

Life Cycle Assessment: Sandisk PC SN7100S Solid State Drive (SSD)

Product Description:

Model	SDFPTSK-256G-1012
Product Type	Client SSD
Product Weight	2.63gm
Packaging Weight	4.90gm
Storage Capacity	256 Gigabyte
Technology	BiCS6
Form Factor	M.2
Application	Support everyday computing needs such as gaming, productivity, and general usage



LCA Calculation Basis:

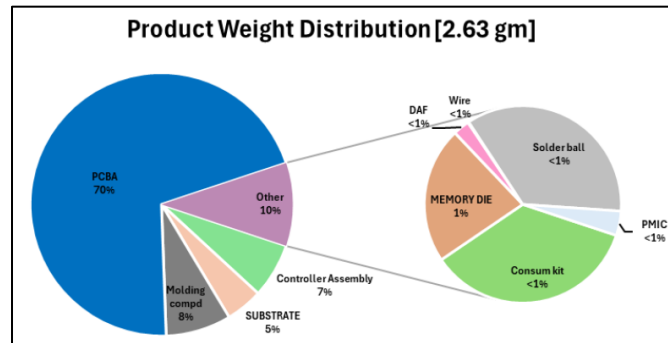
Standard	ISO 14040:2006 and 14044:2006
LCA Software	LCA for Experts (previously Gabi ts) [Version 10.9]
Impact Assessment Method	Life cycle impact assessment classification and characterization factors according to the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report for Global Warming Potential (GWP), with 100 years of time horizon for kg CO ₂ equivalent (carbon footprint)
Database	LCA for Experts 2025 LCI and ecoinvent 3.11
System Boundary	The system boundaries include: • Manufacturing (extraction of raw materials, upstream material preparation, electronic component manufacturing, subassembly manufacturing and final assembly of product) • Distribution to customer located in USA • Four years of product use • End-of-life treatment according to waste management statistics in the customer country
Validation of Study	Validated through 3rd party critical review (EarthShift Global)

i One Gigabyte (GB) is equal to one billion bytes. Actual user capacity may be less due to operating environment.

ii *Absolute climate change impact values & contribution details for each phase will be available upon request

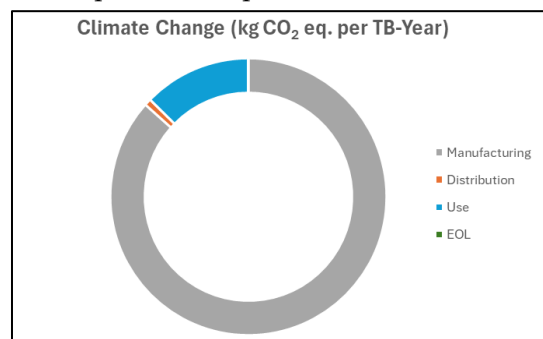
Components Used:

The pie chart shows weight contribution of various components of the Sandisk PC SN7100S SSD. The PCBA contributes 70% of the weight of the SSD, followed by the memory assembly [19%] consisting of memory die, substrate, die attach film (DAF), wire, molding compound and solder ball and consumable kit [4%]. The remaining weight is attributed to the PMIC.



Breakdown of Carbon Footprint by Life Cycle Stagesⁱⁱ:

The Manufacturing phase has the highest contribution [87%], driven by product assembly and sub-assembly processes. The Use phase has the second highest impacts [13%], which is mainly attributed to energy consumed by the product during usage. The Distribution phase & End-of-Life phase of the products constitutes <1% of the total impact.



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