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Your Alternative
To The Obvious

2/2 BGO PROBE Data Sheet: (2"x2") BGO

BGO (bismuth germinate) is a big step forward in many applications from the industry standard material, sodium iodide. It is nearly twice as dense and has a higher atomic number, which means that a BGO detector has a performance comparable with a much bigger sodium iodide type.

BGO has a particular merit in health physics monitoring and waste sentencing applications. The high sensitivity means that it will detect activity at lower levels or will be able to confirm the absence of significant activity faster and with more confidence than sodium iodide. This has recently been confirmed in independent tests.

The performance can be further improved using photopeak gating for example. For a 2" x 2" detector, the count rate in the photopeak will be about will be about 2.6 times higher than the sodium iodide equivalent. Energy resolution is not quite as good as sodium iodide (9 % FWHM compared to 7 % for Cs-137 gamma radiation) but overall the monitoring performance will be significantly better.

Its decay time is significantly faster and it is much more resistant to afterglow. This means it can operate over a much wider range of radiation intensities.



BGO Specifications

Detector:	BGO 51mm diameter x 51mm thick.
Connector:	MHV
PMT:	2" wrapped with mu metal foil
Density:	7.13 g/cc
Effective Atomic Number:	76
Hygroscopic:	No
Wavelength of Maximum Emission:	505 nm
Principle Decay:	0.30 µsec (at room temperature)
Index of Refraction:	2.15
Dimensions:	Length 240mm Diameter 60mm
Crystal Housings:	Aluminium probe body
Weight	1.3 KG