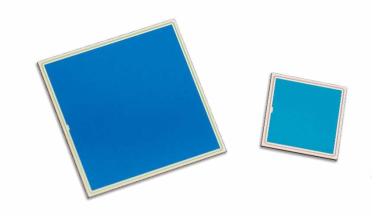
Silicon Photodiode for Alpha Particle Detection



Low capacitance silicon photodiode chip designed for alpha particle detection. Available in two sizes. Assembly compatible with conductive epoxy mount. Packaging options: chips on waffle pack or mylar or assembled on a carrier.

Table 1: Key parameters

		Chip ID:	5 mm	10 mm	
Parameter	Symbol	Conditions			Unit
Breakdown voltage	V_{BR}	100 uA	> 100	> 100	V
Junction capacitance	CJ	20 V	< 30	< 120	pF
Dark current	I _D	20V	< 2	< 5	nA
		40 V	< 5	< 10	nA
Depletion layer thickness	t	20 V	> 0.09	> 0.09	mm
Dead layer	t _d	Si equivalent	< 150	< 150	nm

Nominal values at room temperature (22°C)

Table 2: Package and Chip Dimensions

Parameter	VTH2110	VTH2120	Unit
Chip size	5.67 x 5.67 x 0.30	10.67 x 10.67 x 0.30	mm
Active area	5 x 5	10 x 10	mm
Chip tray	4 x 4	4 x 4	in
Number of chips per tray	100	25	pcs



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Table 3: Maximum ratings

Parameter	Min	Тур	Max	Unit
Operating Temperature	-40	-	100	°C
Storage Temperature	-40	-	100	°C
Maximum Humidity (non-condensing)	-	-	60	%

Figure 1: VTH2110 mechanical drawing. Dimensions are in millimeters

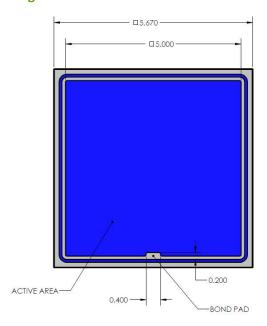
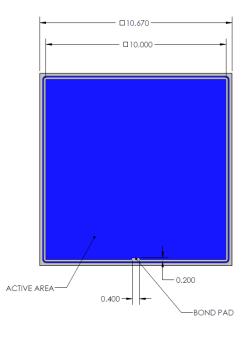


Figure 2: VTH2120 mechanical drawing. Dimensions are in millimeters



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Figure 3: Typical capacitance

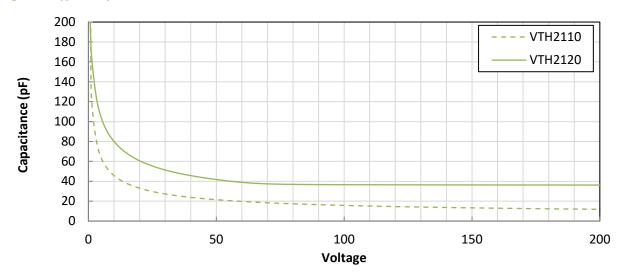


Figure 4: Typical dark current

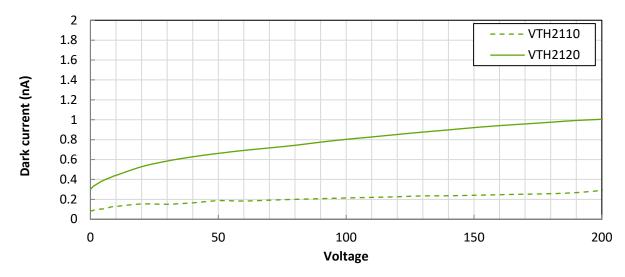
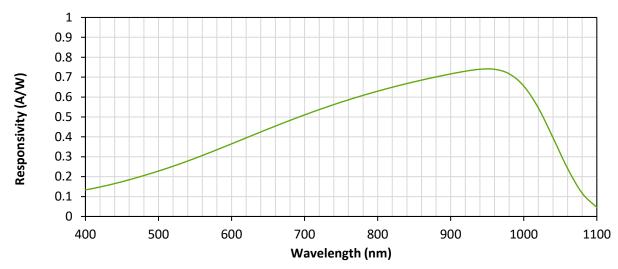


Figure 5: Typical spectral responsivity

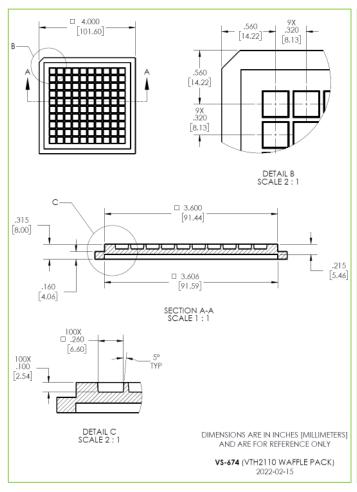


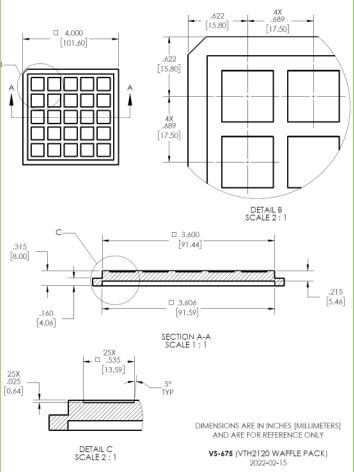
Silicon Photodiode for Alpha Particle Detection

Packaging

The photodiodes will be packed and shipped in a 4" x 4" waffle packs.

Part Number	Entegris Part Number	Pocket Size	Number of pockets
VTH2110	H44-260-1415	6.6 x 6.6 mm	100
VTH2120	H44-535-66C02	13.6 x 13.6 mm	25





Silicon Photodiode for Alpha Particle Detection

About Excelitas Technologies

Excelitas Technologies is a global technology leader focused on delivering innovative, customized solutions to meet the lighting, detection and other high-performance technology needs of OEM customers.

Excelitas has a long and rich history of serving our OEM customer base with optoelectronic sensors and modules for more than 45 years beginning with PerkinElmer, EG&G, and RCA. The constant throughout has been our innovation and commitment to delivering the highest quality solutions to our customers worldwide.

From aerospace and defense to analytical instrumentation, clinical diagnostics, medical, industrial, and safety and security applications, Excelitas Technologies is committed to enabling our customers' success in their specialty endmarkets. Excelitas Technologies has approximately 7,000 employees in North America, Europe and Asia, serving customers across the world.

Excelitas Technologies

22001 Dumberry Road Vaudreuil-Dorion, Quebec Canada J7V 8P7 Telephone: (+1) 450.424.3300 Toll-free: (+1) 800.775.6786 Fax: (+1) 450.424.3345 Excelitas Technologies GmbH & Co. KG Wenzel-Jaksch-Str. 31

D-65199 Wiesbaden Germany Telephone: (+49) 611 492 430

Fax: (+49) 611 492 165

Excelitas Technologies Singapore, Pte. Ltd.

8 Tractor Road Singapore 627969

Telephone: (+65) 6775 2022 (Main number) Telephone: (+65) 6770 4366 (Customer Service)

Fax: (+65) 6778-1752



Contact us at: https://www.excelitas.com/contact

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