UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-Q

(Mark one)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended July 1, 2023

Or

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number: 000-50307

FormFactor, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**13-3711155**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

7005 Southfront Road, Livermore, California 94551
(Address of principal executive offices, including zip code)

(925) 290-4000
(Registrant’s telephone number, including area code)

Securities registered pursuant to Section12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, $0.001 par value	**FORM**	**Nasdaq Global Market**

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of the Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of “large accelerated filer”, “accelerated filer,” “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer	☒	Accelerated Filer	☐	Non-accelerated Filer	☐
Smaller Reporting Company	☐	Emerging Growth Company	☐		

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

As of August 2, 2023, 77,656,368 shares of the registrant’s common stock, par value $0.001 per share, were outstanding.

FORMFACTOR, INC.
FORM 10-Q FOR THE QUARTERLY PERIOD ENDED JULY 1, 2023
INDEX

PART I - FINANCIAL INFORMATION

Item 1. ***Financial Statements***

FORMFACTOR, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)
(Unaudited)

	July 1, 2023	December 31, 2022
ASSETS		
Current assets:		
Cash and cash equivalents	$ 97,981	$ 109,130
Marketable securities	138,943	129,006
Accounts receivable, net of allowance for credit losses of $510 and $168	94,013	88,143
Inventories, net	120,298	123,157
Restricted cash	1,144	1,221
Prepaid expenses and other current assets	25,876	23,895
Total current assets	478,255	474,552
Restricted cash	2,265	2,631
Operating lease, right-of-use-assets	31,001	31,362
Property, plant and equipment, net of accumulated depreciation	204,577	189,848
Goodwill	211,929	211,444
Intangibles, net	22,149	26,751
Deferred tax assets	71,172	67,646
Other assets	3,790	3,994
Total assets	$ 1,025,138	$ 1,008,228
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 63,770	$ 69,308
Accrued liabilities	31,413	42,115
Current portion of term loan, net of unamortized issuance costs	1,150	1,045
Deferred revenue	19,899	29,846
Operating lease liabilities	7,871	7,353
Total current liabilities	124,103	149,667
Term loan, less current portion, net of unamortized issuance costs	13,765	14,389
Deferred tax liabilities	2,704	2,732
Long-term operating lease liabilities	26,458	27,587
Deferred grant	18,000	—
Other liabilities	5,845	5,568
Total liabilities	190,875	199,943
Stockholders' equity:		
Common stock, $0.001 par value:		
250,000,000 shares authorized; 77,184,012 and 76,914,590 shares issued and outstanding	77	77
Additional paid-in capital	867,517	844,842
Accumulated other comprehensive loss	(4,445)	(5,578)
Accumulated deficit	(28,886)	(31,056)
Total stockholders' equity	834,263	808,285
Total liabilities and stockholders' equity	$ 1,025,138	$ 1,008,228

The accompanying notes are an integral part of these condensed consolidated financial statements.

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF INCOME
(In thousands, except per share amounts)
(Unaudited)

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Revenues	$ 155,916	$ 203,907	$ 323,364	$ 401,081
Cost of revenues	95,633	109,538	202,003	212,488
Gross profit	60,283	94,369	121,361	188,593
Operating expenses:				
Research and development	28,340	28,317	56,585	55,451
Selling, general and administrative	33,255	33,406	65,997	66,312
Total operating expenses	61,595	61,723	122,582	121,763
Operating income (loss)	(1,312)	32,646	(1,221)	66,830
Interest income, net	1,482	181	2,758	127
Other income, net	450	551	473	743
Income before income taxes	620	33,378	2,010	67,700
Provision (benefit) for income taxes	(208)	3,136	(160)	7,586
Net income	$ 828	$ 30,242	$ 2,170	$ 60,114
Net income per share:				
Basic	$ 0.01	$ 0.39	$ 0.03	$ 0.77
Diluted	$ 0.01	$ 0.38	$ 0.03	$ 0.76
Weighted-average number of shares used in per share calculations:				
Basic	77,159	77,897	77,112	78,071
Diluted	77,616	79,210	77,450	79,423

The accompanying notes are an integral part of these condensed consolidated financial statements.

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME
(In thousands)
(Unaudited)

	Three Months Ended		Six Months Ended	
	July 1, 2023	**June 25, 2022**	**July 1, 2023**	**June 25, 2022**
Net income	$ 828	$ 30,242	$ 2,170	$ 60,114
Other comprehensive income (loss), net of tax:				
Translation adjustments	(122)	(3,856)	710	(6,554)
Unrealized gains (losses) on available-for-sale marketable securities	(85)	(547)	518	(1,751)
Unrealized gains (losses) on derivative instruments	(52)	(116)	(95)	758
Other comprehensive income (loss), net of tax:	(259)	(4,519)	1,133	(7,547)
Comprehensive income	$ 569	$ 25,723	$ 3,303	$ 52,567

The accompanying notes are an integral part of these condensed consolidated financial statements.

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except shares)
(Unaudited)

	Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total
	Six Months Ended July 1, 2023					
Balances, December 31, 2022	76,914,590	$ 77	$ 844,842	$ (5,578)	$ (31,056)	$ 808,285
Issuance of common stock under the Employee Stock Purchase Plan	210,055	—	5,024	—	—	5,024
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	59,367	—	(456)	—	—	(456)
Stock-based compensation	—	—	18,107	—	—	18,107
Other comprehensive income	—	—	—	1,133	—	1,133
Net income	—	—	—	—	2,170	2,170
Balances, July 1, 2023	77,184,012	$ 77	$ 867,517	$ (4,445)	$ (28,886)	$ 834,263
	Three Months Ended July 1, 2023					
Balances, April 1, 2023	77,142,023	$ 77	$ 858,195	$ (4,186)	$ (29,714)	$ 824,372
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	41,989	—	(69)	—	—	(69)
Stock-based compensation	—	—	9,391	—	—	9,391
Other comprehensive loss	—	—	—	(259)	—	(259)
Net income	—	—	—	—	828	828
Balances, July 1, 2023	77,184,012	$ 77	$ 867,517	$ (4,445)	$ (28,886)	$ 834,263
	Six Months Ended June 25, 2022					
Balances, December 25, 2021	78,240,506	$ 78	$ 898,945	$ (1,449)	$ (81,794)	$ 815,780
Issuance of common stock under the Employee Stock Purchase Plan	157,642	—	5,645	—	—	5,645
Issuance of common stock pursuant to exercise of options	6,000	—	42	—	—	42
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	234,076	—	(4,243)	—	—	(4,243)
Purchase and retirement of common stock through repurchase program	(1,443,491)	(1)	(54,327)	—	—	(54,328)
Stock-based compensation	—	—	14,522	—	—	14,522
Other comprehensive loss	—	—	—	(7,547)	—	(7,547)
Net income	—	—	—	—	60,114	60,114
Balances, June 25, 2022	77,194,733	$ 77	$ 860,584	$ (8,996)	$ (21,680)	$ 829,985
	Three Months Ended June 25, 2022					
Balances, March 26, 2022	78,166,212	$ 78	$ 902,994	$ (4,477)	$ (51,922)	$ 846,673
Issuance of common stock pursuant to vesting of restricted stock units, net of stock withheld for tax	231,464	—	(4,171)	—	—	(4,171)
Purchase and retirement of common stock through repurchase program	(1,202,943)	(1)	(44,930)	—	—	(44,931)
Stock-based compensation	—	—	6,691	—	—	6,691
Other comprehensive loss	—	—	—	(4,519)	—	(4,519)
Net income	—	—	—	—	30,242	30,242
Balances, June 25, 2022	77,194,733	$ 77	$ 860,584	$ (8,996)	$ (21,680)	$ 829,985

The accompanying notes are an integral part of these condensed consolidated financial statements.

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended	
	July 1, 2023	**June 25, 2022**
Cash flows from operating activities:		
Net income	$ 2,170	$ 60,114
Adjustments to reconcile net income to net cash provided by operating activities:		
Depreciation	15,121	14,146
Amortization	4,766	4,702
Reduction in the carrying amount of right-of-use assets	3,914	4,414
Stock-based compensation expense	18,494	13,878
Deferred income tax benefit	(3,639)	(3,703)
Provision for excess and obsolete inventories	8,628	4,726
Other adjustments to reconcile net income to net cash provided by operating activities	1,801	3,846
Changes in assets and liabilities:		
Accounts receivable	(6,830)	5,530
Inventories	(5,880)	(32,268)
Prepaid expenses and other current assets	(1,099)	1,295
Other assets	(83)	(40)
Accounts payable	3,578	7,521
Accrued liabilities	(10,606)	4,102
Other liabilities	456	73
Deferred revenues	(9,945)	2,727
Deferred grant	18,000	—
Operating lease liabilities	(4,065)	(4,262)
Net cash provided by operating activities	34,781	86,801
Cash flows from investing activities:		
Acquisition of property, plant and equipment	(40,177)	(30,116)
Acquisition of business	—	(3,121)
Purchases of marketable securities	(66,650)	(52,344)
Purchase of promissory note receivable	—	(1,000)
Proceeds from maturities and sales of marketable securities	58,363	45,470
Net cash used in investing activities	(48,464)	(41,111)
Cash flows from financing activities:		
Proceeds from issuances of common stock	5,024	5,687
Purchase of common stock through stock repurchase program	—	(54,328)
Tax withholdings related to net share settlements of equity awards	(456)	(4,243)
Principal repayments on term loans	(519)	(4,379)
Net cash provided by (used in) financing activities	4,049	(57,263)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	(1,958)	(3,470)
Net decrease in cash, cash equivalents and restricted cash	(11,592)	(15,043)
Cash, cash equivalents and restricted cash, beginning of period	112,982	155,342
Cash, cash equivalents and restricted cash, end of period	$ 101,390	$ 140,299

The accompanying notes are an integral part of these condensed consolidated financial statements.

FORMFACTOR, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended	
	July 1, 2023	**June 25, 2022**
Non-cash investing and financing activities:		
Decrease in accounts payable and accrued liabilities related to property, plant and equipment purchases	$ 9,187	$ 4,165
Operating lease, right-of-use assets obtained in exchange for lease obligations	3,635	3,438
Supplemental disclosure of cash flow information:		
Cash paid for income taxes, net	$ 9,427	$ 6,473
Cash paid for interest	212	294
Operating cash outflows from operating leases	4,514	4,379
Reconciliation of cash, cash equivalents and restricted cash:		
Cash and cash equivalents	$ 97,981	$ 136,395
Restricted cash, current	1,144	2,102
Restricted cash, non-current	2,265	1,802
Total cash, cash equivalents and restricted cash	$ 101,390	$ 140,299

The accompanying notes are an integral part of these condensed consolidated financial statements.

Note 1 — Basis of Presentation and Significant Accounting Policies

Basis of Presentation

The accompanying condensed consolidated financial information of FormFactor, Inc. is unaudited and has been prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP") and pursuant to the rules and regulations of the Securities and Exchange Commission ("SEC"). However, such information reflects all adjustments, consisting only of normal recurring adjustments, which are, in the opinion of management, necessary for a fair presentation of the financial position, results of operations and cash flows for the interim periods. The condensed consolidated financial statements included herein should be read in conjunction with the consolidated financial statements and the notes thereto included in our 2022 Annual Report on Form 10-K filed with the SEC on February 24, 2023. The results of operations for the interim periods presented are not necessarily indicative of the results to be expected for the full year.

Fiscal Year

We operate on a 52/53 week fiscal year, whereby the fiscal year ends on the last Saturday of December. Fiscal 2023 and 2022 contain 52 weeks and 53 weeks, respectively, and the six months ended July 1, 2023 and June 25, 2022 each contained 26 weeks. Fiscal 2023 will end on December 30, 2023.

Significant Accounting Policies

Our significant accounting policies have not changed during the six months ended July 1, 2023 from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2022, except for:

Government Assistance

In January 2023, we received $18.0 million in cash from a California Competes Grant (the "Grant") awarded from the California Governor's Office of Business and Economic Development. The Grant requires FormFactor to create and maintain full-time jobs and make significant infrastructure investments within California over a 5-year term. If we do not meet the requirements of the Grant, we will be required to repay all or a portion of the Grant.

The Grant is included in our Condensed Consolidated Balance Sheets within Deferred grant and we have elected to recognize the Grant when earned as an offset to Cost of revenues and Operating expenses within our Condensed Consolidated Statements of Income. We have elected to present the proceeds from the Grant as cash provided by operating activities within our Condensed Consolidated Statements of Cash Flows as the Grant is to offset operations.

New Accounting Pronouncements

Reference Rate Reform

In March 2020, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") 2020-04, "Reference Rate Reform (Topic 848): Facilitation of the Effects of Reference Rate Reform on Financial Reporting." The ASU provides temporary optional expedients and exceptions for applying GAAP to contract modifications and hedging relationships, subject to meeting certain criteria, that reference the London Interbank Offered Rate ("LIBOR") or another reference rate expected to be discontinued. In December 2022, the FASB issued ASU 2022-06, "Reference Rate Reform (Topic 848): Deferral of the Sunset Date of Topic 848," extending the relief offered in Topic 848 from December 31, 2022 to December 31, 2024, after which entities will no longer be permitted to apply the optional expedients in Topic 848.

In May 2023, the Company entered into a rate replacement amendment to its credit facility loan agreement to replace LIBOR with the Secured Overnight Financing Rate ("SOFR") and concurrently signed an amendment to modify the floating rate option on its interest rate swap to match that of the debt. The Company applied practical expedients provided in Topic 848 allowing the modified instrument to be accounted for and presented in the same manner as the instrument existing before the modification. These modifications had no significant impact on our financial statements. Refer to Note 6, *Debt* for further information regarding the terms of the credit facility loan agreement and interest rate swap agreement.

Reclassifications

Certain immaterial reclassifications were made to the prior year financial statements to conform to the current year presentation.

Note 2 — Concentration of Credit and Other Risks

The following customer accounted for 10% or more of our revenues for the periods indicated:

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Intel Corporation	14.2 %	20.9 %	17.2 %	20.9 %

At July 1, 2023 and December 31, 2022, one customer accounted for 15.3% and 13.8% of gross accounts receivable, respectively.

Note 3 — Inventories, net

Inventories are stated at the lower of cost (principally standard cost, which approximates actual cost on a first in, first out basis) or net realizable value.

Inventories, net, consisted of the following (in thousands):

	July 1, 2023	December 31, 2022
Raw materials	$ 55,491	$ 55,726
Work-in-progress	44,549	46,067
Finished goods	20,258	21,364
	$ 120,298	$ 123,157

Note 4 — Goodwill and Intangible Assets

Goodwill by reportable segment was as follows (in thousands):

	Probe Cards	Systems	Total
Goodwill, as of December 25, 2021	$ 178,424	$ 33,875	$ 212,299
Addition - Woburn Acquisition	—	550	550
Foreign currency translation	—	(1,405)	(1,405)
Goodwill, as of December 31, 2022	178,424	33,020	211,444
Foreign currency translation	—	485	485
Goodwill, as of July 1, 2023	$ 178,424	$ 33,505	$ 211,929

We have not recorded goodwill impairments for the six months ended July 1, 2023.

Intangible assets were as follows (in thousands):

	July 1, 2023			December 31, 2022		
Intangible Assets	**Gross**	**Accumulated Amortization**	**Net**	**Gross**	**Accumulated Amortization**	**Net**
Existing developed technologies	$ 171,896	$ 153,200	$ 18,696	$ 171,441	$ 151,212	$ 20,229
Customer relationships	51,036	48,085	2,951	50,912	45,003	5,909
Trade name	8,000	7,898	102	7,972	7,759	213
In-process research and development	400	—	400	400	—	400
	$ 231,332	$ 209,183	$ 22,149	$ 230,725	$ 203,974	$ 26,751

Amortization expense was included in our Condensed Consolidated Statements of Income as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Cost of revenues	$ 838	$ 788	$ 1,669	$ 1,596
Selling, general and administrative	1,550	1,545	3,097	3,106
	$ 2,388	$ 2,333	$ 4,766	$ 4,702

The estimated future amortization of definite-lived intangible assets, excluding in-process research and development, is as follows (in thousands):

Fiscal Year	Amount
Remainder of 2023	$ 2,435
2024	4,624
2025	4,280
2026	3,184
2027	2,839
Thereafter	4,387
	$ 21,749

Note 5 — Accrued Liabilities

Accrued liabilities consisted of the following (in thousands):

	July 1, 2023	December 31, 2022
Accrued compensation and benefits	$ 17,386	$ 15,864
Employee stock purchase plan contributions withheld	4,142	4,585
Accrued income and other taxes	3,944	12,817
Accrued warranty	3,506	4,199
Accrued restructuring charges	207	1,249
Other accrued expenses	2,228	3,401
	$ 31,413	$ 42,115

Note 6 — Debt

On June 22, 2020, we entered into an $18.0 million 15-year credit facility loan agreement (the “Building Term Loan”) with MUFG Union Bank, National Association (“Union Bank”). The proceeds of the Building Term Loan were used to purchase a building adjacent to our leased facilities in Livermore, California. On May 19, 2023, we amended the Building Term Loan, replacing the benchmark reference rate LIBOR with the term SOFR, with no change to the amount or timing of contractual cash flows.

The Building Term Loan bears interest at a rate equal to the applicable SOFR rate, plus 0.1148%, plus 1.75% per annum. Interest payments are payable in monthly installments over a fifteen-year period. The interest rate at July 1, 2023 was 5.17%.

On March 17, 2020, we entered into an interest rate swap agreement with Union Bank to hedge the interest payment on the Building Term Loan for the notional amount of $18.0 million. As future levels of LIBOR over the life of the loan were uncertain, we entered into this interest-rate swap agreement to hedge the exposure in interest rate risks associated with movement in LIBOR rates. By entering into the agreement, we converted a floating-rate interest at one-month LIBOR plus 1.75% into a fixed-rate interest at 2.75%. This agreement was amended on May 19, 2023 to replace the benchmark reference rate LIBOR with the term SOFR to match the Building Term Loan agreement (as amended). After the amendment, the interest rate swap continues to convert our floating-rate interest into a fixed-rate at 2.75%.

Note 7 — Restructuring Charges

2022 Restructuring Plan

On October 25, 2022, we adopted a restructuring plan (“2022 restructuring plan”) to align our cost structure with reduced demand levels, by streamlining and improving the efficiency and business effectiveness of our operations. This plan included lowering headcount by approximately 13% of our workforce.

The Company has recognized 2022 restructuring plan charges of approximately $8.1 million for severance and employee-related costs, including $0.3 million for stock-based compensation, with $7.1 million within the Probe Cards segment, $0.5 million within the Systems segment, and $0.5 million within Corporate. We do not expect to incur additional material costs related to the 2022 restructuring plan.

2021 Restructuring Plan

On September 25, 2021, we adopted restructuring plans (“2021 restructuring plans”) to improve our business effectiveness and streamline our operations by consolidating certain manufacturing facilities for both the Probe Cards segment and the Systems segment. This included plans to consolidate or relocate certain leased locations in the United States to other locations in the United States, Germany and Asia. As a result of these changes to certain work locations, we have incurred personnel related costs to sever, relocate, or retain select employees. Additionally, as part of these plans we have undertaken actions to adjust capacity for certain product offerings, which included contract termination costs to satisfy contract obligations.

The Company has recognized 2021 restructuring plans charges of approximately $13.3 million, with $10.1 million within the Probe Cards segment and $3.2 million within the Systems segment, which were comprised of $1.4 million of severance and employee-related costs, $2.0 million in contract and lease termination costs, $9.4 million in inventory impairments and other inventory related costs, and $0.5 million of cost related to impairment of leasehold improvements, facility exits and fixed asset related costs. We do not expect additional material costs related to the 2021 restructuring plan.

Total restructuring charges for both the 2022 and 2021 restructuring plans included in our Condensed Consolidated Statements of Income were as follows (in thousands):

	Three Months Ended					
	July 1, 2023			June 25, 2022		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Cost of revenues	$ 47	$ 285	$ 332	$ 227	$ 227	$ 454
Research and development	170	51	221	—	53	53
Selling, general and administrative	6	59	65	—	74	74
	$ 223	$ 395	$ 618	$ 227	$ 354	$ 581

	Six Months Ended					
	July 1, 2023			June 25, 2022		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Cost of revenues	$ 106	$ 251	$ 357	$ 266	$ 327	$ 593
Research and development	182	109	291	—	199	199
Selling, general and administrative	1,069	118	1,187	3	99	102
	$ 1,357	$ 478	$ 1,835	$ 269	$ 625	$ 894

Changes to the restructuring accrual in the six months ended July 1, 2023 were as follows (in thousands):

	Employee Severance and Benefits	Stock-based Compensation	Inventory Impairments & Other Inventory Related Costs	Contract Termination & Other Costs	Total
December 31, 2022	$ 1,249	$ —	$ —	$ —	$ 1,249
Restructuring charges	917	295	390	233	1,835
Cash payments	(1,959)	—	(89)	(233)	(2,281)
Non-cash settlement	—	(295)	(301)	—	(596)
July 1, 2023	$ 207	$ —	$ —	$ —	$ 207

Note 8 — Fair Value and Derivative Instruments

Whenever possible, the fair values of our financial assets and liabilities are determined using quoted market prices of identical securities or quoted market prices of similar securities from active markets. The three levels of inputs that may be used to measure fair value are as follows:

- Level 1 valuations are obtained from real-time quotes for transactions in active exchange markets involving identical securities;
- Level 2 valuations utilize significant observable inputs, such as quoted prices for similar assets or liabilities, quoted prices near the reporting date in markets that are less active, or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities; and
- Level 3 valuations utilize unobservable inputs to the valuation methodology and include our own data about assumptions market participants would use in pricing the asset or liability based on the best information available under the circumstances.

We did not have any transfers of assets or liabilities measured at fair value on a recurring basis to or from Level 1, Level 2 or Level 3 during the three and six months ended July 1, 2023 or the year ended December 31, 2022.

The carrying values of Cash, Accounts receivable, net, Restricted cash, Prepaid expenses and other current assets, Accounts payable, and Accrued liabilities approximate fair value due to their short maturities.

No changes were made to our valuation techniques during the first six months of fiscal 2023.

Assets and Liabilities Measured at Fair Value on a Recurring Basis

Assets and liabilities measured at fair value on a recurring basis were as follows (in thousands):

July 1, 2023	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Cash equivalents:				
Money market funds	$ 30,179	$ —	$ —	$ 30,179
U.S. treasuries	1,691	—	—	1,691
	31,870	—	—	31,870
Marketable securities:				
U.S. treasuries	46,803	—	—	46,803
Certificates of deposit	—	235	—	235
U.S. agency securities	—	14,733	—	14,733
Corporate bonds	—	53,097	—	53,097
Commercial paper	—	24,075	—	24,075
	46,803	92,140	—	138,943
Foreign exchange derivative contracts	—	549	—	549
Promissory note receivable	—	—	926	926
Interest rate swap derivative contracts	—	2,263	—	2,263
Total assets	$ 78,673	$ 94,952	$ 926	$ 174,551
Liabilities:				
Foreign exchange derivative contracts	$ —	$ (60)	$ —	$ (60)
Total liabilities	$ —	$ (60)	$ —	$ (60)

December 31, 2022	**Level 1**	**Level 2**	**Level 3**	**Total**
Assets:				
Cash equivalents:				
Money market funds	$ 21,279	$ —	$ —	$ 21,279
Commercial paper	—	4,969	—	4,969
U.S. agency securities	—	996	—	996
	21,279	5,965	—	27,244
Marketable securities:				
U.S. treasuries	25,019	—	—	25,019
Certificates of deposit	—	706	—	706
U.S. agency securities	—	11,045	—	11,045
Corporate bonds	—	67,396	—	67,396
Commercial paper	—	24,840	—	24,840
	25,019	103,987	—	129,006
Foreign exchange derivative contracts	—	664	—	664
Promissory note receivable	—	—	943	943
Interest rate swap derivative contracts	—	2,374	—	2,374
Total assets	$ 46,298	$ 112,990	$ 943	$ 160,231
Liabilities:				
Foreign exchange derivative contracts	$ —	$ (193)	$ —	$ (193)
Total liabilities	$ —	$ (193)	$ —	$ (193)

Cash Equivalents

The fair value of our cash equivalents is determined based on quoted market prices for similar or identical securities.

Marketable Securities

We classify our marketable securities as available-for-sale and value them utilizing a market approach. Our investments are priced by pricing vendors who provide observable inputs for their pricing without applying significant judgment. Broker pricing is used mainly when a quoted price is not available, the investment is not priced by our pricing vendors or when a broker price is more reflective of fair value. Our broker-priced investments are categorized as Level 2 investments because fair value is based on similar assets without applying significant judgments. In addition, all investments have a sufficient trading volume to demonstrate that the fair value is appropriate.

Unrealized gains and losses were immaterial and were recorded as a component of Accumulated other comprehensive loss in our Condensed Consolidated Balance Sheets. We did not have any other-than-temporary unrealized gains or losses at either period end included in these financial statements.

Interest Rate Swaps

The fair value of our interest rate swap contracts is determined at the end of each reporting period based on valuation models that use interest rate yield curves as inputs. For accounting purposes, our interest rate swap contracts qualify for, and are designated as, cash flow hedges. The cash flows associated with the interest rate swaps are reported in Net cash provided by operating activities in our Condensed Consolidated Statements of Cash Flows and the fair value of the interest rate swap contracts are recorded within Prepaid expenses and other current assets and Other assets in our Condensed Consolidated Balance Sheets.

Foreign Exchange Derivative Contracts

We operate and sell our products in various global markets. As a result, we are exposed to changes in foreign currency exchange rates. We utilize foreign currency forward contracts to hedge against future movements in foreign exchange rates that affect certain existing foreign currency denominated assets and liabilities and forecasted foreign currency revenue and expense transactions. Under this program, our strategy is to have increases or decreases in our foreign currency exposures mitigated by gains or losses on the foreign currency forward contracts in order to mitigate the risks and volatility associated with foreign currency transaction gains or losses.

We do not use derivative financial instruments for speculative or trading purposes. For accounting purposes, certain of our foreign currency forward contracts are not designated as hedging instruments and, accordingly, we record the fair value of these contracts as of the end of our reporting period in our Condensed Consolidated Balance Sheets with changes in fair value recorded within Other income, net in our Condensed Consolidated Statement of Income for both realized and unrealized gains and losses. Certain of our foreign currency forward contracts are designated as cash flow hedges, and, accordingly, we record the fair value of these contracts as of the end of our reporting period in our Condensed Consolidated Balance Sheets with changes in fair value recorded as a component of Accumulated other comprehensive loss and reclassified into earnings in the same period in which the hedged transaction affects earnings, and in the same line item on the Condensed Consolidated Statements of Income as the impact of the hedge transaction.

The fair value of our foreign exchange derivative contracts was determined based on current foreign currency exchange rates and forward points. All of our foreign exchange derivative contracts outstanding at July 1, 2023 will mature by the second quarter of fiscal 2024.

The following table provides information about our foreign currency forward contracts outstanding as of July 1, 2023 (in thousands):

Currency	Contract Position	Contract Amount (Local Currency)	Contract Amount (U.S. Dollars)
Euro Dollar	Buy	18,558	$ 19,903
Euro Dollar	Sell	1,077	1,176
Japanese Yen	Sell	3,104,537	21,583
Korean Won	Buy	1,258,185	962
Taiwan Dollar	Sell	31,197	1,001

Our foreign currency contracts are classified within Level 2 of the fair value hierarchy as they are valued using pricing models that utilize observable market inputs.

Assets and Liabilities Measured at Fair Value on a Non-Recurring Basis

We measure and report our non-financial assets such as Property, plant and equipment, Goodwill and Intangible assets at fair value on a non-recurring basis if we determine these assets to be impaired or in the period when we make a business acquisition. Other than as discussed in Note 7, *Restructuring Charges*, there were no assets or liabilities measured at fair value on a nonrecurring basis during the three and six months ended July 1, 2023 or June 25, 2022.

Note 9 — Warranty

We offer warranties on certain products and record a liability for the estimated future costs associated with warranty claims at the time revenue is recognized. The warranty liability is based upon historical experience and our estimate of the level of future costs. While we engage in product quality programs and processes, our warranty obligation is affected by product failure rates, material usage and service delivery costs. We regularly monitor product returns for warranty and maintain a reserve for the related expenses based upon our historical experience and any specifically identified failures. As we sell new products to our customers, we must exercise considerable judgment in estimating the expected failure rates. This estimating process is based on historical experience of similar products, as well as various other assumptions that we believe to be reasonable under the circumstances. We provide for the estimated cost of product warranties at the time revenue is recognized as a component of Cost of revenues in our Condensed Consolidated Statement of Income.

Changes in our warranty liability were as follows (in thousands):

	Six Months Ended	
	July 1, 2023	**June 25, 2022**
Balance at beginning of period	$ 4,199	$ 2,805
Accruals	2,934	3,846
Settlements	(3,627)	(2,673)
Balance at end of period	$ 3,506	$ 3,978

Note 10 — Property, Plant and Equipment, net

Property, plant and equipment, net consisted of the following (in thousands):

	July 1, 2023	**December 31, 2022**
Land	$ 17,136	$ 17,136
Building and building improvements	44,452	44,932
Machinery and equipment	284,837	276,180
Computer equipment and software	46,774	45,813
Furniture and fixtures	7,468	7,540
Leasehold improvements	88,416	86,500
Sub-total	489,083	478,101
Less: Accumulated depreciation and amortization	(349,123)	(335,711)
Net, property, plant and equipment	139,960	142,390
Construction-in-process	64,617	47,458
Total	$ 204,577	$ 189,848

Note 11 — Stockholders' Equity and Stock-Based Compensation

Common Stock Repurchase Programs

On October 26, 2020, our Board of Directors authorized a two-year program to repurchase up to $50 million of outstanding common stock to offset potential dilution from issuances of common stock under our stock-based compensation programs. During the six months ended June 25, 2022, we repurchased 676,408 shares of common stock for $26.0 million. We utilized the remaining funds available for repurchase under this program during fiscal 2022.

On May 20, 2022, our Board of Directors authorized an additional program to repurchase up to $75 million of outstanding common stock, also with the primary purpose to offset potential dilution from issuances of common stock under our stock-based compensation programs. The share repurchase program will expire on May 20, 2024. During the six months ended July 1, 2023, we did not repurchase any common stock. As of July 1, 2023, $18.6 million remained available for future repurchases.

Our policy related to repurchases of our common stock is to charge the excess of cost over par value to additional paid-in capital once the shares are retired. All repurchases were made in compliance with Rule 10b-18 under the Securities Exchange Act of 1934, as amended.

Restricted Stock Units

Restricted stock unit ("RSU") activity under our equity incentive plan was as follows:

	Units	Weighted Average Grant Date Fair Value
RSUs at December 31, 2022	2,227,081	$ 35.28
Awards granted	1,014,619	30.97
Awards vested	(75,144)	37.76
Awards forfeited	(122,881)	35.09
RSUs at July 1, 2023	3,043,675	33.78

Performance Restricted Stock Units

We may grant Performance RSUs ("PRSUs") to certain executives, which vest based upon us achieving certain market performance criteria. There were no market based PRSUs granted during the six months ended July 1, 2023. PRSUs are included as part of the RSU activity above.

Employee Stock Purchase Plan

Information related to activity under our Employee Stock Purchase Plan ("ESPP") was as follows:

	Six Months Ended July 1, 2023
Shares issued	210,055
Weighted average per share purchase price	$ 23.92
Weighted average per share discount from the fair value of our common stock on the date of issuance	$ (4.22)

Stock-Based Compensation

Stock-based compensation was included in our Condensed Consolidated Statements of Income as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Cost of revenues	$ 1,515	$ 734	$ 3,425	$ 1,812
Research and development	2,363	1,695	4,735	3,681
Selling, general and administrative	5,326	3,929	10,334	8,385
Total stock-based compensation	$ 9,204	$ 6,358	$ 18,494	$ 13,878

Unrecognized Compensation Costs

At July 1, 2023, the unrecognized stock-based compensation was as follows (dollars in thousands):

	Unrecognized Expense	Average Expected Recognition Period in Years
Restricted stock units	$ 60,794	2.28
Performance restricted stock units	7,789	1.72
Employee stock purchase plan	246	0.09
Total unrecognized stock-based compensation expense	$ 68,829	2.22

Note 12 — Net Income per Share

The following table reconciles the shares used in calculating basic net income per share and diluted net income per share (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Weighted-average shares used in computing basic net income per share	77,159	77,897	77,112	78,071
Add potentially dilutive securities	457	1,313	338	1,352
Weighted-average shares used in computing diluted net income per share	77,616	79,210	77,450	79,423
Securities not included as they would have been antidilutive	486	23	343	—

Note 13 — Commitments and Contingencies

Leases
See Note 14, *Leases*.

Contractual Obligations and Commitments
Our contractual obligations and commitments have not materially changed as of July 1, 2023 from those disclosed in our Annual Report on Form 10-K for the year ended December 31, 2022.

Legal Matters
From time to time, we are subject to legal proceedings and claims in the ordinary course of business, the outcomes of which cannot be estimated with certainty. Our ability to estimate the outcomes may change in the near term and the effect of any such change could have a material adverse effect on our financial position, results of operations or cash flows.

Note 14 — Leases

We lease real estate space under non-cancelable operating lease agreements for commercial and industrial space, as well as for a portion of our corporate headquarters located in Livermore, California. Our leases have remaining terms of 1 to 6 years, and some leases include options to extend up to 20 years. We also have operating leases for automobiles with remaining lease terms of 1 year. We did not include any of our renewal options in our lease terms for calculating our lease liability as the renewal options allow us to maintain operational flexibility and we are not reasonably certain we will exercise these options at this time. The weighted-average remaining lease term for our operating leases was 5 years as of July 1, 2023 and the weighted-average discount rate was 4.28%.

The components of lease expense were as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Lease expense:				
Operating lease expense	$ 2,124	$ 2,183	$ 4,076	$ 4,404
Short-term lease expense	136	76	293	116
Variable lease expense	483	677	1,229	1,135
	$ 2,743	$ 2,936	$ 5,598	$ 5,655

Future minimum payments under our non-cancelable operating leases were as follows as of July 1, 2023 (in thousands):

Fiscal Year		Amount
Remainder of 2023	$	4,295
2024		8,667
2025		8,575
2026		7,049
2027		6,631
Thereafter		3,434
Total minimum lease payments		38,651
Less: interest		(4,322)
Present value of net minimum lease payments		34,329
Less: current portion		(7,871)
Total long-term operating lease liabilities	$	26,458

Note 15 — Revenue

Transaction price allocated to the remaining performance obligations: On July 1, 2023, we had $9.4 million of remaining performance obligations, which were comprised of deferred service contracts and extended warranty contracts and contracts with overtime revenue recognition that are not yet delivered. We expect to recognize approximately 46.7% of our remaining performance obligations as revenue in the remainder of fiscal 2023, approximately 45.8% in fiscal 2024, and approximately 7.5% in fiscal 2025 and thereafter. The foregoing excludes the value of other remaining performance obligations as they have original durations of one year or less, and also excludes information about variable consideration allocated entirely to a wholly unsatisfied performance obligation.

Contract balances: The timing of revenue recognition may differ from the timing of invoicing to customers. Accounts receivable is recorded at the invoiced amount, net of an allowance for credit losses. A receivable is recognized in the period we deliver goods or provide services or when our right to consideration is unconditional. A contract asset is recorded when we have performed under the contract but our right to consideration is conditional on something other than the passage of time. Contract assets as of July 1, 2023 and December 31, 2022 were $4.1 million and $1.9 million, respectively, and are reported on the Condensed Consolidated Balance Sheets as a component of Prepaid expenses and other current assets.

Contract liabilities include payments received and payments due in advance of performance under a contract and are satisfied as the associated revenue is recognized. Contract liabilities are reported on the Condensed Consolidated Balance Sheets at the end of each reporting period as a component of Deferred revenue and Other liabilities. Contract liabilities as of July 1, 2023 and December 31, 2022 were $21.0 million and $30.9 million, respectively. During the six months ended July 1, 2023, we recognized $21.5 million of revenue that was included in contract liabilities as of December 31, 2022.

Costs to obtain a contract: We generally expense sales commissions when incurred as a component of Selling, general and administrative expense, as the amortization period is typically less than one year.

Revenue by category: Refer to Note 16, *Operating Segments and Enterprise-Wide Information*, for further details.

Note 16 — Operating Segments and Enterprise-Wide Information

Our chief operating decision maker ("CODM") is our Chief Executive Officer, who reviews operating results to make decisions about allocating resources and assessing performance for the entire company. We operate in two reportable segments consisting of the Probe Cards segment and the Systems segment. The following table summarizes the operating results by reportable segment (dollars in thousands):

	Three Months Ended							
	July 1, 2023				June 25, 2022			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Revenues	$ 115,303	$ 40,613	$ —	$ 155,916	$ 167,708	$ 36,199	$ —	$ 203,907
Gross profit	42,112	21,124	(2,953)	60,283	78,420	18,276	(2,327)	94,369
Gross margin	36.5 %	52.0 %		38.7 %	46.8 %	50.5 %		46.3 %

	Six Months Ended							
	July 1, 2023				June 25, 2022			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Revenues	$ 242,631	$ 80,733	$ —	$ 323,364	$ 327,691	$ 73,390	$ —	$ 401,081
Gross profit	85,735	41,870	(6,244)	121,361	155,622	37,683	(4,712)	188,593
Gross margin	35.3 %	51.9 %		37.5 %	47.5 %	51.3 %		47.0 %

Operating results provide useful information to our management for assessment of our performance and results of operations. Certain components of our operating results are utilized to determine executive compensation along with other measures.

Corporate and Other includes unallocated expenses relating to amortization of intangible assets, inventory and fixed asset fair value adjustments due to acquisitions, share-based compensation, and restructuring charges which are not used in evaluating the results of, or in allocating resources to, our reportable segments.

Certain revenue category information by reportable segment was as follows (in thousands):

	Three Months Ended					
	July 1, 2023			June 25, 2022		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Market:						
Foundry & Logic	$ 81,967	$ —	$ 81,967	$ 122,380	$ —	$ 122,380
DRAM	30,464	—	30,464	36,843	—	36,843
Flash	2,872	—	2,872	8,485	—	8,485
Systems	—	40,613	40,613	—	36,199	36,199
Total	$ 115,303	$ 40,613	$ 155,916	$ 167,708	$ 36,199	$ 203,907
Timing of revenue recognition:						
Products transferred at a point in time	$ 112,985	$ 40,040	$ 153,025	$ 166,701	$ 33,081	$ 199,782
Products and services transferred over time	2,318	573	2,891	1,007	3,118	4,125
Total	$ 115,303	$ 40,613	$ 155,916	$ 167,708	$ 36,199	$ 203,907
Geographical region:						
United States	$ 31,131	$ 11,542	$ 42,673	$ 21,539	$ 9,703	$ 31,242
Taiwan	25,316	4,196	29,512	45,188	4,832	50,020
South Korea	26,455	1,408	27,863	27,418	1,337	28,755
China	16,516	6,992	23,508	40,578	9,157	49,735
Europe	2,415	8,401	10,816	3,824	4,267	8,091
Japan	3,902	4,030	7,932	6,716	3,221	9,937
Malaysia	6,177	500	6,677	16,157	87	16,244
Singapore	1,718	1,105	2,823	5,131	1,977	7,108
Rest of the world	1,673	2,439	4,112	1,157	1,618	2,775
Total	$ 115,303	$ 40,613	$ 155,916	$ 167,708	$ 36,199	$ 203,907

	Six Months Ended					
	July 1, 2023			June 25, 2022		
	Probe Cards	Systems	Total	Probe Cards	Systems	Total
Market:						
Foundry & Logic	$ 183,529	$ —	$ 183,529	$ 236,501	$ —	$ 236,501
DRAM	50,354	—	50,354	71,280	—	71,280
Flash	8,748	—	8,748	19,910	—	19,910
Systems	—	80,733	80,733	—	73,390	73,390
Total	$ 242,631	$ 80,733	$ 323,364	$ 327,691	$ 73,390	$ 401,081
Timing of revenue recognition:						
Products transferred at a point in time	$ 236,903	$ 79,510	$ 316,413	$ 325,537	$ 68,497	$ 394,034
Products and services transferred over time	5,728	1,223	6,951	2,154	4,893	7,047
Total	$ 242,631	$ 80,733	$ 323,364	$ 327,691	$ 73,390	$ 401,081
Geographical region:						
United States	$ 55,772	$ 24,632	$ 80,404	$ 41,515	$ 15,374	$ 56,889
Taiwan	64,213	5,628	69,841	87,710	15,379	103,089
China	34,992	15,615	50,607	73,369	14,765	88,134
South Korea	46,027	2,611	48,638	52,299	3,957	56,256
Europe	5,841	14,401	20,242	6,206	10,280	16,486
Japan	11,038	7,871	18,909	11,501	7,818	19,319
Malaysia	16,501	1,446	17,947	37,674	769	38,443
Singapore	4,918	3,245	8,163	15,415	2,589	18,004
Rest of the world	3,329	5,284	8,613	2,002	2,459	4,461
Total	$ 242,631	$ 80,733	$ 323,364	$ 327,691	$ 73,390	$ 401,081

Item 2. *Management's Discussion and Analysis of Financial Condition and Results of Operations*

Cautionary Statement Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q contains forward-looking statements within the meaning of the Securities Exchange Act of 1934 and the Securities Act of 1933, which are subject to risks and uncertainties. The forward-looking statements include statements concerning, among other things, our business strategy, financial and operating results, gross margins, liquidity and capital expenditure requirements and impact of accounting standards. In some cases, you can identify these statements by forward-looking words, such as "may," "might," "will," "could," "should," "expect," "plan," "anticipate," "believe," "estimate," "predict," "intend" and "continue," the negative or plural of these words and other comparable terminology.

The forward-looking statements are only predictions based on our current expectations and our projections about future events. All forward-looking statements included in this Quarterly Report on Form 10-Q are based upon information available to us as of the filing date of this Quarterly Report on Form 10-Q. You should not place undue reliance on these forward-looking statements. We have no obligation to update any of these statements. These forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from those expressed or implied by these statements, including risks related to general market trends, the benefits of acquisitions and investments, our supply chain, uncertainties related to global, regional or national public health-related crises and the impact of our responses to them, the interpretation and impacts of changes in export controls and other trade barriers, military conflicts, political volatility and similar factors, our ability to execute our business strategy and other risks discussed in the section titled "Risk Factors" and elsewhere in our Annual Report on Form 10-K for the year ended December 31, 2022 and in this Quarterly Report on Form 10-Q. You should carefully consider the numerous risks and uncertainties described under these sections.

The following discussion and analysis should be read in conjunction with our condensed consolidated financial statements and the accompanying notes contained in this Quarterly Report on Form 10-Q. Unless expressly stated or the context otherwise requires, the terms "we," "our," "us" and "FormFactor" refer to FormFactor, Inc. and its subsidiaries.

Overview

FormFactor, Inc., headquartered in Livermore, California, is a leading provider of essential test and measurement technologies along the full semiconductor product lifecycle - from metrology and inspection, characterization, modeling, reliability, and design de-bug, to qualification and production test. We provide a broad range of high-performance probe cards, analytical probes, probe stations, metrology systems, thermal systems, and cryogenic systems to both semiconductor companies and scientific institutions. Our products provide electrical and physical information from a variety of semiconductor and electro-optical devices and integrated circuits from early research, through development, to high-volume production. Customers use our products and services to accelerate profitability by optimizing device performance and advancing yield knowledge.

We operate in two reportable segments consisting of the Probe Cards segment and the Systems segment. Sales of our probe cards and analytical probes are included in the Probe Cards segment, while sales of our probe stations, metrology systems, thermal systems and cryogenic systems are included in the Systems segment.

We generated net income of $2.2 million in the first six months of fiscal 2023 as compared to $60.1 million in the first six months of fiscal 2022. The decrease in net income was primarily due to a decline in revenues and the associated decline in gross margins and higher operating expenses.

Significant Accounting Policies and the Use of Estimates

Management's Discussion and Analysis and Note 2, *Summary of Significant Accounting Policies*, to the Consolidated Financial Statements in our 2022 Annual Report on Form 10-K describe the significant accounting estimates and significant accounting policies used in preparation of the Consolidated Financial Statements. Actual results in these areas could differ from management's estimates. During the six months ended July 1, 2023, there were no significant changes in our significant accounting policies or estimates from those reported in our Annual Report on Form 10-K for the year ended December 31, 2022, which was filed with the Securities and Exchange Commission on February 24, 2023, except for:

Government Assistance
In January 2023, we received $18.0 million in cash from a California Competes Grant (the "Grant") awarded from the California Governor's Office of Business and Economic Development. The Grant requires FormFactor to create and maintain full-time jobs and make significant infrastructure investments within California over a 5-year term. If we do not meet the requirements of the Grant, we will be required to repay all or a portion of the Grant.

The Grant is included in our Condensed Consolidated Balance Sheets within Deferred grant and we have elected to recognize the Grant when earned as an offset to Cost of revenues and Operating expenses within our Condensed Consolidated Statements of Income. We have elected to present the proceeds from the Grant as cash provided by operating activities within our Condensed Consolidated Statements of Cash Flows as the Grant is to offset operations.

Results of Operations

The following table sets forth our operating results as a percentage of revenues for the periods indicated:

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Revenues	100.0 %	100.0 %	100.0 %	100.0 %
Cost of revenues	61.3	53.7	62.5	53.0
Gross profit	38.7	46.3	37.5	47.0
Operating expenses:				
Research and development	18.2	13.9	17.5	13.8
Selling, general and administrative	21.3	16.4	20.4	16.5
Total operating expenses	39.5	30.3	37.9	30.3
Operating income (loss)	(0.8)	16.0	(0.4)	16.7
Interest income, net	0.9	—	0.9	—
Other income, net	0.3	0.3	0.1	0.2
Income before income taxes	0.4	16.3	0.6	16.9
Provision (benefit) for income taxes	(0.1)	1.5	(0.1)	1.9
Net income	0.5 %	14.8 %	0.7 %	15.0 %

Revenues by Segment and Market

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
	(In thousands)			
Probe Cards	$ 115,303	$ 167,708	$ 242,631	$ 327,691
Systems	40,613	36,199	80,733	73,390
	$ 155,916	$ 203,907	$ 323,364	$ 401,081

	Three Months Ended					
	July 1, 2023	% of Revenues	June 25, 2022	% of Revenues	$ Change	% Change
	(Dollars in thousands)					
Probe Cards Markets:						
Foundry & Logic	$ 81,967	52.6 %	$ 122,380	60.0 %	$ (40,413)	(33.0)%
DRAM	30,464	19.5	36,843	18.0	(6,379)	(17.3)
Flash	2,872	1.9	8,485	4.2	(5,613)	(66.2)
Systems Market:						
Systems	40,613	26.0	36,199	17.8	4,414	12.2
Total revenues	$ 155,916	100.0 %	$ 203,907	100.0 %	$ (47,991)	(23.5)%

	Six Months Ended					
	July 1, 2023	% of Revenues	June 25, 2022	% of Revenues	$ Change	% Change
	(Dollars in thousands)					
Probe Cards Markets:						
Foundry & Logic	$ 183,529	56.7 %	$ 236,501	58.9 %	$ (52,972)	(22.4)%
DRAM	50,354	15.6	71,280	17.8	(20,926)	(29.4)
Flash	8,748	2.7	19,910	5.0	(11,162)	(56.1)
Systems Market:						
Systems	80,733	25.0	73,390	18.3	7,343	10.0
Total revenues	$ 323,364	100.0 %	$ 401,081	100.0 %	$ (77,717)	(19.4)%

Foundry & Logic — The decrease in Foundry & Logic product revenue for the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, was driven by the weaker demand in the semiconductor industry, especially in the personal computer and mobile sectors, that began in the third quarter of fiscal 2022 and has continued into the three and six months ended July 1, 2023 and has resulted in decreased unit sales across the majority of our major customers.

DRAM — The decrease in DRAM product revenue for the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, was driven by lower customer production activity and demand for our products in light of worldwide excess supply of DRAM chips, along with weaker demand in the overall semiconductor industry. The decline for the six months ended July 1, 2023 was partially offset within the second quarter of fiscal 2023 due to increased demand for high bandwidth memory (“HBM”) chips utilized in artificial intelligence.

Flash — The decrease in Flash product revenue for the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, was driven by lower customer production activity and demand for our products in light of worldwide excess supply, a result of the semiconductor industry's overall demand weakening and Flash market weakness.

Systems — The increase in Systems market revenue for the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, was driven by increased sales of probe stations and cryogenic systems, partially offset by decreased sales of our metrology systems.

Revenues by Geographic Region

	Three Months Ended				Six Months Ended			
	July 1, 2023	**% of Revenues**	**June 25, 2022**	**% of Revenues**	**July 1, 2023**	**% of Revenue**	**June 25, 2022**	**% of Revenue**
	(Dollars in thousands)							
United States	$ 42,673	27.4 %	$ 31,242	15.3 %	$ 80,404	24.9 %	$ 56,889	14.2 %
Taiwan	29,512	18.9	50,020	24.5	69,841	21.6	103,089	25.7
South Korea	27,863	17.9	28,755	14.1	48,638	15.0	56,256	14.0
China	23,508	15.1	49,735	24.4	50,607	15.7	88,134	22.0
Europe	10,816	6.9	8,091	4.0	20,242	6.3	16,486	4.1
Japan	7,932	5.1	9,937	4.9	18,909	5.8	19,319	4.8
Malaysia	6,677	4.3	16,244	8.0	17,947	5.6	38,443	9.6
Singapore	2,823	1.8	7,108	3.5	8,163	2.5	18,004	4.5
Rest of the world	4,112	2.6	2,775	1.3	8,613	2.6	4,461	1.1
Total revenues	$ 155,916	100.0 %	$ 203,907	100.0 %	$ 323,364	100.0 %	$ 401,081	100.0 %

Geographic revenue information is based on the location to which we ship the product. For example, if a certain South Korean customer purchases through their U.S. subsidiary and requests the products to be shipped to an address in South Korea, this sale will be reflected in the revenue for South Korea rather than the U.S.

Changes in revenue by geographic region for the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, were primarily attributable to changes in customer demand, shifts in customer regional manufacturing strategies, particularly with our large multinational customers, and product sales mix. More specifically, the increase in revenues for the United States, and decreases in revenues for China and Malaysia were driven principally by a single large U.S.-based company with operations in these regions. The decrease in revenues for China was also impacted by lowered demand from a large Chinese DRAM integrated device manufacturer and the impact from expanded export license requirements imposed by the United States government in the fourth quarter of fiscal 2022 for exporting advanced U.S. semiconductor technology to China.

Cost of Revenues and Gross Margins

Cost of revenues consists primarily of manufacturing materials, compensation and benefits, shipping and handling costs, manufacturing-related overhead (including equipment costs, related occupancy, and computer services), warranty adjustments, inventory adjustments (including write-downs for inventory obsolescence), and amortization of certain intangible assets. Our manufacturing operations rely on a limited number of suppliers to provide key components and materials for our products, some of which are a sole source. We order materials and supplies based on backlog and forecasted customer orders. Tooling and setup costs related to changing manufacturing lots at our suppliers are also included in the cost of revenues. We expense all warranty costs, inventory provisions and amortization of certain intangible assets as cost of revenues.

Our gross profit and gross margin were as follows (dollars in thousands):

	Three Months Ended			
	July 1, 2023	**June 25, 2022**	**$ Change**	**% Change**
Gross profit	$ 60,283	$ 94,369	$ (34,086)	(36.1)%
Gross margin	38.7 %	46.3 %		

	Six Months Ended			
	July 1, 2023	**June 25, 2022**	**$ Change**	**% Change**
Gross profit	$ 121,361	$ 188,593	$ (67,232)	(35.6)%
Gross margin	37.5 %	47.0 %		

Our gross profit and gross margin by segment were as follows (dollars in thousands):

	Three Months Ended							
	July 1, 2023				June 25, 2022			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Gross profit	$ 42,112	$ 21,124	$ (2,953)	$ 60,283	$ 78,420	$ 18,276	$ (2,327)	$ 94,369
Gross margin	36.5 %	52.0 %		38.7 %	46.8 %	50.5 %		46.3 %

	Six Months Ended							
	July 1, 2023				June 25, 2022			
	Probe Cards	Systems	Corporate and Other	Total	Probe Cards	Systems	Corporate and Other	Total
Gross profit	$ 85,735	$ 41,870	$ (6,244)	$ 121,361	$ 155,622	$ 37,683	$ (4,712)	$ 188,593
Gross margin	35.3 %	51.9 %		37.5 %	47.5 %	51.3 %		47.0 %

Probe Cards — For the three and six months ended July 1, 2023, gross margins decreased compared to the three and six months ended June 25, 2022, primarily due to unfavorable absorption of costs on lower production volumes, greater inventory excess and obsolescence reserves, and lower standard margins related to a less favorable product mix.

Systems — For the three and six months ended July 1, 2023, gross margins increased compared to the three and six months ended June 25, 2022, primarily as a result of higher volume on more favorable product mix.

Corporate and Other — Corporate and Other includes unallocated expenses relating to share-based compensation and amortization of intangible assets, inventory and fixed asset fair value adjustments due to acquisitions, and restructuring, which are not used in evaluating the results of, or in allocating resources to, our reportable segments.

Overall — Gross profit and gross margins fluctuate with revenue levels, product mix, selling prices, factory loading, labor costs, and material costs. For the three and six months ended July 1, 2023, compared to the three and six months ended June 25, 2022, gross profit and gross margins have decreased because of lower revenue levels, unfavorable absorption of costs on lower production volumes, and greater inventory excess and obsolescence reserves.

Cost of revenues included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Stock-based compensation	$ 1,515	$ 734	$ 3,425	$ 1,812

Research and Development

	Three Months Ended			
	July 1, 2023	June 25, 2022	$ Change	% Change
	(Dollars in thousands)			
Research and development	$ 28,340	$ 28,317	$ 23	0.1 %
% of revenues	18.2 %	13.9 %		

	Six Months Ended			
	July 1, 2023	June 25, 2022	$ Change	% Change
	(Dollars in thousands)			
Research and development	$ 56,585	$ 55,451	$ 1,134	2.0 %
% of revenues	17.5 %	13.8 %		

Research and development expenses in the three and six months ended July 1, 2023 increased when compared to the corresponding period in the prior year primarily due to an increase in headcount to support our continued investment in technology leadership. Increased stock-based compensation from timing of grants, salary adjustments, depreciation, and general operational costs also contributed to the increase. These increases were partially offset by lower performance-based compensation and project material costs.

A detail of the changes is as follows (in thousands):

	Three Months Ended July 1, 2023 compared to Three Months Ended June 25, 2022	Six Months Ended July 1, 2023 compared to Six Months Ended June 25, 2022
Stock-based compensation	$ 668	$ 1,054
Project material costs	(471)	(695)
Employee compensation costs	(494)	(279)
Depreciation	111	374
Restructuring charges	167	—
Other general operational costs	42	680
	$ 23	$ 1,134

Research and development included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Stock-based compensation	$ 2,363	$ 1,695	$ 4,735	$ 3,681

Selling, General and Administrative

	Three Months Ended			
	July 1, 2023	June 25, 2022	$ Change	% Change
	(Dollars in thousands)			
Selling, general and administrative	$ 33,255	$ 33,406	$ (151)	(0.5)%
% of revenues	21.3 %	16.4 %		

	Six Months Ended			
	July 1, 2023	June 25, 2022	$ Change	% Change
	(Dollars in thousands)			
Selling, general and administrative	$ 65,997	$ 66,312	$ (315)	(0.5)%
% of revenues	20.4 %	16.5 %		

Selling, general and administrative expenses decreased in the three and six months ended July 1, 2023 when compared to the corresponding period in the prior year, primarily driven by lower performance-based compensation and a reduction of headcount, partially offset by higher stock-based compensation, consulting fees, and general operating expenses.

A detail of the changes is as follows (in thousands):

	Three Months Ended July 1, 2023 compared to Three Months Ended June 25, 2022	Six Months Ended July 1, 2023 compared to Six Months Ended June 25, 2022
Employee compensation	$ (2,812)	$ (5,185)
Stock-based compensation	1,397	1,949
Consulting fees	665	818
General operating expenses	599	1,312
Restructuring charges	—	791
	$ (151)	$ (315)

Selling, general and administrative included stock-based compensation expense as follows (in thousands):

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
Stock-based compensation	$ 5,326	$ 3,929	$ 10,334	$ 8,385

Interest Income (Expense), Net

Interest income is earned on our cash, cash equivalents, restricted cash and marketable securities. The increase in interest income for the three and six months ended July 1, 2023 compared with the corresponding period of the prior year was attributable to an increase in investment yields due to the higher interest rate environment.

Interest expense primarily includes interest on our term loan, interest rate swap derivative contracts, and term loan issuance costs amortization charges. The interest expense for the three and six months ended July 1, 2023 compared to the same period of the prior year decreased due to lower outstanding debt.

Other Income, Net

Other income, net, primarily includes the effects of foreign currency impact and various other gains and losses. We partially mitigate our risks from currency movements by hedging certain balance sheet exposures, which minimizes the impacts during periods of foreign exchange volatility.

Provision for Income Taxes

	Three Months Ended		Six Months Ended	
	July 1, 2023	June 25, 2022	July 1, 2023	June 25, 2022
	(In thousands, except percentages)			
Provision (benefit) for income taxes	$ (208)	$ 3,136	$ (160)	$ 7,586
Effective tax rate	(33.5)%	9.4 %	(8.0)%	11.2 %

Provision for income taxes reflects the tax provision on our operations in foreign and U.S. jurisdictions, offset by tax benefits from tax credits and the foreign-derived intangible income ("FDII") deduction. Our effective tax rate may vary from period to period based on changes in estimated taxable income or loss by jurisdiction, changes to the valuation allowance, changes to U.S. federal, state or foreign tax laws, changes in ASC 718 stock-based compensation expense/benefit, future expansion into areas with varying country, state, and local income tax rates, and deductibility of certain costs and expenses by jurisdiction.

The decrease in our effective tax rate for the three and six months ended July 1, 2023, when compared to the corresponding period in the prior year, was primarily driven by a change within the second quarter of fiscal 2023 to the estimated annual taxable income, including by jurisdiction.

The Creating Helpful Incentives to Produce Semiconductors and Science Act of 2022 ("CHIPS Act") was signed into law on August 9, 2022. The CHIPS Act provides for various incentives and tax credits among other items, including the Advanced Manufacturing Investment Credit ("AMIC"), which equals 25% of qualified investments in an advanced manufacturing facility that is placed in service after December 31, 2022. At least a portion of our future capital expenditures and research and development costs will qualify for this credit, which benefits us by allowing us to net the credit received against our costs. The AMIC credit is accounted for outside of ASC 740 as a reduction to the depreciable basis of the assets used in operations and will not have an impact on our effective tax rate.

Beginning in 2022, the U.S. Tax Cuts and Jobs Act of 2017 ("TCJA") eliminated the existing option to deduct research and development expenditures and requires taxpayers to amortize such expenditures attributable to domestic and foreign research over five and fifteen years, respectively, pursuant to IRC Section 174. While the capitalization requirement has a negative impact on our cash flows, there are offsetting benefits from the enactment of this provision that we have included in our estimated annual effective tax rate. While it is possible that Congress may defer, modify, or repeal this provision, potentially with retroactive effect, we have no assurance that this provision will be deferred, modified, or repealed. Changes in our tax provisions or an increase in our tax liabilities, whether due to changes in applicable laws and regulations, the interpretation or application thereof, or a final determination of tax audits or litigation or agreements, could have a material adverse effect on our financial position, results of operations and/or cash flows.

Liquidity and Capital Resources

Capital Resources

Our working capital was $354.2 million at July 1, 2023, compared to $324.9 million at December 31, 2022.

Cash and cash equivalents primarily consist of deposits held at banks and money market funds. Marketable securities primarily consist of corporate bonds, U.S. treasuries, commercial paper, and U.S. agency securities. We typically invest in highly rated securities with low probabilities of default. Our investment policy requires investments to be rated single A or better, and limits the types of acceptable investments, issuer concentration and duration of the investment.

Our cash, cash equivalents and marketable securities totaled approximately $236.9 million at July 1, 2023, compared to $238.1 million at December 31, 2022. Based on our historical results of operations, we expect that our cash, cash equivalents, and marketable securities on hand, and the cash we expect to generate from operations, will be sufficient to fund our short-term and long-term liquidity requirements primarily arising from: research and development, capital expenditures, working capital, outstanding commitments, and other liquidity requirements associated with existing operations. However, we cannot be certain that our cash, cash equivalents, and marketable securities on hand, and cash generated from operations, will be available in the future to fund all of our capital and operating requirements. In addition, any future strategic investments and significant acquisitions may require additional cash and capital resources. To the extent necessary, we may consider entering into short and long-term debt obligations, raising cash through a stock issuance, or obtaining new financing facilities, which may not be available on terms favorable to us. If we are unable to obtain sufficient cash or capital to meet our needs on a timely basis and on favorable terms, our business and operations could be materially and adversely affected.

If we are unsuccessful in maintaining or growing our revenues, maintaining or reducing our cost structure, or increasing our available cash through debt or equity financings, our cash, cash equivalents and marketable securities may decline.

We utilize a variety of tax planning and financing strategies to manage our worldwide cash and deploy funds to locations where needed. As part of these strategies, we indefinitely reinvest a portion of our foreign earnings. Should we require additional capital in the United States, we may elect to repatriate indefinitely-reinvested foreign funds or raise capital in the United States.

Cash Flows

The following table sets forth our net cash flows from operating, investing and financing activities:

	Six Months Ended	
	July 1, 2023	**June 25, 2022**
	(In thousands)	
Net cash provided by operating activities	$ 34,781	$ 86,801
Net cash used in investing activities	$ (48,464)	$ (41,111)
Net cash provided by (used in) financing activities	$ 4,049	$ (57,263)

Operating Activities

Net cash provided by operating activities for the six months ended July 1, 2023 was attributable to net income of $2.2 million and net non-cash expenses of $49.1 million, which includes depreciation, amortization, stock-based compensation, and the provision for excess and obsolete inventories, partially offset by an increase in net working capital of $16.5 million. The increase in net working capital related to decreases in accrued liabilities and deferred revenues of $10.6 million and $9.9 million, respectively, and increases in accounts receivable and inventory of $6.8 million and $5.9 million, respectively, partially offset by an increase in deferred grant of $18.0 million.

Investing Activities

Net cash used in investing activities for the six months ended July 1, 2023 primarily related to $40.2 million in property, plant and equipment purchases and $8.3 million in net purchases of marketable securities.

Financing Activities

Net cash provided by financing activities for the six months ended July 1, 2023 primarily related to $5.0 million received from issuances of common stock under our employee stock purchase plan, partially offset by $0.5 million principal payments made towards the repayment of our term loan and $0.5 million related to tax withholdings associated with the net share settlements of our equity awards.

Debt

Building Term Loan

On June 22, 2020, we entered into an $18.0 million 15-year credit facility loan agreement (the “Building Term Loan”). The proceeds of the Building Term Loan were used to purchase a building adjacent to our leased facilities in Livermore, California. On May 19, 2023, we amended the Building Term Loan, replacing the benchmark reference rate London Interbank Offered Rate (“LIBOR“) with the term Secured Overnight Financing Rate (“SOFR”), with no change to the amount or timing of contractual cash flows.

The Building Term Loan bears interest at a rate equal to the applicable SOFR rate, plus 0.1148%, plus 1.75% per annum. Interest payments are payable in monthly installments over a fifteen-year period. The interest rate at July 1, 2023 was 5.17%. As of July 1, 2023, the balance outstanding pursuant to the Building Term Loan was $15.0 million.

On March 17, 2020, we entered into an interest rate swap agreement to hedge the interest payment on the Building Term Loan for the notional amount of $18.0 million, and an amortization period that matches the debt. As future levels of LIBOR over the life of the loan are uncertain, we entered into this interest-rate swap agreement to hedge the exposure in interest rate risks associated with movement in LIBOR rates. By entering into the agreement, we converted a floating-rate interest at one-month LIBOR plus 1.75% into a fixed-rate interest at 2.75%. This agreement was amended on May 19, 2023 to replace the benchmark reference rate LIBOR with the term SOFR to match the Building Term Loan agreement (as amended). After the amendment, the interest rate swap continues to convert our floating-rate interest into a fixed-rate at 2.75%. As of July 1, 2023, the notional amount of the loan that is subject to this interest rate swap is $15.0 million.

Stock Repurchase Programs

On October 26, 2020, our Board of Directors authorized a two-year program to repurchase up to $50 million of outstanding common stock to offset potential dilution from issuances of common stock under our stock-based compensation programs. During the six months ended June 25, 2022, we repurchased 676,408 shares of common stock for $26.0 million. We utilized the remaining funds available for repurchase under this program during fiscal 2022.

On May 20, 2022, our Board of Directors authorized an additional program to repurchase up to $75 million of outstanding common stock, also with the primary purpose to offset potential dilution from issuances of common stock under our stock-based compensation programs. The share repurchase program will expire on May 20, 2024. During the six months ended July 1, 2023, we did not repurchase any shares of common stock. As of July 1, 2023, $18.6 million remained available for future repurchases.

Contractual Obligations and Commitments

The following table summarizes our significant contractual commitments to make future payments in cash under contractual obligations as of July 1, 2023:

	Payments Due In Fiscal Year						
	Remainder 2023	**2024**	**2025**	**2026**	**2027**	**Thereafter**	**Total**
Operating leases	$ 4,295	$ 8,667	$ 8,575	$ 7,049	$ 6,631	$ 3,434	$ 38,651
Term loans - principal payments	529	1,080	1,111	1,142	1,175	9,940	14,977
Term loans - interest payments [1]	519	985	900	824	742	2,739	6,709
Total	$ 5,343	$ 10,732	$ 10,586	$ 9,015	$ 8,548	$ 16,113	$ 60,337

[1] Represents our minimum interest payment commitments at 5.17% per annum for the Building Term Loan. This excludes any amounts related to our interest rate swap.

Off-Balance Sheet Arrangements

Historically, we have not participated in transactions that have generated relationships with unconsolidated entities or financial partnerships, such as entities often referred to as structured finance or special purpose entities, which would have been established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes. As of July 1, 2023, we were not involved in any such off-balance sheet arrangements.

Recent Accounting Standards

For a description of a recent change in accounting standards, including the expected dates of adoption and estimated effects, if any, in our condensed consolidated financial statements, see Note 1, *Basis of Presentation and Significant Accounting Policies,* in Part I, Item 1 of this Form 10-Q.

Item 3. *Quantitative and Qualitative Disclosures about Market Risk*

For financial market risks related to changes in interest rates and foreign currency exchange rates, reference is made to Item 7A "Quantitative and Qualitative Disclosures about Market Risk" contained in Part II of our Annual Report on Form 10-K for the fiscal year ended December 31, 2022. Our exposure to market risk has not changed materially since December 31, 2022.

Item 4. *Controls and Procedures*

Evaluation of Disclosure Controls and Procedures

Based on our management's evaluation (with the participation of our principal executive officer and principal financial officer), as of the end of the period covered by this report, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, (the "Exchange Act")) are effective to ensure that information required to be disclosed by us in reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in

Securities and Exchange Commission rules and forms and is accumulated and communicated to our management, including our principal executive officer and principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There have been no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during the period covered by this Quarterly Report on Form 10-Q that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Limitations on the Effectiveness of Controls

Control systems, no matter how well designed and operated, can provide only reasonable, not absolute, assurance that the control systems' objectives are being met. Further, the design of any control systems must reflect the fact that there are resource constraints, and the benefits of all controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. These inherent limitations include the realities that judgments in decision making can be faulty and that breakdowns can occur because of a simple error or mistake. Control systems can also be circumvented by the individual acts of some persons, by collusion of two or more people, or by management override of the controls. The design of any system of controls is based, in part, on certain assumptions about the likelihood of future events, and there can be no assurance that any design will succeed in achieving its stated goals under all potential future conditions. Over time, controls may become inadequate because of changes in conditions or deterioration in the degree of compliance with policies or procedures.

CEO and CFO Certifications

We have attached as exhibits to this Quarterly Report on Form 10-Q the certifications of our Chief Executive Officer and Chief Financial Officer, which are required in accordance with the Exchange Act. We recommend that this Item 4 be read in conjunction with the certifications for a more complete understanding of the subject matter presented.

PART II - OTHER INFORMATION

Item 1A. ***Risk Factors***

There have been no material changes during the six months ended July 1, 2023 to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2022. If any of the identified risks actually occur, our business, financial condition and results of operations could suffer. The trading price of our common stock could decline and you may lose all or part of your investment in our common stock. The risks and uncertainties described in our Annual Report on Form 10-K for the year ended December 31, 2022 are not the only ones we face. Additional risks that we currently do not know about or that we currently believe to be immaterial may also impair our business operations.

Item 6. ***Exhibits***

The following exhibits are filed herewith and this list constitutes the exhibit index.

Exhibit Number	Exhibit Description	Incorporated by Reference			Filed Herewith
		Form	Date	Number	
31.01	Certification of Chief Executive Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
31.02	Certification of Chief Financial Officer pursuant to 15 U.S.C. Section 7241, as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002				X
32.01	Certification of Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002				*
101	The following financial statements from the Company's Quarterly Report on Form 10-Q for the quarter ended July 1, 2023, formatted in Inline XBRL: (i) Condensed Consolidated Balance Sheets, (ii) Condensed Consolidated Statements of Income, (iii) Condensed Consolidated Statements of Comprehensive Income, (iv) Condensed Consolidated Statements of Stockholders' Equity, (v) Condensed Consolidated Statements of Cash Flows, and (vi) Notes to Condensed Consolidated Financial Statements, tagged as blocks of text and including detailed tags				X
101.INS	XBRL Instance Document				X
101.SCH	XBRL Taxonomy Extension Schema Document				X
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document				X
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document				X
101.LAB	XBRL Taxonomy Extension Label Linkbase Document				X
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document				X
104	The cover page from the Company's Quarterly Report on Form 10-Q for the quarter ended July 1, 2023, formatted in Inline XBRL (included as Exhibit 101)				X

* This exhibit shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934 or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date hereof and irrespective of any general incorporation language in any filings.

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

FormFactor, Inc.

Date:	August 8, 2023	By:	/s/ SHAI SHAHAR
			Shai Shahar
			Chief Financial Officer
			(Duly Authorized Officer, Principal Financial Officer, and Principal Accounting Officer)

Exhibit 31.01

CERTIFICATION OF CHIEF EXECUTIVE OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241, AS
ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Michael D. Slessor, certify that:

1. I have reviewed the quarterly report on Form 10-Q of FormFactor, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in the quarterly report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.

5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 8, 2023

/s/ MICHAEL D. SLESSOR
Michael D. Slessor
Chief Executive Officer
(Principal Executive Officer and Director)

Exhibit 31.02

CERTIFICATION OF CHIEF FINANCIAL OFFICER
PURSUANT TO 15 U.S.C. SECTION 7241,
AS ADOPTED PURSUANT TO SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002

I, Shai Shahar, certify that:

1. I have reviewed the quarterly report on Form 10-Q of FormFactor, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d. Disclosed in the quarterly report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting.

5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):

   a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and

   b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: August 8, 2023

/s/ SHAI SHAHAR

Shai Shahar
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 32.01

CERTIFICATION OF
CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER
PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of FormFactor, Inc., a Delaware corporation, for the period ended July 1, 2023, as filed with the Securities and Exchange Commission, each of the undersigned officers of FormFactor, Inc. certifies pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to his respective knowledge:

1. The quarterly report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

2. The information contained in the quarterly report fairly presents, in all material respects, the financial condition and results of operations of FormFactor, Inc. for the periods presented therein.

Date:	August 8, 2023	/s/ MICHAEL D. SLESSOR
		Michael D. Slessor *Chief Executive Officer* *(Principal Executive Officer and Director)*
Date:	August 8, 2023	/s/ SHAI SHAHAR
		Shai Shahar *Chief Financial Officer* *(Principal Financial Officer and Principal Accounting Officer)*