



SLA64 PRELIMINARY

Silicon Based Thermopile Detector

Features: A 1 x 64 element silicon-based thermopile array. Each active area is 0.45mm x 2.0mm with a time constant of 42ms and a low Temperature Coefficient of Responsivity of -0.06%/°C. It is packaged in a 68-pin QIP. Includes internal 30kΩ 5% NTC chip thermistor provides ambient package temperature measurement. See [Thermistor Options](#) p/n: MT04.

Options: Please contact Dexter's sales team for information on optical window options.

Applications: Spectral analysis and line temperature measurements.

Benefits: A linear array with large element size and no readout electronics.

Export License Required



Detector circuit overlay



SLA64

Technical Specifications

Specifications apply at 23°C with 5μm LWP Si (L1) Window and Nitrogen encapsulating gas

Parameter	Min	Typical	Max	Symbol	Units	Comments
Active Area size	0.45 x 2.0			AA	mm	Hot junction size, per element.
Element Area	0.90			A	mm ²	
Number of Junctions	18					Per element.
Number of Channels	1 x 64					Per detector package.
Output Voltage	29.3	31.8	34.2	V _s	μV	DC, H=330μW/cm ² (3)
Signal-to-Noise Ratio	786	908	1049	SNR	√Hz	DC, SNR=V _s /V _n
Responsivity	98.7	107.1	115.2	ℜ	V/W	DC, ℜ=V _s /HA (2)
Resistance	65	75	85	R	kΩ	Detector element
Temperature Coefficient of ℜ	-.06				%/°C	Best linear fit, 0° to 85°C (1)
Temperature Coefficient of R	.11				%/°C	Best fit, 0° to 85°C (1)
Noise Voltage	32.6	35.0	37.3	V _n	nV/√Hz	V _n ² =4kTR
Noise Equivalent Power	.28	.33	.38	NEP	nW/√Hz	DC, NEP= V _n HA/V _s (2)
Detectivity	.79	.92	1.06	D*	10 ⁸ cm√Hz/W	DC, D*=V _s /V _n H√A (2)
Time Constant	42			τ	ms	Chopped, -3dB point (1)
Field of View	NA					Not Applicable
Package Type	1.59 x 1.85"				68 pin QIP	Standard package hole size: 0.236" x 0.100"
Element Matching		15	30	ℳ	%	ℳ= V _A -V _B /V _B (2)
Element Separation	0.5				mm	Center to Center
Thermistor	30				kΩ	30kΩ 5% NTC at 25°C
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 flat plate Blackbody, scaled to 330μW/cm²