

## Vishay Intertechnology, Inc.

## Near-term remains challenged on weak markets and inventory correction

Reiterate Rating: UNDERPERFORM | PO: 19.00 USD | Price: 22.30 USD

## Inventory correction continues to impact revenues

We continue to see F24 as a transition year for Vishay. The next several quarters are likely to remain impacted by inventory adjustments and soft end markets. However, we feel management is focused on initiatives which will drive future growth. In F4Q, sequentially, revenues from Asia declined 8% q/q, from Americas declined 7% q/q, and from Europe declined 9% q/q. Distribution revenues declined 8% q/q, and POS decreased 7% q/q. OEM revenues declined 7% q/q, while EMS revenues declined 14% q/q. Opto segment margins were impacted due to a one-time write-off related to a discontinued silicon fab at Vishay's Heilbronn location. Book to bill was 0.75 at quarter end. Reiterate Underperform as end-markets remain weak in the medium-term.

## F1Q weaker quarter for revenues and margins

VSH guided F1Q24 rev to \$735mn which is lower than Street at \$772mn, and guided gross margin to 24% at the mid-point, which is sequentially lower by 160bps. Management remains committed to returning 70% of free cash flow in F24 in the form of dividends and buybacks. We look forward to more details on F24 and management's plan to drive future growth at Vishay's investor day on April 2<sup>nd</sup> 2024.

## Management laying the groundwork for long-term growth

Near-term prospects remain weak but management is focused on the longer-term and continues to invest in incremental capacity. VSH has budgeted \$450mn of investments in 2024 (including \$56mn of projects pushed out from 2023). Management continues to develop go-to-market strategies for its key products. It is increasing capacity – including outsourcing production of commodity products to subcontractors. We like the focus on better channel management (distribution represented 51% of sales in F4Q). VSH is adding customer-facing engineers, filling gaps in technology and market coverage. While these changes will take some time to show an impact, we see them as essential to setting up the company to take advantage of future opportunities.

## Estimates move lower; PO moves to \$19 (from \$20)

Our F24E rev/EPS move to \$3.1bn/\$1.01 from \$3.3bn/\$1.95. PO moves to \$19 (from \$20) on 11x C25E EPS of \$1.72 (prior 10x C24E EPS of \$1.95). We roll-over to a C25 based valuation. VSH is cyclical stock and we use a slightly higher multiple on lower earnings.

Estimates (Dec) (US\$)	2022A	2023A	2024E	2025E	2026E
EPS	3.16	2.44	1.01	1.72	1.85
GAAP EPS	2.97	2.29	1.00	1.70	1.83
EPS Change (YoY)	36.2%	-22.8%	-58.6%	70.3%	7.6%
Consensus EPS (Bloomberg)			1.47	2.03	NA
DPS	0.40	0.40	0.42	0.42	0.42
Valuation (Dec)					
P/E	7.1x	9.1x	22.1x	13.0x	12.1x
GAAP P/E	7.5x	9.7x	22.3x	13.1x	12.2x
Dividend Yield	1.8%	1.8%	1.9%	1.9%	1.9%
EV / EBITDA*	3.9x	4.5x	7.2x	5.4x	5.0x
Free Cash Flow Yield*	5.6%	1.3%	3.5%	5.4%	4.5%

\* For full definitions of *IQmethod*<sup>SM</sup> measures, see page 6.

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Timestamp: 12 February 2024 08:41AM EST

12 February 2024

## Equity

## Key Changes

(US\$)	Previous	Current
Price Obj.	20.00	19.00
2024E Rev (m)	3,268.6	3,079.0
2025E Rev (m)	3,438.5	3,426.3
2026E Rev (m)	NA	3,610.9
2024E EPS	1.95	1.01
2025E EPS	2.07	1.72
2026E EPS	NA	1.85

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## Stock Data

Price	22.30 USD
Price Objective	19.00 USD
Date Established	12-Feb-2024
Investment Opinion	B-3-7
52-Week Range	20.57 USD - 30.10 USD
Mrkt Val (mn) / Shares Out (mn)	2,815 USD / 126.2
Free Float	99.1%
Average Daily Value (mn)	24.92 USD
BofA Ticker / Exchange	VSH / NYS
Bloomberg / Reuters	VSH US / VSH.N
ROE (2024E)	6.3%
Net Dbt to Eqty (Dec-2023A)	-7.0%
ESGMeter™	Medium

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# iQprofile<sup>SM</sup> Vishay Intertechnology, Inc.

## iQmethod<sup>SM</sup> – Bus Performance\*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Return on Capital Employed	15.8%	10.3%	4.7%	7.1%	7.3%
Return on Equity	24.0%	16.1%	6.3%	10.1%	10.1%
Operating Margin	17.8%	14.3%	7.9%	11.1%	11.2%
Free Cash Flow	159	36	100	153	126

## iQmethod<sup>SM</sup> – Quality of Earnings\*

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash Realization Ratio	1.1x	1.1x	3.9x	2.6x	2.5x
Asset Replacement Ratio	2.0x	1.8x	2.5x	2.5x	2.4x
Tax Rate	24.1%	29.3%	31.0%	31.0%	31.0%
Net Debt-to-Equity Ratio	-5.4%	-7.0%	-7.6%	-10.1%	-11.2%
Interest Cover	36.4x	19.3x	15.1x	23.8x	25.2x

## Income Statement Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Sales	3,497	3,402	3,079	3,426	3,611
% Change	7.9%	-2.7%	-9.5%	11.3%	5.4%
Gross Profit	1,066	974	769	928	981
% Change	20.0%	-8.6%	-21.1%	20.7%	5.7%
EBITDA	787	671	422	566	612
% Change	23.9%	-14.8%	-37.1%	34.3%	8.0%
Net Interest & Other Income	(22)	0	(36)	(36)	(36)
<b>Net Income (Adjusted)</b>	<b>454</b>	<b>342</b>	<b>140</b>	<b>236</b>	<b>251</b>
<b>% Change</b>	<b>34.7%</b>	<b>-24.7%</b>	<b>-59.0%</b>	<b>68.0%</b>	<b>6.7%</b>

## Free Cash Flow Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Net Income from Cont Operations (GAAP)	430	326	140	236	251
Depreciation & Amortization	164	184	180	186	208
Change in Working Capital	(142)	(162)	221	194	163
Deferred Taxation Charge	39	37	0	0	0
Other Adjustments, Net	(7)	(19)	0	0	0
Capital Expenditure	(325)	(329)	(441)	(462)	(497)
<b>Free Cash Flow</b>	<b>159</b>	<b>36</b>	<b>100</b>	<b>153</b>	<b>126</b>
<b>% Change</b>	<b>-33.4%</b>	<b>-77.2%</b>	<b>175.2%</b>	<b>53.4%</b>	<b>-17.8%</b>
Share / Issue Repurchase	(83)	(106)	(24)	(24)	(24)
Cost of Dividends Paid	0	0	0	0	0
Change in Debt	0	363	(1)	0	(95)

## Balance Sheet Data (Dec)

(US\$ Millions)	2022A	2023A	2024E	2025E	2026E
Cash & Equivalents	611	973	989	1,061	1,011
Trade Receivables	416	427	426	413	435
Other Current Assets	1,094	898	752	607	438
Property, Plant & Equipment	1,130	1,295	1,556	1,832	2,120
Other Non-Current Assets	614	648	648	648	648
<b>Total Assets</b>	<b>3,866</b>	<b>4,240</b>	<b>4,372</b>	<b>4,561</b>	<b>4,652</b>
Short-Term Debt	0	0	0	0	0
Other Current Liabilities	726	692	767	802	818
Long-Term Debt	501	818	817	817	722
Other Non-Current Liabilities	588	529	529	529	529
<b>Total Liabilities</b>	<b>1,816</b>	<b>2,039</b>	<b>2,113</b>	<b>2,148</b>	<b>2,069</b>
<b>Total Equity</b>	<b>2,050</b>	<b>2,201</b>	<b>2,259</b>	<b>2,413</b>	<b>2,583</b>
<b>Total Equity &amp; Liabilities</b>	<b>3,866</b>	<b>4,240</b>	<b>4,372</b>	<b>4,561</b>	<b>4,652</b>

\* For full definitions of iQmethod<sup>SM</sup> measures, see page 6.

## Company Sector

Semiconductors

## Company Description

Vishay Intertechnology is a global manufacturer and supplier of discrete semiconductors and passive electronic components, including MOSFETs, diodes and optoelectronic components, resistors, capacitors and inductors. The company reported 2018 revenue from each of five product groups as follows: MOSFETs (19% of sales), Diodes (21%), Optoelectronic Components (8%), Resistors (25%), Inductors (11%) and Capacitors (16%). The company is focused on organic growth and small/strategic acquisitions.

## Investment Rationale

Our Underperform rating is based on our expectation that a recovery in end markets is already factored into the share price, order strength driven partly by customers building buffer inventory given fears of a resurgence of COVID19, pockets of excess inventory of Vishay products remaining in the channel, and expectation of normal price declines (vs. price increases despite end market recovery).

## Stock Data

Average Daily Volume 1,117,268

## Quarterly Earnings Estimates

	2023	2024
Q1	0.79A	0.20E
Q2	0.68A	0.26E
Q3	0.60A	0.28E
Q4	0.37A	0.27E

# Model

**Figure 1: VSH Income Statement**

We model F24 revenue/EPS of \$3.1bn/\$1.01

<b>VSH</b> (\$ in millions except per share data)	<b>F2023A</b>				<b>F2024E</b>				<b>F2022</b>	<b>F2023</b>	<b>F2024E</b>	<b>F2025E</b>	<b>F2026E</b>
	1Q23A	2Q23A	3Q23A	4Q23A	1Q24E	2Q24E	3Q24E	4Q24E					
Net revenues	871	892	854	785	740	777	786	776	3,497	3,402	3,079	3,426	3,611
Costs of products sold	592	635	616	585	561	583	586	580	2,432	2,428	2,310	2,498	2,630
<b>Gross profit</b>	<b>279</b>	<b>257</b>	<b>238</b>	<b>201</b>	<b>179</b>	<b>194</b>	<b>200</b>	<b>196</b>	<b>1,066</b>	<b>974</b>	<b>769</b>	<b>928</b>	<b>981</b>
Selling, general, and administrative expenses	120	123	123	123	130	132	134	132	443	488	527	548	578
<b>Operating income</b>	<b>159</b>	<b>135</b>	<b>115</b>	<b>78</b>	<b>50</b>	<b>62</b>	<b>66</b>	<b>64</b>	<b>623</b>	<b>486</b>	<b>242</b>	<b>380</b>	<b>403</b>
<b>Other income (expense):</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
Interest expense	(5)	(6)	(7)	(6)	(4)	(4)	(4)	(4)	(17)	(25)	(16)	(16)	(16)
Other	3	5	7	9	(5)	(5)	(5)	(5)	(5)	25	(20)	(20)	(20)
<b>Income before taxes</b>	<b>157</b>	<b>133</b>	<b>115</b>	<b>81</b>	<b>41</b>	<b>53</b>	<b>57</b>	<b>55</b>	<b>601</b>	<b>486</b>	<b>206</b>	<b>344</b>	<b>367</b>
Income tax expense	45	38	31	29	13	16	18	17	145	142	64	107	114
Rate	28%	29%	27%	36%	31%	31%	31%	31%	24%	29%	31%	31%	31%
<b>NI Non-GAAP from continuing oper</b>	<b>112</b>	<b>95</b>	<b>84</b>	<b>52</b>	<b>28</b>	<b>36</b>	<b>40</b>	<b>38</b>	<b>456</b>	<b>344</b>	<b>142</b>	<b>238</b>	<b>253</b>
<b>Net earnings Non-GAAP incl FAS123</b>	<b>112</b>	<b>95</b>	<b>84</b>	<b>51</b>	<b>28</b>	<b>36</b>	<b>39</b>	<b>38</b>	<b>454</b>	<b>342</b>	<b>140</b>	<b>236</b>	<b>251</b>
<b>Non-GAAP EPS including FAS123</b>	<b>\$0.79</b>	<b>\$0.68</b>	<b>\$0.60</b>	<b>\$0.37</b>	<b>\$0.20</b>	<b>\$0.26</b>	<b>\$0.28</b>	<b>\$0.27</b>	<b>\$3.16</b>	<b>\$2.44</b>	<b>\$1.01</b>	<b>\$1.72</b>	<b>\$1.85</b>
<b>Basic GAAP EPS</b>	<b>\$0.79</b>	<b>\$0.68</b>	<b>\$0.47</b>	<b>\$0.37</b>	<b>\$0.20</b>	<b>\$0.26</b>	<b>\$0.28</b>	<b>\$0.27</b>	<b>\$2.98</b>	<b>\$2.31</b>	<b>\$1.00</b>	<b>\$1.69</b>	<b>\$1.80</b>
<b>Diluted GAAP EPS</b>	<b>\$0.79</b>	<b>\$0.67</b>	<b>\$0.47</b>	<b>\$0.37</b>	<b>\$0.20</b>	<b>\$0.26</b>	<b>\$0.28</b>	<b>\$0.27</b>	<b>\$2.97</b>	<b>\$2.29</b>	<b>\$1.00</b>	<b>\$1.70</b>	<b>\$1.83</b>
Adj wted avg sh outstanding - dil (Non-GAAP)	141	140	140	139	139	139	138	138	144	140	139	137	136
<b>Dividend</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.10</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.11</b>	<b>0.40</b>	<b>0.40</b>	<b>0.42</b>	<b>0.42</b>	<b>0.42</b>
<b>As % of Revenue</b>													
Costs of products sold	68.0%	71.1%	72.2%	74.4%	75.8%	75.0%	74.6%	74.7%	69.5%	71.4%	75.0%	72.9%	72.8%
<b>Gross Profit</b>	<b>32.0%</b>	<b>28.9%</b>	<b>27.8%</b>	<b>25.6%</b>	<b>24.2%</b>	<b>25.0%</b>	<b>25.4%</b>	<b>25.3%</b>	<b>30.5%</b>	<b>28.6%</b>	<b>25.0%</b>	<b>27.1%</b>	<b>27.2%</b>
Selling, general, and administrative expenses	13.8%	13.8%	14.4%	15.6%	17.5%	17.0%	17.0%	17.0%	12.7%	14.4%	17.1%	16.0%	16.0%
<b>Operating income</b>	<b>18.2%</b>	<b>15.1%</b>	<b>13.5%</b>	<b>9.9%</b>	<b>6.7%</b>	<b>8.0%</b>	<b>8.4%</b>	<b>8.3%</b>	<b>17.8%</b>	<b>14.3%</b>	<b>7.9%</b>	<b>11.1%</b>	<b>11.2%</b>
Interest expense	-0.6%	-0.7%	-0.8%	-0.8%	-0.5%	-0.5%	-0.5%	-0.5%	-0.5%	-0.7%	-0.5%	-0.5%	-0.4%
Other	0.4%	0.6%	0.9%	1.2%	-0.7%	-0.6%	-0.6%	-0.6%	-0.1%	0.7%	-0.6%	-0.6%	-0.6%
<b>Income before taxes</b>	<b>18.0%</b>	<b>15.0%</b>	<b>13.5%</b>	<b>10.3%</b>	<b>5.5%</b>	<b>6.8%</b>	<b>7.3%</b>	<b>7.1%</b>	<b>17.2%</b>	<b>14.3%</b>	<b>6.7%</b>	<b>10.0%</b>	<b>10.2%</b>
Income tax expense	5.1%	4.3%	3.6%	3.7%	1.7%	2.1%	2.3%	2.2%	4.1%	4.2%	2.1%	3.1%	3.2%
Minority interest	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<b>NI Non-GAAP from continuing</b>	<b>12.9%</b>	<b>10.7%</b>	<b>9.9%</b>	<b>6.6%</b>	<b>3.8%</b>	<b>4.7%</b>	<b>5.0%</b>	<b>4.9%</b>	<b>13.0%</b>	<b>10.1%</b>	<b>4.6%</b>	<b>6.9%</b>	<b>7.0%</b>
<b>Year-Over-Year Growth</b>													
Net revenues	2%	3%	-8%	-8%	-15%	-13%	-8%	-1%	8%	-3%	-9%	11%	5%
Costs of products sold	0%	7%	-3%	-4%	-5%	-8%	-5%	-1%	3%	0%	-5%	8%	5%
<b>Gross Profit</b>	<b>8%</b>	<b>-4%</b>	<b>-18%</b>	<b>-19%</b>	<b>-36%</b>	<b>-25%</b>	<b>-16%</b>	<b>-2%</b>	<b>20%</b>	<b>-9%</b>	<b>-21%</b>	<b>21%</b>	<b>6%</b>
Selling, general, and administrative expenses	6%	12%	15%	8%	8%	7%	9%	7%	5%	10%	8%	4%	5%
<b>Operating income</b>	<b>8%</b>	<b>-15%</b>	<b>-37%</b>	<b>-42%</b>	<b>-69%</b>	<b>-54%</b>	<b>-42%</b>	<b>-18%</b>	<b>33%</b>	<b>-22%</b>	<b>-50%</b>	<b>57%</b>	<b>6%</b>
Interest expense	21%	49%	74%	44%	-22%	-38%	-44%	-38%	-2%	47%	-36%	0%	0%
Other	NM	281%	247%	NM	NM	NM	NM	NM	3%	28%	11%	2%	-5%
<b>Income before taxes</b>	<b>15%</b>	<b>-14%</b>	<b>-36%</b>	<b>-37%</b>	<b>-74%</b>	<b>-60%</b>	<b>-50%</b>	<b>-32%</b>	<b>38%</b>	<b>-19%</b>	<b>-58%</b>	<b>67%</b>	<b>7%</b>
Income tax expense	38%	3%	-33%	-1%	-72%	-57%	-43%	-41%	50%	-2%	-55%	67%	7%
<b>NI Non-GAAP from continuing</b>	<b>8%</b>	<b>-19%</b>	<b>-37%</b>	<b>-48%</b>	<b>-75%</b>	<b>-62%</b>	<b>-53%</b>	<b>-27%</b>	<b>35%</b>	<b>-25%</b>	<b>-59%</b>	<b>67%</b>	<b>7%</b>
<b>Net earnings Non-GAAP incl FAS123</b>	<b>8%</b>	<b>-19%</b>	<b>-37%</b>	<b>-48%</b>	<b>-75%</b>	<b>-62%</b>	<b>-53%</b>	<b>-27%</b>	<b>35%</b>	<b>-25%</b>	<b>-59%</b>	<b>68%</b>	<b>7%</b>
<b>Non-GAAP EPS including FAS123</b>	<b>11%</b>	<b>-17%</b>	<b>-36%</b>	<b>-47%</b>	<b>-75%</b>	<b>-62%</b>	<b>-53%</b>	<b>-26%</b>	<b>36%</b>	<b>-23%</b>	<b>-58%</b>	<b>69%</b>	<b>8%</b>
<b>Basic GAAP EPS</b>	<b>11%</b>	<b>-13%</b>	<b>-52%</b>	<b>-28%</b>	<b>-75%</b>	<b>-62%</b>	<b>-40%</b>	<b>-27%</b>	<b>45%</b>	<b>-22%</b>	<b>-57%</b>	<b>69%</b>	<b>7%</b>
<b>Diluted GAAP EPS</b>	<b>11%</b>	<b>-13%</b>	<b>-52%</b>	<b>-28%</b>	<b>-75%</b>	<b>-62%</b>	<b>-40%</b>	<b>-27%</b>	<b>45%</b>	<b>-23%</b>	<b>-56%</b>	<b>70%</b>	<b>8%</b>

Source: Company reports, BofA Global Research estimates

BofA GLOBAL RESEARCH



## Abbreviations

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SKU: Stock-Keeping Unit

POS: Point of Sale

GM: Gross Margin

Fab: Fabrication facility

OEM: Original Equipment Manufacturer

A&D: Aerospace & Defense

EMS: Electronics Manufacturing Services

IR: Investor Relations

## Price objective basis & risk

### Vishay Intertechnology, Inc. (VSH)

Our price objective on the shares of Vishay is \$19, which is based on 11x our C25E EPS. This multiple is the median of the historical range 7.0x-20x. In our view this multiple is justified as it balances near-term weakness from inventory correction in the distribution channel, and increased macroeconomic risk and risk from slower demand in China, against the longer-term benefit from increasing electronic content in various end markets.

Upside risks to our price objective are faster-than-expected clearing of excess inventory in the distribution channel and faster restocking of the supply chain, faster-than-expected growth in the end markets including automotive, the company being able to raise prices more than expected, and faster-than-expected growth from acquisitions. Downside risks to our price objective are execution risk, a more protracted downturn in automotive, a larger-than-expected inventory correction at distribution, delay in Vishay's capacity adds, which could harm revenue recognition, competitors adding capacity faster than expected and supply overshooting demand leading to overcapacity, double ordering which inflates demand, an unexpected downturn in the global economy, and raw material cost pressure.

## Analyst Certification

I, Ruplu Bhattacharya, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### US - IT Hardware and Technology Supply Chain Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Amphenol	APH	APH US	Wamsi Mohan
	Apple Inc.	AAPL	AAPL US	Wamsi Mohan
	Corning Inc.	GLW	GLW US	Wamsi Mohan
	Dell Technologies Inc.	DELL	DELL US	Wamsi Mohan
	Flex Ltd.	FLEX	FLEX US	Ruplu Bhattacharya
	HP Inc.	HPQ	HPQ US	Wamsi Mohan
	International Business Machines Corp.	IBM	IBM US	Wamsi Mohan
	Jabil Inc.	JBL	JBL US	Ruplu Bhattacharya
	Nutanix Inc	NTNX	NTNX US	Wamsi Mohan
	Roku, Inc.	ROKU	ROKU US	Ruplu Bhattacharya
	Seagate Technology	STX	STX US	Wamsi Mohan
	TD Synnex Corp	SNX	SNX US	Ruplu Bhattacharya
	TE Connectivity Ltd.	TEL	TEL US	Wamsi Mohan
	Teradata Corporation	TDC	TDC US	Wamsi Mohan
	Western Digital Corporation	WDC	WDC US	Wamsi Mohan
<b>NEUTRAL</b>				
	Arrow Electronics Inc.	ARW	ARW US	Ruplu Bhattacharya
	Avnet Inc.	AVT	AVT US	Ruplu Bhattacharya
	CDW Corp	CDW	CDW US	Ruplu Bhattacharya
	Concentrix Corporation	CNXC	CNXC US	Ruplu Bhattacharya
	Hewlett-Packard Enterprise	HPE	HPE US	Wamsi Mohan
	Pure Storage	PSTG	PSTG US	Wamsi Mohan
	Sensata Technologies Holdings Plc	ST	ST US	Wamsi Mohan
<b>UNDERPERFORM</b>				
	DigitalOcean	DOCN	DOCN US	Wamsi Mohan
	NetApp Inc.	NTAP	NTAP US	Wamsi Mohan
	Sanmina Corporation	SANM	SANM US	Ruplu Bhattacharya
	Vishay Intertechnology, Inc.	VSH	VSH US	Ruplu Bhattacharya



## US - IT Hardware and Technology Supply Chain Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Vizio	VZIO	VZIO US	Wamsi Mohan

**iQmethod<sup>SM</sup> Measures Definitions****Business Performance**

Return On Capital Employed

Return On Equity  
Operating Margin  
Earnings Growth  
Free Cash Flow

**Quality of Earnings**

Cash Realization Ratio  
Asset Replacement Ratio  
Tax Rate  
Net Debt-To-Equity Ratio  
Interest Cover

**Valuation Toolkit**

Price / Earnings Ratio  
Price / Book Value  
Dividend Yield  
Free Cash Flow Yield  
Enterprise Value / Sales

EV / EBITDA

**Numerator**

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income  
Operating Profit  
Expected 5 Year CAGR From Latest Actual  
Cash Flow From Operations – Total Capex

**Numerator**

Cash Flow From Operations  
Capex  
Tax Charge  
Net Debt = Total Debt – Cash & Equivalents  
EBIT

**Numerator**

Current Share Price  
Current Share Price  
Annualised Declared Cash Dividend  
Cash Flow From Operations – Total Capex  
EV = Current Share Price × Current Shares + Minority Equity + Net Debt + Other LT Liabilities  
Enterprise Value

**Denominator**

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill  
Amortization  
Shareholders' Equity  
Sales  
N/A  
N/A

**Denominator**

Net Income  
Depreciation  
Pre-Tax Income  
Total Equity  
Interest Expense

**Denominator**

Diluted Earnings Per Share (Basis As Specified)  
Shareholders' Equity / Current Basic Shares  
Current Share Price  
Market Cap = Current Share Price × Current Basic Shares  
Sales

Basic EBIT + Depreciation + Amortization

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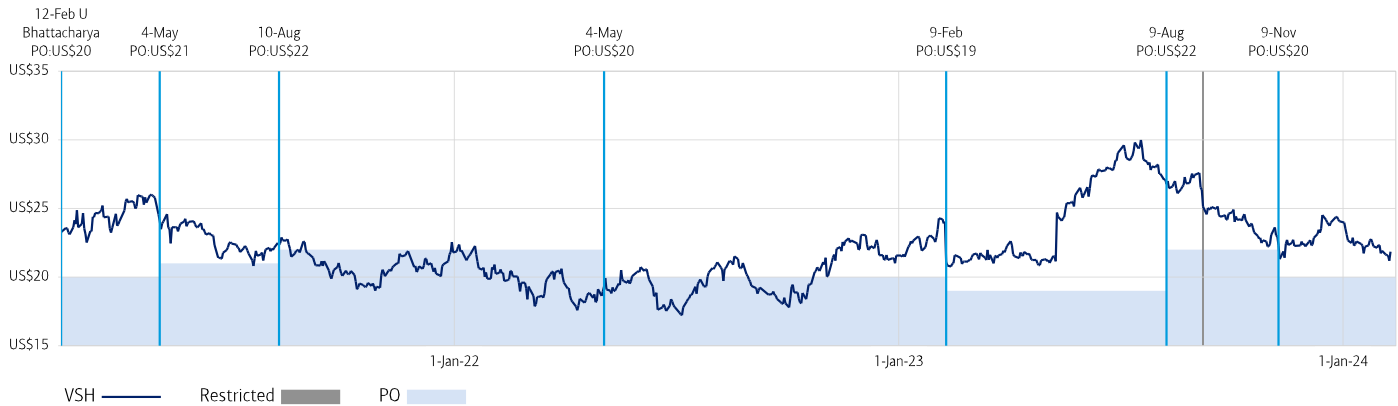
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### Vishay (VSH) Price Chart



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### Equity Investment Rating Distribution: Technology Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	215	53.09%	Buy	111	51.63%
Hold	97	23.95%	Hold	45	46.39%
Sell	93	22.96%	Sell	24	25.81%

### Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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