



Detector Specification and Performance Data

Doc. No.: DPF-009

Rev: E

Date: 12/6/2010

Specifications

Detector Model	GC6021	Detector Serial Number	03922948
Preamplifier Model	2002CSL	Preamp Serial Number	02068146
Cryostat Model	7600SLS	Order Number	RD26742

The purchase specifications, and therefore the warranted performance, of this detector are as follows:

Relative Efficiency	---	%	Active Volume	---	cc
Resolution	---	keV (FWHM) @ 1.33 MeV			
	---	keV (FWTM) @ 1.33 MeV			
	---	keV (FWHM) @ 122 keV			
	---	keV (FWHM) @ 5.9 keV			
Peak/Compton	---	:1			
Well Diameter	---	mm	Well Depth	---	mm

Cryostat Description (if special) 3.25" Ø End Cap

Physical Characteristics

Active Diameter	69.1	mm	Active Area	---	mm ²
Length/Thickness	61.5	mm	Well Diameter	---	mm
Distance from Window	4.98	mm	Well Depth	---	mm
Window Thickness	---	mm	Active Volume	---	cc
Window Material	---				

Electrical Characteristics

Depletion Voltage	(+)1500	V dc
Recommended Bias Voltage	(+)2000	V dc
Test Point voltage at recommended bias	(-)0.79	V dc (RC preamp only)
Reset interval at recommended bias	---	sec. (Reset preamp only)
Capacitance at recommended bias	~30	pF

Measured Performance

With amp time constant of 6 μ S

Isotope	⁵⁷ Co	⁶⁰ Co	⁵⁵ Fe	⁵⁷ Co	¹⁰⁹ Cd	¹⁰⁹ Cd	¹⁰⁹ Cd Ratio
Energy (keV)	122	1332	5.9	6.4*	22	88	22:88
FWHM (keV)	0.92	1.95	---	---	---	---	---
FWTM (keV)	1.71	3.66	---	---	---	---	---
Peak/Compton/Bkgd	---	63.7:1	---	---	---	---	---
Efficiency %	---	52.2	---	---	---	---	---

* Substitutes for ⁵⁵Fe in some cases where ⁵⁵Fe peaks are not well separated

Cool Down Time 8 Hrs LN₂ Loss Rate < 1.8 l/d PRTD 41.2 Ω (cold)

Tested by:

Date: 8/30/11

Approved by:

Date: 8/30/11