

## PbS Detector Performance Summary

Model Number	Element Size (mm)	Wavelength Peak Signal ( $\mu\text{m}$ )	D*	Blackbody D*	Responsivity		Dark Resistance ( $\text{M}\Omega$ )	Time Constant ( $\mu\text{sec}$ )	Operating Temp ( $^{\circ}\text{C}$ )	$\Delta\text{T}$ at Max Cool ( $^{\circ}\text{C}$ )	Standard Package Options
			( $\lambda\text{pk}, 630\text{Hz}, 1\text{Hz}$ ) ( $\text{cm Hz}^{1/2}\text{W}^{-1}$ )	(500K, 630Hz, 1Hz) ( $\text{cm Hz}^{1/2}\text{W}^{-1}$ )	( $\text{I}_{\text{pk}}, 630\text{Hz}$ ) $\text{W}^{-1}$	Minimum					
<b>Flatplate Detectors:</b>											
A1	1x1	2.4 typ	8.0x10 <sup>10</sup> min 1.0x10 <sup>11</sup> typ	1.0x10 <sup>8</sup> min 1.5x10 <sup>9</sup> typ	530,000	800,000	0.2-3.5	100-400	+25	N/A	Flatplate
A2	2x2				270,000	400,000					Flatplate
A3	3x3				170,000	260,000					Flatplate
A6	6x6				90,000	140,000					Flatplate
A10	10x 10				50,000	75,000					Flatplate
<b>Ambient Packaged Detectors:</b>											
A1-5	1x1	2.4 typ	8.0x10 <sup>10</sup> min 1.0x10 <sup>11</sup> typ	1.0x10 <sup>8</sup> min 1.5x10 <sup>9</sup> typ	530,000	800,000	0.2-3.5	100-400	+25	N/A	TO-5
A2-5	2x2				270,000	400,000					TO-5
A3-5	3x3				170,000	260,000					TO-5
A6-8	6x6				90,000	140,000					TO-8
A10-3	10x10				50,000	75,000					TO-3
<b>Ambient Lens Detectors:</b>											
A1-5(M)-L	1x1	2.4 typ	2.5x10 <sup>11</sup>	6x10 <sup>11</sup>	2,000,000	2,400,000	0.2-3.5	100-400	+23	N/A	1/2 ball Lens /TO-5 header
A1-5(M)-LF	1x1				6,000,000	7,200,000					Full Ball Lens/ TO-5 Header
<b>2 Watt TE Cooled Detectors:</b> Typical cooling power at or near max cooling: 0.9 volts @ 1.2 amps											
A1-7C3T	1x1	2.5typ	1.0x10 <sup>11</sup> min 1.5x10 <sup>11</sup> typ	2.2x10 <sup>9</sup> min 4.2x10 <sup>9</sup> typ	1,300,000	2,000,000	2.0-15.0	1250-2500	-35	55 min 60 typ	TO-37
A2-7C3T	2x 2				660,000	1,000,000					TO-37
A3-7C3T	3x3				430,000	640,000					TO-37

Model Number	Element Size	Wavelength Peak Signal	D*	Blackbody D*	Responsivity		Dark Resistance	Time Constant	Operating Temp	ΔT at Max Cool	Standard Package Options
					Minimum	Typical					
	(mm)	(μm)	(cm Hz <sup>1/2</sup> w <sup>-1</sup> )	(cm Hz <sup>1/2</sup> w <sup>-1</sup> )			(MΩ)	(μsec)	(°C)	(°C)	
<b>3 Watt TECooled Detectors:</b> Typical cooling power at or near max cooling:1.8 volts @1.2 amps											
A1-8C4T	1x1	2.7 typ	2.0×10 <sup>11</sup> min 3.0×10 <sup>11</sup> typ	2.9×10 <sup>9</sup> min 5.2×10 <sup>9</sup> typ	1,400,000	2,100,000	2.0-20.0	1750-3500	-50	70 min	TO-8,TO-66
A2-8C4T	2x2				700,000	1,100,000					TO-8,TO-66
A3-8C4T	3x3				430,000	650,000			-45	75 typ	TO-8,TO-66
A6-8C2T	6x6		1.0×10 <sup>11</sup> min	240,000	360,000	-25			50min 55typ	TO-8,TO-66	
<b>Specifications apply using 500°K blackbody a bias of 50 V/mm across the detector and a one Megohm load resistor in series</b>											
<b>TE cooled specs apply at or near max coolingfrom a+25°C heatsink.Units are hermetically sealed with a sapphire or Silicon window.</b>											
<b>Max rated element temperature is +65°C</b>											

# Response Charts

