



Product Specification

G6312

NGFF

- ▶ Supports SATA interface rate of 6Gb/S
- ▶ The new form factor standard for ultra book
- ▶ Ultra thin designed
- ▶ Increasing capacity by length



Introduction

BIWIN NGFF provides three different dimensions, 22*42mm, 22*60mm, 22*80mm, and offers capacity from 32GB to 256GB. NGFF is an ideal storage solution for ultrabook as it is smaller than mSATA .

The NGFF SSD product electrically complies with the SATA-III standards and is electrically compatible with a serial ATA disk drive. In order to meet the high quality, the NGFF SSD products utilize Multi-Level Cell (MLC) NAND Flash Memory. Moreover, to ensure the data integrity, many advanced technologies are used such as dynamic bad block management, dynamic and static wear-leveling, and error correction code (ECC). The NGFF SSD drastically outperforms conventional Hard Disk Drives. In addition, the NGFF Series could also provide rugged features in industrial PC under an extreme environment with a high MTBF.

Revision History

Version	Date	Description
V1.0	2015-10-20	-Initial Release

Specification

Product Model	Capacity	Form Factor	NAND Flash	Dimensions (mm) (L x W x H)	Weight (g)	Interface	Operating Temperature (°C)	Storage Temperature (°C)
G6312	32GB-512GB	NGFF	MLC	80x22x3.2	≤6.7	SATA III 6Gb/s	0 to +70	-40 to +85

Performance Details

Product Model	Capacity	ATTO (MB/s)		AS SSD (MB/s)			
		Max Seq. Read / Write		Max Seq. Read / Write		Max 4K Read / Write	
G6312	32GB	224	39	215.44	37.23	28	37.09
	64GB	447	76.9	410.31	72.98	26.81	71.2
	128GB	534	150	495.14	142.52	26.57	73.48
	256GB	561	296	494.46	282.01	26.51	77.23
	512GB	561	438	516.56	412.13	27.76	64.77

Power Consumption

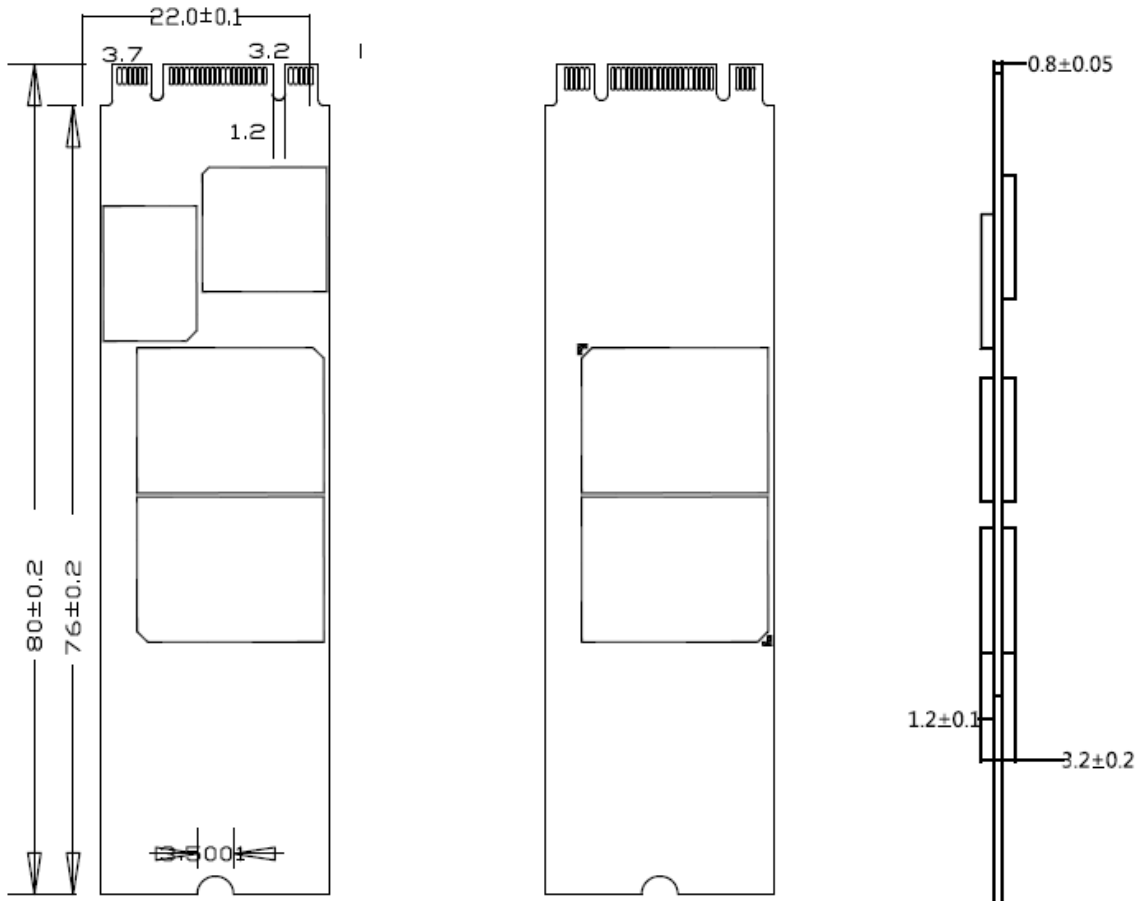
Product Model	Capacity	Idle	Sleep	Read	Write	Unit
G6312	32GB	0.27	0.27	0.91	0.97	W
	64GB	0.27	0.27	1.11	1.38	W
	128GB	0.244	0.244	1.03	1.78	W
	256GB	0.25	0.25	1.19	2.94	W
	512GB	0.42	0.42	1.51	3.6	W

Reliability

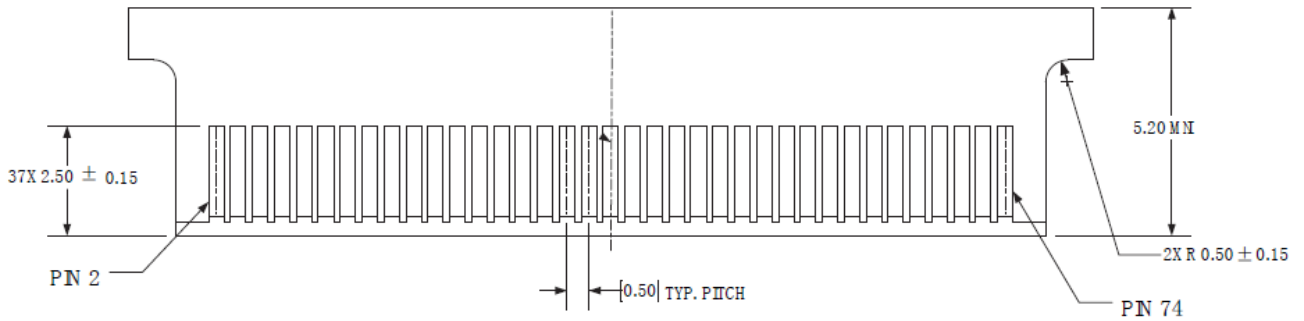
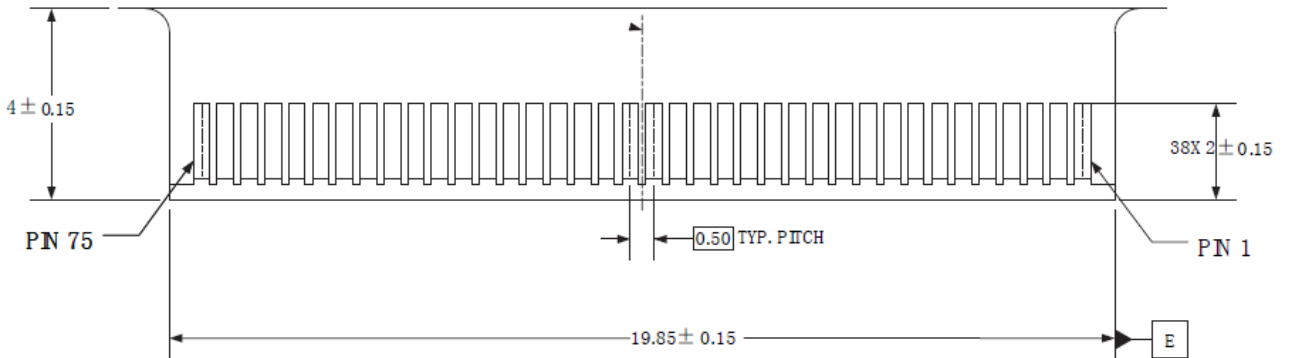
Product Model	Capacity	Endurance: Total Bytes Written (TBW)*	Data Retention	MTBF	Warranty
G6312	32GB	Up to 65 TB	at 25°C: >10 years	2 million hours	3 years
	64GB	Up to 131 TB			
	128GB	Up to 262 TB			
	256GB	Up to 524 TB			
	512GB	Up to 1075TB			

*Total bytes written=[(Flash P/E cycle)x(number of bits in drive)] / WAI
WAI=1.428704724

Dimensional Drawings (Unit: mm)



Interface Description (Unit: mm)



Pin Assignment

Pin#	Assignment	Description	Pin#	Assignment	Description
1	CONFIG_3	Defines module type	39	GND	Return Current Path
2	+3.3V	3.3V source	40	N/A	N/A
3	GND	Return Current Path	41	SATA-B+/PERn0	Host receiver differential signal pair
4	+3.3V	3.3V source	42	N/A	N/A
5	N/A	N/A	43	SATA-B-/PERp0	Host receiver differential signal pair
6	N/A	N/A	44	N/A	N/A
7	N/A	N/A	45	GND	Return Current Path
8	N/A	N/A	46	N/A	N/A
9	N/A	N/A	47	SATA-A-/PETn0	Host transmitter differential signal pair
10	N/A	N/A	48	N/A	N/A
11	N/A	N/A	49	SATA-A+/PETp0	Host transmitter differential signal pair
12	(removed for key)	Mechanical Notch B	50	N/A	N/A
13	(removed for key)	Mechanical Notch B	51	GND	Return Current Path
14	(removed for key)	Mechanical Notch B	52	N/A	N/A
15	(removed for key)	Mechanical Notch B	53	N/A	N/A
16	(removed for key)	Mechanical Notch B	54	N/A	N/A
17	(removed for key)	Mechanical Notch B	55	N/A	N/A
18	(removed for key)	Mechanical Notch B	56	N/A	N/A
19	(removed for key)	Mechanical Notch B	57	GND	Return Current Path
20	N/A	N/A	58	N/A	N/A
21	CONFIG_0	Defines module type	59	NOTCH	Mechanical Notch M
22	N/A	N/A	60	NOTCH	Mechanical Notch M
23	N/A	N/A	61	NOTCH	Mechanical Notch M
24	N/A	N/A	62	NOTCH	Mechanical Notch M
25	N/A	N/A	63	NOTCH	Mechanical Notch M
26	N/A	N/A	64	NOTCH	Mechanical Notch M
27	GND	Return Current Path	65	NOTCH	Mechanical Notch M
28	N/A	N/A	66	NOTCH	Mechanical Notch M
29	N/A	N/A	67	N/A	N/A
30	N/A	N/A	68	N/A	N/A
31	N/A	N/A	69	CONFIG_1	Defines module type
32	N/A	N/A	70	+3.3V	3.3V source
33	GND	Return Current Path	71	GND	Return Current Path
34	N/A	N/A	72	+3.3V	3.3V source
35	N/A	N/A	73	GND	Return Current Path
36	N/A	N/A	74	+3.3V	3.3V source
37	N/A	N/A	75	CONFIG_2	Defines module type
38	DEVSLP	Device Sleep, Input.			

Ordering Information

Model Name	Product Part Number	Capacity
G6312	CNF82DS1805-032	32GB
	CNF82DS1805-064	64GB
	CNF82DS1805-128	128GB
	CNF82DS1805-256	256GB
	CNF82DS1805-512	512GB

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