



## KLA Corporation (NASDAQ: KLAC)

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We recommend a marketweight position on KLA Corporation's (KLAC) **4.100% 2029 senior unsecured notes**. KLAC is the leading supplier of Semiconductor Process Control (SPC) Equipment and Wafer Fabrication Equipment (WFE), as of FY19 KLAC controlled 64% of the SPC market which is comprised mainly of Integrated Circuit (IC) manufacturers. We believe the 2029 notes are appropriately priced at \$109.98 for the following reasons. **1)** Further complexity of ICs will help drive the company's core metrology and inspection business segments, resulting in the increased adoption of Extreme Ultraviolet Lithography (EUV) technology for use on a wider range of wafers, accelerating demand for KLAC's portfolio of EUV inspection equipment. **2)** KLAC will continue to capture SPC spend with the introduction of new Wafer Inspection/Patterning solutions as IC CapEx is expected to slow down and WFE market share is projected to decline. **3)** By leveraging KLAC's channels and technology, the recent acquisition of Orbotech will allow KLAC to further enter Flat Panel Display (FPD) and Printed Circuit Board (PCB) process control verticals, increasing exposure to Radio Frequency (RF) communication chips, Autos, and Advance Packaging (AP) IC substrate inspection segments. We believe KLAC's ability to expand their core operations to new end-markets while facing industry headwinds is appropriately priced in to the 2029 notes which are trading tight to industry peers who have higher credit ratings and superior debt profiles.

**Figure 1: Capitalization Table**

KLA Corporation						
LTM EBITDA	1,799					
Outstanding Debt and Leverage Metrics						
Type	Rate	Maturity	Debt Outstanding	Leverage	Price	Yield
Senior Unsecured Bond	4.125%	11/1/21	500		103.50	2.07%
Senior Unsecured Bond	4.650%	11/1/24	1,250		109.84	2.41%
Senior Unsecured Bond	4.100%	3/15/29	800		109.98	2.84%
Senior Unsecured Bond	5.650%	11/1/34	250		118.55	3.96%
Senior Unsecured Bond	5.000%	3/15/49	400		122.69	3.71%
<b>Total Senior Debt</b>			<b>3,200</b>	<b>1.78x</b>		
<b>Total Debt</b>			<b>3,200</b>	<b>1.78x</b>		
Market Capitalization	26,139					
Less: Cash	1,752					
Enterprise Value	27,587			<b>15.33x</b>		

Source: Company Filings, Bloomberg

### Security Data

**Bond Maturity: 3/15/2029**

**Rating: Baa1/BBB**

**Rank: Sr. Unsecured**

**Price: \$109.98**

**YTW: 2.84%**

**Call Date: 12/15/2028**

**Coupon: 4.100%**

**Spread: 116 bps**

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**Company & Management Description**

KLAC headquartered in Milpitas, CA was formed in 1997 and primarily sells process control equipment and services to measure, detect and analyze die yields on a nanometric level during the design, fabrication and testing phases of semiconductor manufacturing. KLAC operates through three main business segments, Semiconductor Process Control (SPC), Printed Circuit Boards (PCB) and Specialty Semiconductors (SPTS), generating 90% of their revenue from SPC. The company sources 85% of their revenue from Asia, and has five primary IC manufacturers making up roughly half of their sales. Rick Wallace, CEO/President & BOD member has been at the company for over 30 years holding various engineering positions and has been in his current role for the last 11 years.

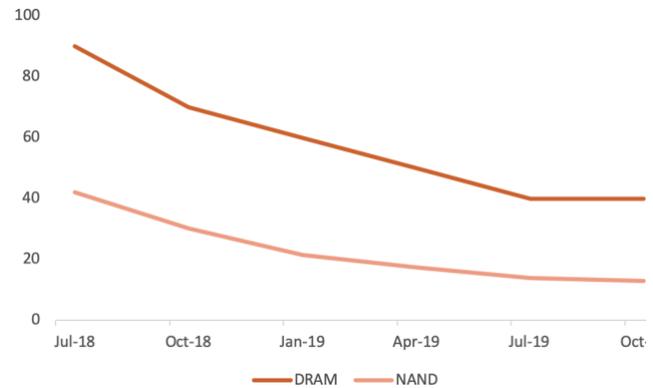
**Metrology & Inspection Driven By IC Complexity**

The transition from 7nm to 5nm Logic/Foundry nodes, sub 20-nm Dynamic Random Access Memory (DRAM) and increased layer count 3D NAND are expected to accelerate EUV adoption as manufacturers continue to ramp up production. KLAC is better positioned than its competitors to take advantage of the shift to EUV assisted fabrication by offering an existing portfolio of wafer inspection and metrology equipment in addition to rolling out new solutions. KLAC plans on leveraging their Optical Gen5 Platform to provide an EUV extension for wafer inspection, the Gen5 has the fastest wafer inspection times at High Volume Manufacturing (HVM) speeds when compared to peers. After promising initial customer engagements, in FY20E KLAC is planning a full product release of AI-assisted multi-column E-Beam wafer inspection tools, targeting both EUV mask pattern and wafer inspection. Traditional E-Beam tools offered by competitors are unable to maintain high resolution while running at HVM speeds, missing critical IC defects. KLAC's unique solution, offering the connectivity of both Gen5 Optical Inspectors and E-Beam enables fast detection for ultra-small defects and accelerates die yield ramp for increasingly complex 5nm IC nodes. Lastly, KLAC has re-released Small-Angle X-Ray Scattering (SAXS) to monitor effectiveness in high-aspect ratio etching in sub 20-nm DRAM and increased layer count 3D NAND coupled with improved inline control. It should be noted that KLAC exited the SAXS market in FY15A after intense competition from other SPC equipment manufacturers such as Applied Materials (AMAT), their ability to competitively enhance yield in the small yet quickly growing 3D NAND market remains uncertain. Additionally, as spot prices for both DRAM and NAND continue to fall, as shown in Figure 2, due to industry oversupply, IC manufacturing spend on SAXS may be lower than projected if current trends continue. However, industry consensus expects prices to stabilize by FY21E, I've assumed this in my model by accounting for weaker demand in 2H20E. We estimate that SPC will grow at 6% y/y in FY20E generating an additional ~\$200mm in revenue. We base our estimates off management's long-term plan to increase SPC revenue \$1,500mm by FY23E through SPC Core Products, Services, and market share growth as seen illustrated in Figure 3.

**Risks**

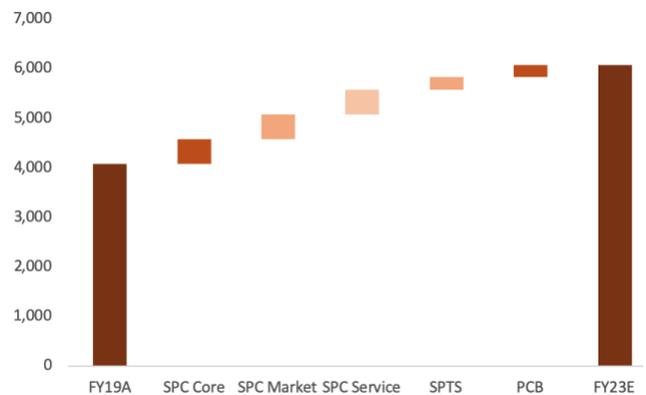
- Failure to penetrate DRAM and 3D NAND end markets with re-introduction of SAXS equipment could result in the underperformance KLAC underperforming SPC market growth, resulting in loss of market share.
- CapEx reductions among concentrated IC manufacturers in addition to compressing WFE markets may have trickle down effects into KLAC's total addressable market.
- Significant revenue exposure to China, 24%, may prove detrimental if geopolitical turmoil heightens.
- Failure to successfully integrate Orbotech may result in loss of projected synergies.

**Figure 2: DRAM & NAND Spots**



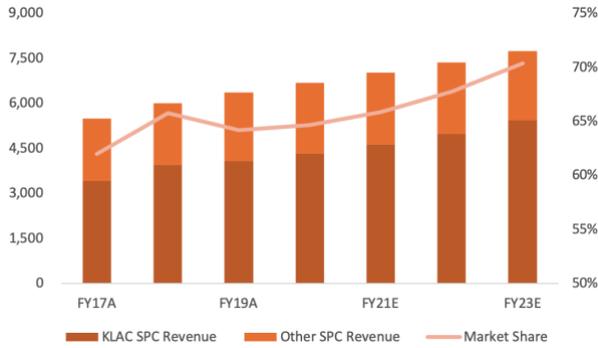
Source: FlashBay

**Figure 3: Target Revenue Bridge**



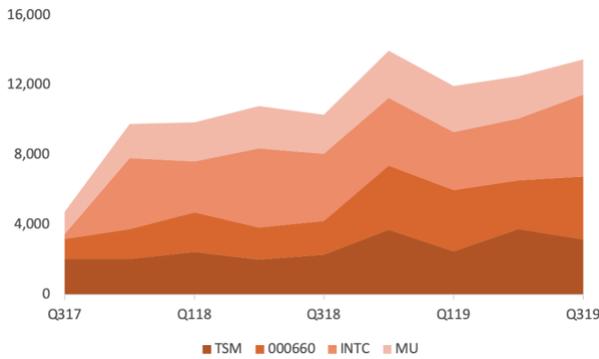
Source: Company Filings

**Figure 4: SPC Market Capture**



Source: Company Filings, Gartner

**Figure 5: CapEx of Largest Customers**



Source: Company Filings

**Orbotech to Fuel PCB & SPTS Penetration**

During FY19A KLAC completed their largest acquisition in company history, purchasing Orbotech for \$3.26B in stock and cash. After finalization of the acquisition, KLAC issued \$1,200mm of debt for debt paydowns and share buybacks. Orbotech provides yield management metrology and inspection equipment to FPD (LCD/OLED) and PCB manufacturers, in addition to etching and 3D laser drilling AP SPTS equipment for a use on various IC substrates. With the ability to expand in fast growing verticals such as RF communication chips for 5G environments, and power semiconductors for smart auto and industrial applications. Orbotech is expected to provide \$50mm of run rate cost synergies and will expand product addressable market from \$6,000mm to \$8,500mm by the end of FY20. We believe that KLAC’s ability to continue expansion into PCB end markets will be fueled primarily by the successful integration of Orbotech’s FPD equipment into existing KLAC’s portfolio of solutions. KLAC’s PCB segment grew from \$93mm in FY18A to \$333m in FY19A, we expect PCB to grow at an 8-14% CAGR while SPTS grows at 15-30% to meet long term revenue targets shown in Figure 3.

**CapEx Slowdown & WFE Compression**

Bolstered by consistently strong growth in Wafer and Patterning Inspection equipment sales KLAC continues to capture the quickly growing SPC market. The overall \$6,000mm SPC market is expected to grow at a 5-6% CAGR even while the overall \$40,000mm WFE market is expected to decline by -21% in FY20E and -7% in FY21E due to recent industry oversupply. KLAC’s SPC segment has historically outperformed the overall SPC market by a ~1% CAGR, however going forward we estimate that KLAC could outperform by a ~2% CAGR, reaching a total market share of 70%, up from 65% in FY19A, as shown in Figure 4, based on a successful roll out of EUV and SAXS related products. Roughly ~47% of KLAC’s SPC sales are largely concentrated amongst 5 IC manufacturers, as illustrated in Figure 5. These IC manufacturers have decreased CapEx guidance for 2H20E and possibly going into FY21E as WFE spend is projected to decline on the heels of deteriorating spot prices for DRAM and NAND products. KLAC’s revenues from SPC equipment should be well insulated against overall industry headwinds, however the possibility exists that the overall SPC market may compress in a spillover effect in the event of outsized CapEx reductions.

**Figure 6: Comparable Company Metrics**

Comps	KLAC	LRCX	AMAT
Market Cap	26,139	38,711	53,485
Net Debt	1,448	-1,158	1,695
EV	27,587	37,554	55,180
LTM Revenue	4,889	9,489	14,608
LTM EBITDA	1,799	2,975	4,132
LTM FCF	1,265	2,754	3,402
Debt/EBITDA	1.8x	1.5x	1.3x
Debt/FCF	2.5x	1.6x	1.6x
Credit Rating	BBB	BBB+	A-
Bond Maturity	2029	2029	2027
YTW	2.84%	2.66%	2.26%
Z-Spread	116.90	98.99	63.02

Source: Company Filings, Bloomberg

**Figure 7: Ask Z-Spread**



Source: Bloomberg

### Relative Value

Since their issuance, KLAC's 2029 notes have historically traded between 4-27bps wide of LRCX's 2029 notes, they are currently trading near the midpoint of that range at 18bps wide as seen in Figure 7. However, LRCX's 29s are rated BBB+ and the company has a Debt/FCF ratio of 1.6x, vs KLAC's BBB's with a 2.7x ratio shown in Figure 6. Granted LRCX's favorable credit metrics and scale we believe KLAC's 29s are currently trading at an appropriate spread of 18bps on a relative basis.

Figure 7: Summary Model

KLA Corporation (NASDAQ: KLAC)										
USD, Millions	FY17A	FY18A	FY19A	FY20E	FY21E	FY22E	Q120A	Q220E	Q320E	Q420E
<b>Revenues</b>										
SPC	3,409	3,944	4,081	4,317	4,619	4,989	1,164	1,105	1,050	998
SPTS	0	0	151	175	221	285	69	48	34	24
PCB	72	93	333	360	411	477	179	98	54	30
<b>Total Revenue</b>	<b>3,480</b>	<b>4,037</b>	<b>4,569</b>	<b>4,853</b>	<b>5,251</b>	<b>5,750</b>	<b>1,413</b>	<b>1,252</b>	<b>1,138</b>	<b>1,051</b>
<b>Gross Profit</b>										
SPC	2,161	2,554	2,590	2,729	2,910	3,143	742	696	662	629
SPTS	0	0	79	93	115	148	38	25	18	12
PCB	31	38	156	165	193	224	76	48	26	15
<b>Gross Profit</b>	<b>2,194</b>	<b>2,591</b>	<b>2,700</b>	<b>2,987</b>	<b>3,218</b>	<b>3,515</b>	<b>809</b>	<b>770</b>	<b>706</b>	<b>655</b>
<b>Operating Expenses</b>										
R&D	527	609	711	727	788	862	211	188	171	158
SG&A	388	442	599	636	683	747	188	163	148	137
<b>Total Operating Expenses</b>	<b>915</b>	<b>1,051</b>	<b>1,310</b>	<b>1,362</b>	<b>1,470</b>	<b>1,610</b>	<b>399</b>	<b>351</b>	<b>319</b>	<b>294</b>
<b>Operating Income</b>	<b>1,279</b>	<b>1,540</b>	<b>1,389</b>	<b>1,625</b>	<b>1,748</b>	<b>1,905</b>	<b>410</b>	<b>419</b>	<b>387</b>	<b>361</b>
<b>Other Expenses</b>										
Interest Expense	122	114	125	161	161	161	40	40	40	40
Other Expense (Income)	(17)	(30)	(31)	(2)	0	0	(2)	0	0	0
<b>Total Other Expenses</b>	<b>106</b>	<b>84</b>	<b>93</b>	<b>160</b>	<b>161</b>	<b>161</b>	<b>39</b>	<b>40</b>	<b>40</b>	<b>40</b>
<b>Pre-Tax Income</b>	<b>1,173</b>	<b>1,456</b>	<b>1,296</b>	<b>1,465</b>	<b>1,586</b>	<b>1,744</b>	<b>372</b>	<b>379</b>	<b>347</b>	<b>321</b>
Taxes	247	654	121	199	222	244	25	63	58	53
<b>Net Income</b>	<b>926</b>	<b>802</b>	<b>1,175</b>	<b>1,266</b>	<b>1,364</b>	<b>1,499</b>	<b>346</b>	<b>316</b>	<b>289</b>	<b>268</b>
<b>Gross Margin</b>	<b>63%</b>	<b>64%</b>	<b>59%</b>	<b>62%</b>	<b>61%</b>	<b>61%</b>	<b>57%</b>	<b>61%</b>	<b>62%</b>	<b>62%</b>
<b>Operating Margin</b>	<b>38%</b>	<b>39%</b>	<b>34%</b>	<b>38%</b>	<b>38%</b>	<b>38%</b>	<b>35%</b>	<b>38%</b>	<b>37%</b>	<b>36%</b>
<b>Tax Rate</b>	<b>21%</b>	<b>45%</b>	<b>9%</b>	<b>14%</b>	<b>14%</b>	<b>14%</b>	<b>7%</b>	<b>17%</b>	<b>17%</b>	<b>17%</b>
<b>Revenue Growth</b>										
SPC		16%	3%	6%	7%	8%		-5%	-5%	-5%
SPTS				16%	26%	29%		-30%	-30%	-30%
PCB		29%	260%	8%	14%	16%		-45%	-45%	-45%
<b>Gross Margin</b>										
SPC	63%	65%	63%	63%	63%	63%	64%	63%	63%	63%
SPTS			52%	52%	52%	52%	55%	52%	52%	52%
PCB	43%	42%	47%	47%	47%	47%	43%	49%	49%	49%
<b>EBITDA Reconciliation</b>										
Net Income	926	802	1,175	1,266	1,364	1,499	346	316	289	268
(+) Interest Expense	122	114	125	161	161	161	40	40	40	40
(+) Taxes	247	654	121	199	222	244	25	63	58	53
(+) D&A	58	63	233	236	263	287	99	50	46	42
(+) SBC	51	63	94	96	105	115	27	25	23	21
<b>EBITDA</b>	<b>1,405</b>	<b>1,696</b>	<b>1,748</b>	<b>1,959</b>	<b>2,115</b>	<b>2,307</b>	<b>537</b>	<b>494</b>	<b>455</b>	<b>424</b>
<b>Unlevered FCF</b>										
CFFO	1,080	1,229	1,153	1,266	1,364	1,499	496	266	244	225
(-) CapEx	(39)	(67)	(130)	(136)	(158)	(172)	(33)	(38)	(34)	(32)
(+) Interest Expense	122	114	125	161	161	161	40	40	40	40
<b>FCF</b>	<b>1,164</b>	<b>1,277</b>	<b>1,147</b>	<b>1,291</b>	<b>1,368</b>	<b>1,488</b>	<b>504</b>	<b>269</b>	<b>250</b>	<b>234</b>
<b>Credit Metrics</b>										
TTM EBITDA	1,405	1,696	1,748	1,959	2,115	2,307	1,799	1,820	1,915	1,911
TTM FCF	1,164	1,277	1,147	1,291	1,368	1,488	1,265	1,252	1,333	1,257
Total Debt	2,930	2,237	3,423	3,423	3,200	2,700	3,424	3,200	3,200	3,200
Debt/EBITDA	2.1x	1.3x	2.0x	1.7x	1.5x	1.2x	1.9x	1.8x	1.7x	1.7x
Debt/FCF	2.5x	1.8x	3.0x	2.7x	2.3x	1.8x	2.7x	2.6x	2.4x	2.5x

Source: Company Filings