

SC1102

● Suitable for soft X-ray and γ -ray detection

In the soft X-ray **NaI(Tl) scintillator**, the NaI(Tl) crystal is cut into disk shape and housed in aluminum cases of shaped like a ring, beryllium or aluminum foil is used as the entrance window, and it is used for measuring soft X-rays at low energy levels. suitable for soft X-ray and low γ -ray detection

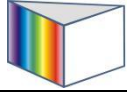


Features

- suitable for soft X-ray and low γ -ray detection

Basic Properties

Basic Properties	
Density(g/cm ²)	3.67
Melting Point (K)	924
Cleavage plane	<100>
Hardness(Mohs)	2
Hygroscopic	yes
Refractive index at emission peak	1.85
Emission Peak wavelength (nm)	415
Decay time (ns)	250
Light yield (photons/KeV)	38



Application Notes

1. Environmental Monitoring of nuclear radiation

Nuclear radiation exist universally in our daily life environment, when the radiation intensity higher than security standard, it would be harmful or even lethal to human beings. For its excellent scintillating properties, NaI(Tl) crystals are widely used to make the detectors to monitor nuclear radiation in the industrial and daily life environment, wide field and space.

2. Nuclear medicine

NaI(Tl) crystals are widely used in the nuclear imaging technology, such as the isotope therapeutic apparatus, Gamma ray cameras ect.. Nuclear imaging is high in sensitivity and accurate in testing results, the method is easy and secure.

3. Industrial CT and security inspection

The NaI(Tl) are used in the metallurgy industrial to test the speed of metal liquid, to test the thickness of the steel plates, they are also used in the level sensors or switches for solid or liquids. Some security inspection instruments use the NaI(Tl) crystals to test the explosive materials.

4. Well logging

The NaI(Tl) crystals detect the Gamma ray in the well, by the analysis of the spectrum of the detected scintillating light, the concentration and distribution of the uranium (U), potassium (K) and thorium (Th) in the stratum can be calculated, and the well can be evaluated. NaI(Tl) crystals has high light output and insensitive to temperature change, it has been the first choice for the well logging applications.

Modules or types

Introduction

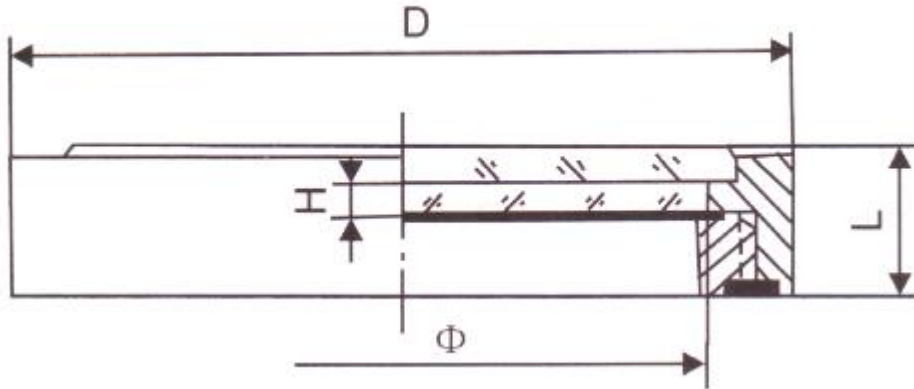
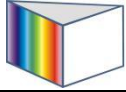
Model	Type	Category	Package	Remark
SC1102	Soft X-ray(low γ -ray) disk type	C	Aluminum shell, Beryllium entrance window, end optical window	Soft X-ray or low γ -ray detection(> 3KeV)
		D	Aluminum shell, Aluminum entrance window, end optical window	Soft X-ray or low γ -ray detection(> 10KeV)

Size of SC1102

Unit: mm

Crystal size		Outer dimension		Energy resolution					
				C (Mnk α -5.9KeV)			D (Am-241 -60KeV)		
ϕ	H	D	L	F	P	J	F	P	J
20	1	30	8	$\leq 70\%$	$\leq 100\%$	$> 100\%$	$\leq 18\%$	$\leq 25\%$	$> 25\%$
	2		9						
	3		10						
	5		12						
25	1	35	8						
	2		9						
	3		10						
	5		12						
30	1	41	8						
	2		9						
	3		10						
	5		12						
40	0.5	51	7.5						
	1		8						
	2		9						
	3		10						
	5		12						
50	1	61	8.5						
	2		9.5						
	3		10.5						
	5		12.5						

Note: The size can be adjusted according to customer requirements.



SC1102 NaI(Tl) drawing