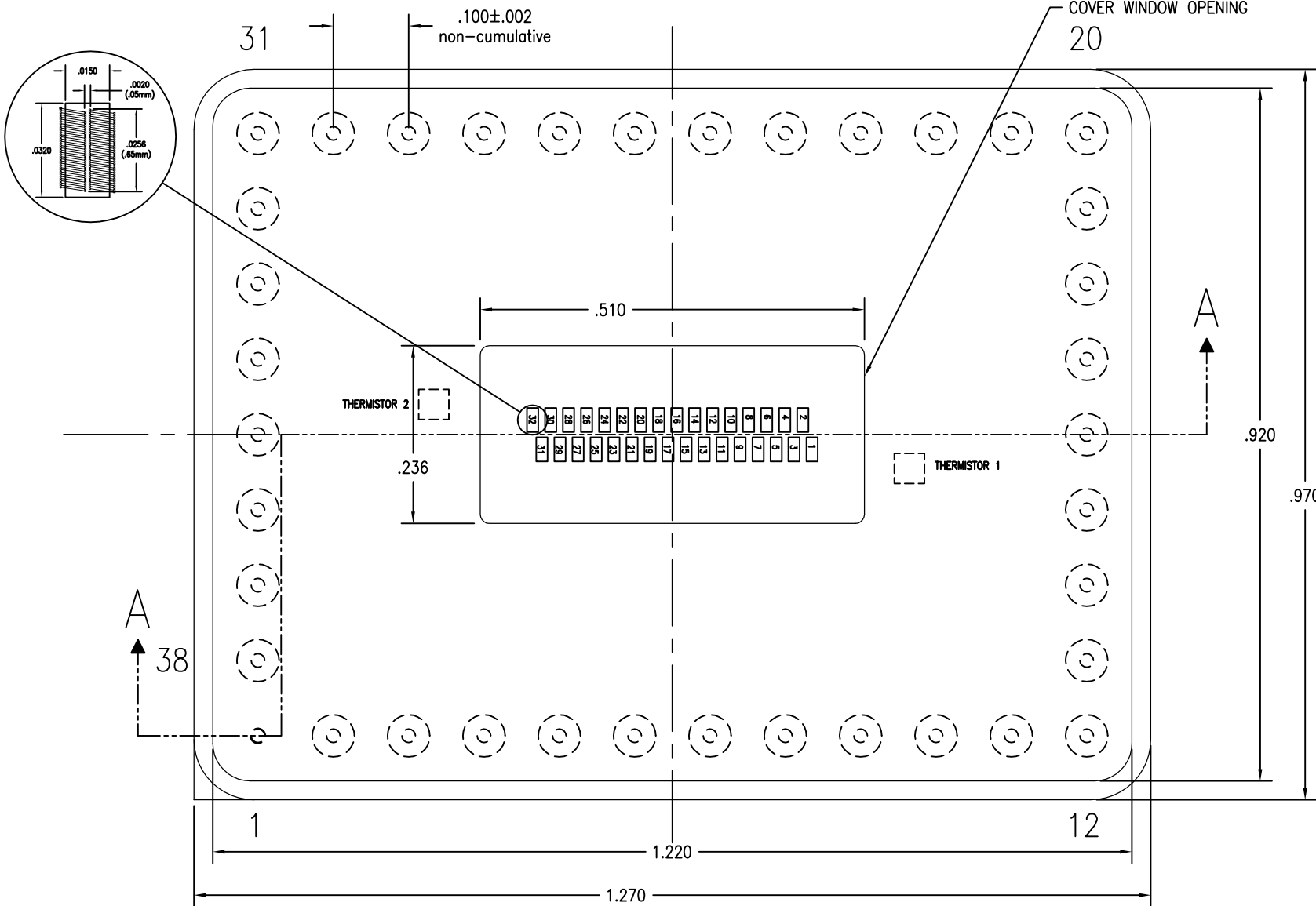
Technical Specifications

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

Parameter	Min	Typical	Max	Symbol	Units	Comments
Active Area size	0.05 x 0.65			AA	mm	Hot junction size, per element.
Element Area	.0325			A	mm ²	
Number of Junctions	74					Per element.
Number of Channels	2 x 16 staggered					Per detector package.
Output Voltage	10.0	14.8	20.0	V _s	μV	DC, H=330μW/cm ² (3)
Signal-to-Noise Ratio	250	423	741	SNR	√Hz	DC, SNR=V _s /V _n
Responsivity	93.2	138.0	186.5	ℜ	V/W	DC, ℜ=V _s /HA (2)
Resistance	45	76	100	R	kΩ	Detector element
Temperature Coefficient of ℜ		-.01			%/°C	Best linear fit, 0° to 85°C (1)
Temperature Coefficient of R		.11			%/°C	Best fit, 0° to 85°C (1)
Noise Voltage	27	35	40	V _n	nV/√Hz	V _n ² =4kTR
Noise Equivalent Power	.15	.26	.43	NEP	nW/√Hz	DC, NEP= V _n HA/V _s (2)
Detectivity	4.2	7.1	12.0	D*	10 ⁸ cm√Hz/W	DC, D*=V _s /V _n H√A (2)
Time Constant		7		τ	ms	Chopped, -3dB point (1)
Field of View	NA			FOV	Degrees	Not Applicable
Package Type	.97" x 1.27"				DIP	Standard package hole size: .236" x .510"
Element Matching		15	30	ℳ	%	ℳ = V _A -V _B /V _B (2)
Element Separation		.61			mm	Center to Center
Thermistor		30			kΩ	Optional
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

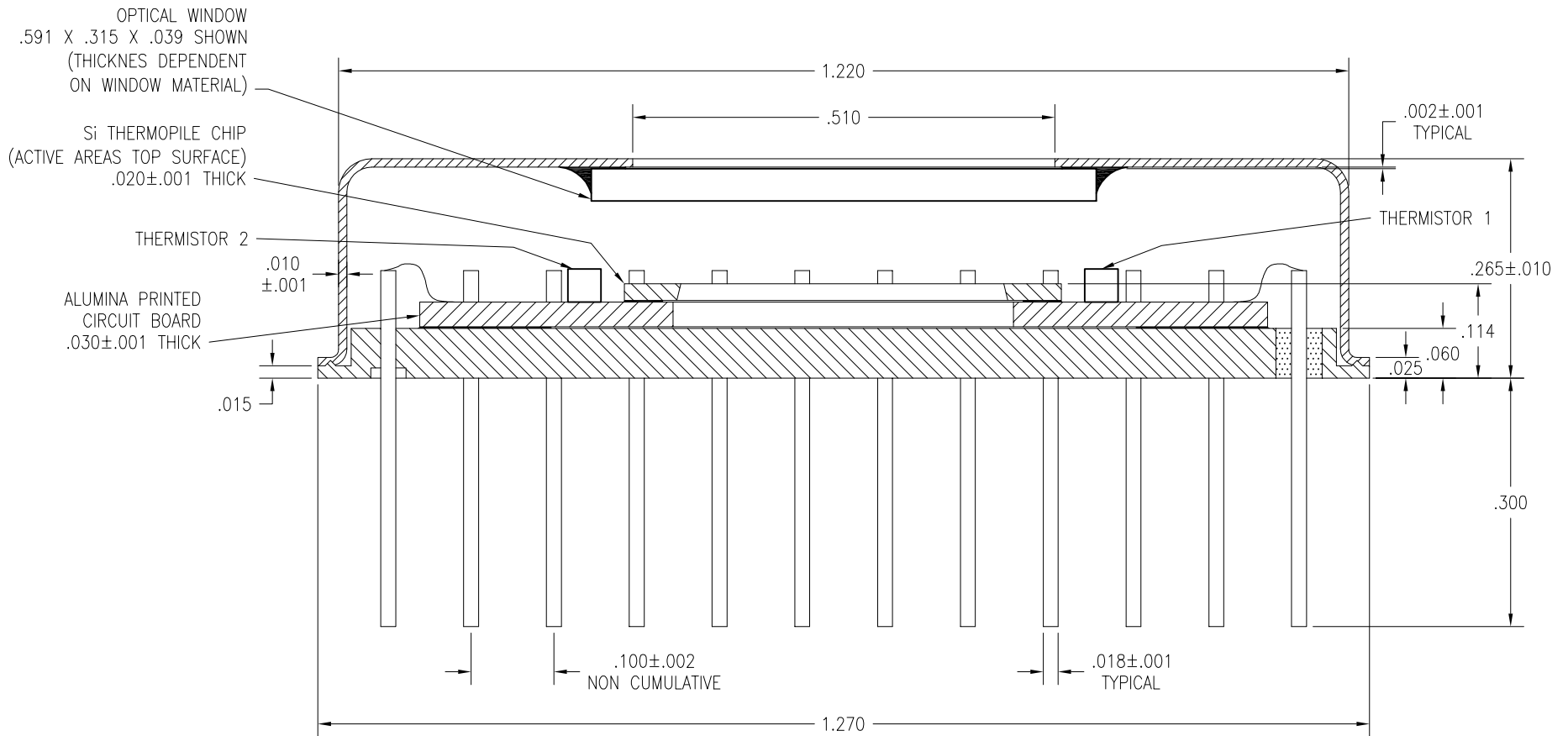
Notes: (1) Parameter is not 100% tested. 90% of all units meet these specifications. (2) A is detector area in cm². (3) Test Conditions: 500K Blackbody source; Detector active surface 10cm from 0.6513cm Diameter Blackbody Aperture.



PACKAGE PIN #	DESCRIPTION
1	CASE GROUND
2	ELEMENT 25
3	ELEMENT 23
4	ELEMENT 21
5	ELEMENT 19
6	ELEMENT 17
7	ELEMENT 15
8	ELEMENT 13
9	ELEMENT 11
10	ELEMENT 9
11	ELEMENT 7
12	ELEMENT 5
13	ELEMENT 3
14	ELEMENT 1
15	THERMISTOR 1
16	THERMISTOR 1
17	COMMON E1-32
18	ELEMENT 2
19	ELEMENT 4
20	ELEMENT 6
21	ELEMENT 8
22	ELEMENT 10
23	ELEMENT 12
24	ELEMENT 14
25	ELEMENT 16
26	ELEMENT 18
27	ELEMENT 20
28	ELEMENT 22
29	ELEMENT 24
30	ELEMENT 26
31	ELEMENT 28
32	ELEMENT 30
33	ELEMENT 32
34	THERMISTOR 2
35	THERMISTOR 2
36	ELEMENT 31
37	ELEMENT 29
38	ELEMENT 27

TOP VIEW

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 ± .XXX ± .005					ANGLES ±
APPROVALS	DATE	ASSEMBLY, SLA32 w/ COVER TOP VIEW				
DRAWN: DLJ	3/23/00					
CHECKED:		SIZE: A	SCALE: 5" : 1"	DWG. NO. 1029.1	REV. NC	PAGE: 1 OF 2
ENGINEERED:		DRC PART NO.		MATERIAL:		FINISH:
APPROVED:						



NOTE: MOST WIRE BONDS NOT SHOWN FOR CLARITY

SECTION A-A

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FRACTIONS ±	DECIMALS .XX ± .XXX ± .005	ANGLES ±	ASSEMBLY, SLA32 w/ COVER CROSS SECTION		
APPROVALS	DATE	SIZE:	SCALE:	DWG. NO.	REV. PAGE:
DRAWN: DLJ	3/31/00	A	5" : 1"	1029.2	NC 2 OF 2
CHECKED:		DRC PART NO.		MATERIAL:	FINISH:
ENGINEERED:					
APPROVED:					