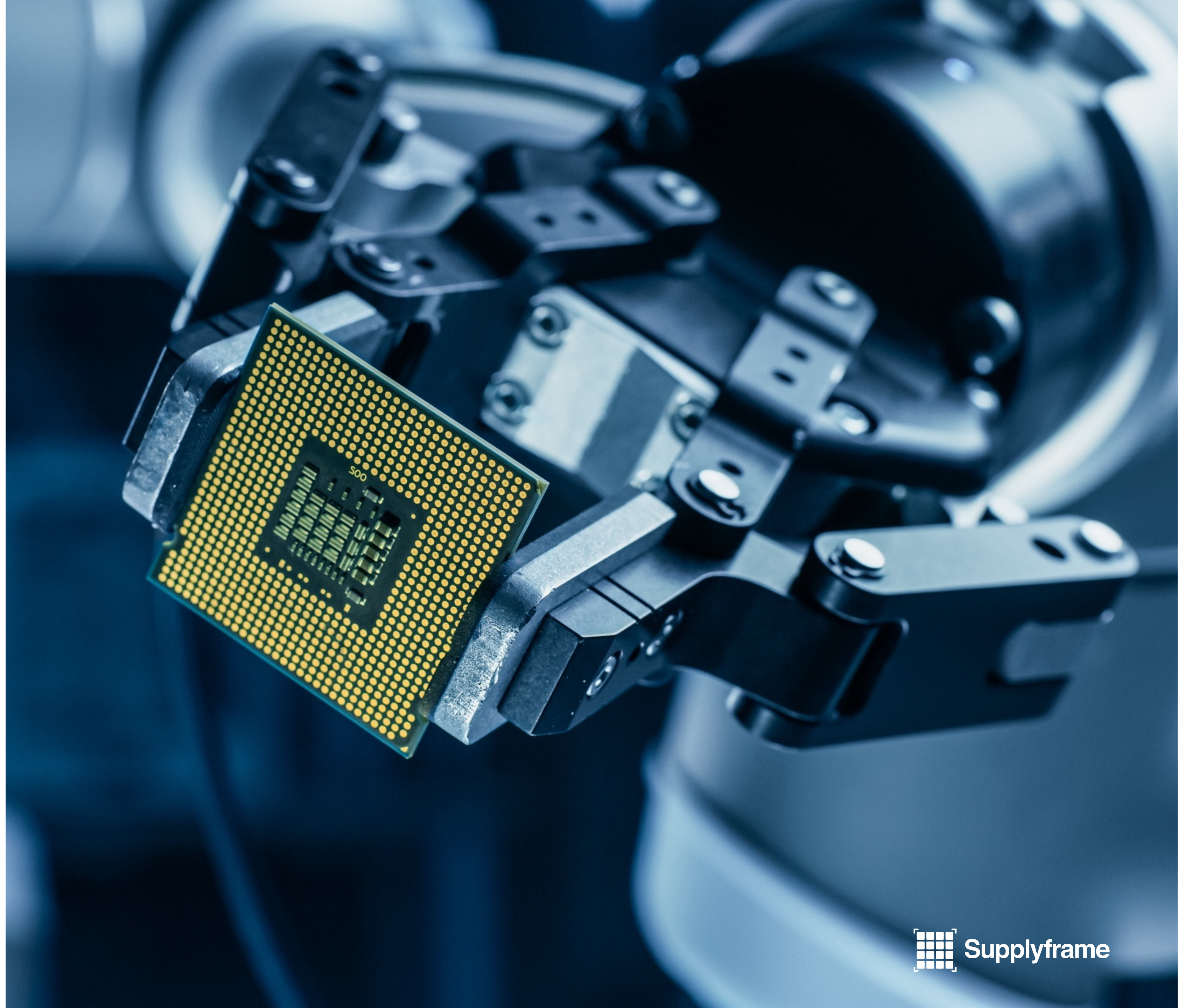


Supplyframe
Design-to-Source
Intelligence

Design-to-Source Monthly Insights

July 2023



Methodology

The following report was compiled using data available from Supplyframe's Design to Source Intelligence (DSI) Network. The DSI Network consists of more than 70+ web properties, attracting 11M+ engineers and procurement professionals from around the world on a monthly basis. Engineers and procurement professionals visit and interact with the DSI Network specifically for their work (research, consider, design, and buy), enabling Supplyframe to understand design trends, sourcing trends, and extrapolate indicators of overall market conditions and trends.

What this report provides the advertiser?

1. A proxy for "market" condition by evaluating trends in engineering design activities and procurement sourcing activities
2. Understand what product categories are in demand by engineers and buyers
3. Anticipate future sourcing demand based on where design activities are concentrated (categories and regions)

Customers can leverage the insights provided in this report to support the development of their Go-To-Market strategy, as well as campaign planning and execution to drive their organization's objectives.

To protect sensitive information, as well as provide a mechanism for insights - we have normalized and indexed much of the data used in this analyses. There are two specific indices utilized to provide trend and comparative insights:

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

What We Saw Across The Network

JULY 2023

- Global design and sourcing activities both decreased across the DSI Network in July compared to prior month, falling in line with seasonal trends. No significant change in trends were noted in July compared to June
- Global design activities decreased by -2% month-over-month but continued to show signs of activity growth compared to same period last year (+10% year-over-year). Year-over-year growth was observed across the following top countries: United States, India, Japan, the United Kingdom, and Italy
- Global sourcing activities decreased -6% month-over-month and -28% year-over-year. Decreases were seen across all regions with the Americas and EMEA regions showing the largest decreases in buyer activities

2023 Year-To-Date (January – August)

- Calendar year-to-date, global design activities grew +1%, while global sourcing activities decreased -26% vs. the first eight months in 2022

Q3 2023 Outlook

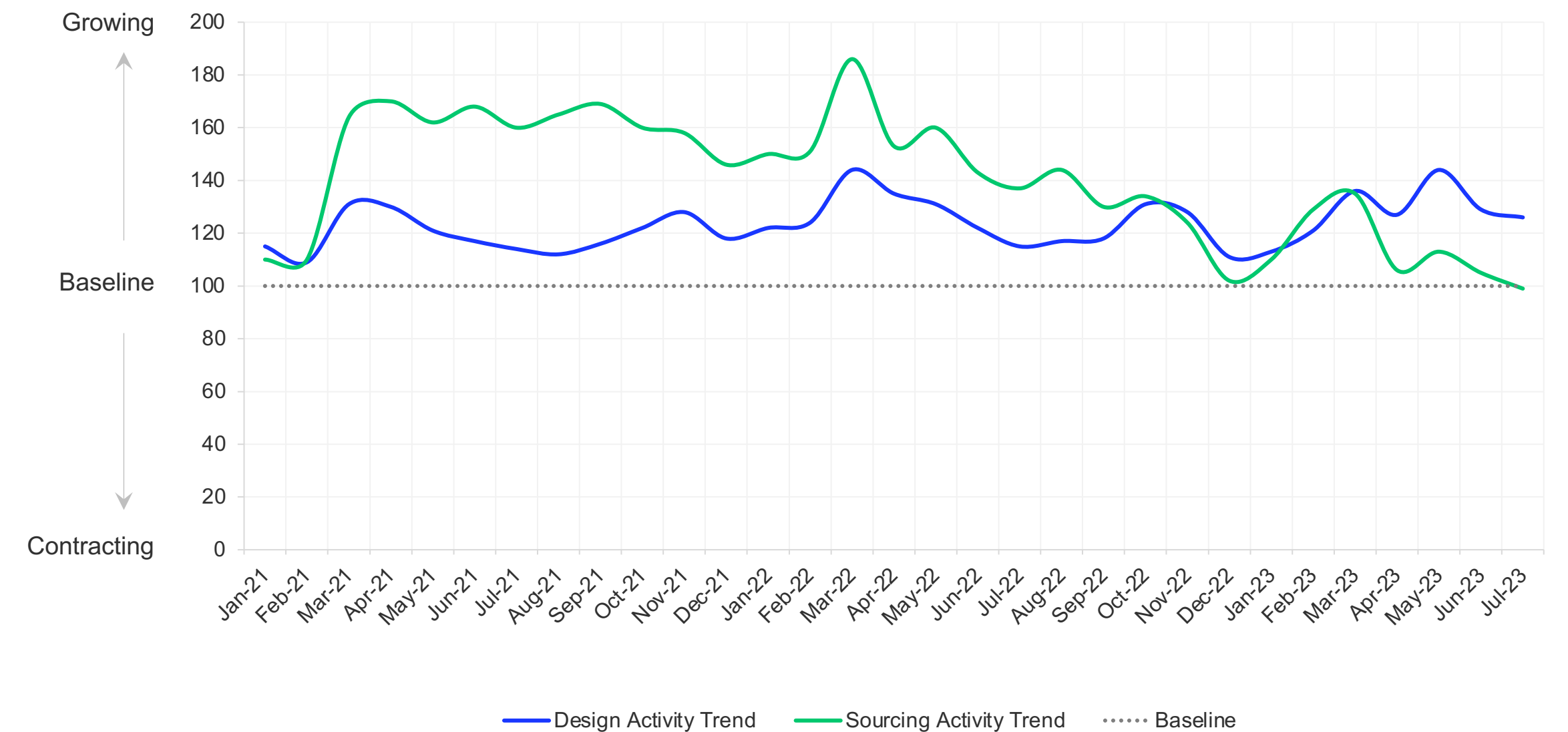
- Looking ahead to the remainder of Q3, global design activities are estimated to decrease -6% quarter-over-quarter, but grow +7% compared to Q3 2022
- Global sourcing activities are estimated to decrease -5% quarter-over-quarter in Q3, while decreasing -25% compared to Q3 2022

Global Performance

Design Activities ⇓ **-2.3% M/M**
⇑ **+9.6% Y/Y**

Sourcing Activities ⇓ **-6.0% M/M**
⇓ **-27.8% Y/Y**

Chart 1. Design and Sourcing Activity Trends



How to read this chart:

Design and sourcing activities have been baselined to 2020 monthly median. Baseline is indicated as a value of 100. Above the baseline indicates growth, while below the baseline indicates decrease in activities.

Design Activity Overview

JULY 2023

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Global design activities decreased -2% month-over-month, in line with seasonal trends.

Global design activities decreased month-over-month as a result of decrease in activities in Europe and the US. These decreases were aligned with seasonal trends typically observed during this time of the year.

The APAC region on the other hand, continued to show signs of growth with design activities increasing +8% month-over-month. These increases were driven predominantly from growth in design activities in China, India, Japan, South Korea, Taiwan, Australia, and Vietnam. The top product categories driving growth in these regions included: power circuits (+14%); diodes (+13%); capacitors (+9%); drivers and interfaces (+8%); and resistors (+6%).

Compared to the prior year, we continued to observe growth in global design activities from engineers across the DSI Network, indicating that design projects and component research by engineers have not slowed. Countries exhibiting strong year-over-year growth in design activities included the following: United States, India, Japan, the United Kingdom, and Italy. Top product categories in these countries included: connectors (+16%); capacitors (+26%); power circuits (+14%); resistors (+22%); and diodes (+20%).

No change in Q3 forecast from prior month. We anticipate that global design activities will decrease quarter-over-quarter by -6%. This decrease is typical of this time of the year as we observe lower activity levels in North America and the EMEA regions in the summer months.

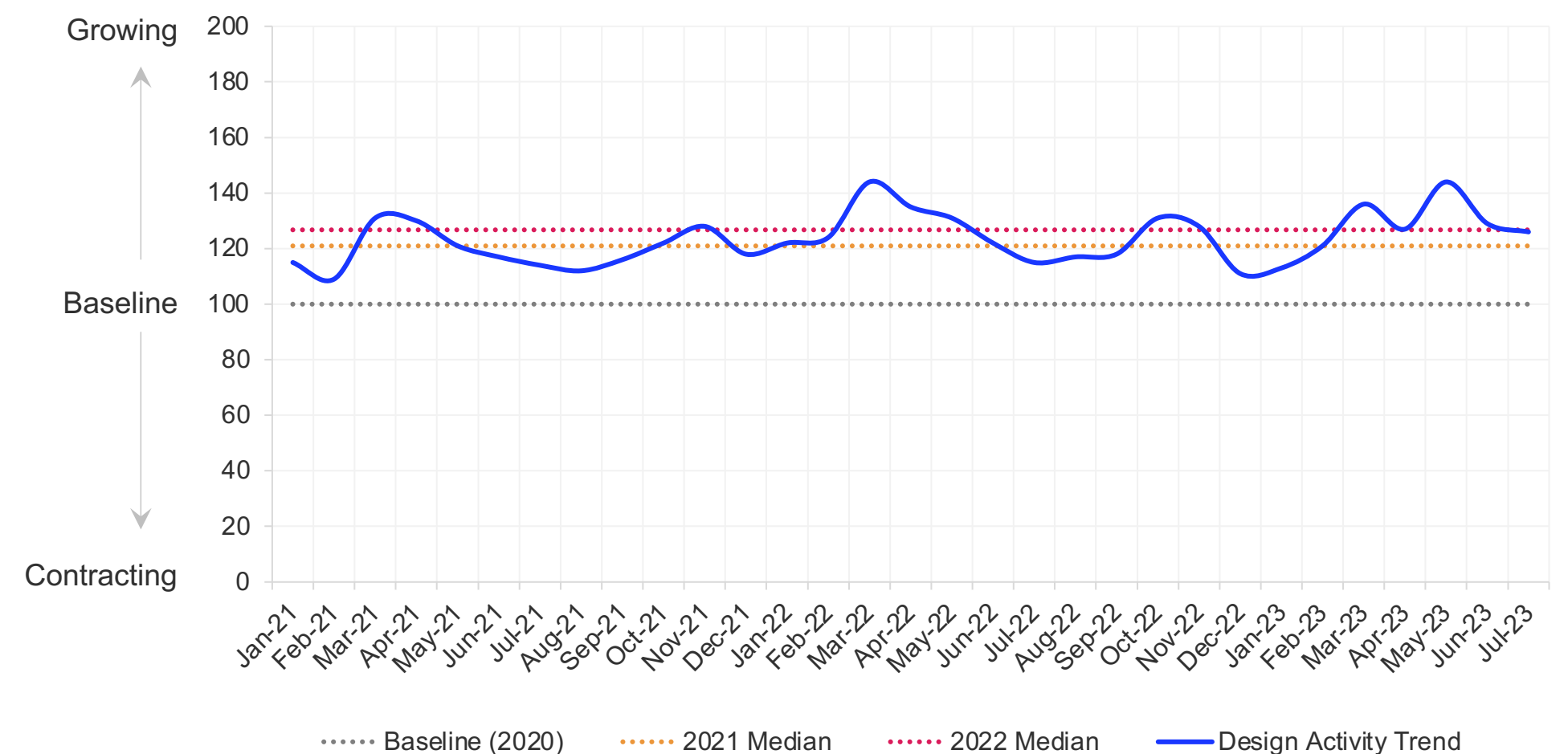
Table 1. Design Activity Summary

		vs. Prior Month	vs. Prior Year	6mo. CMGR
	Global	-2.3%	9.6%	1.8%
Region	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
EMEA	100.0	-7%	11%	-1%
APAC	88.8	8%	11%	7%
AMER	43.9	-9%	4%	1%

Top 10 Countries

Country	Design Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
United States	100.0	-5%	5%	1%
China (incl. Hong Kong)	88.6	2%	-4%	12%
India	64.2	6%	18%	3%
Germany	51.3	-5%	-2%	0%
Japan	41.2	6%	22%	6%
United Kingdom	40.3	9%	15%	0%
Italy	27.4	6%	10%	-1%
France	26.5	-4%	5%	-2%
Republic of Korea	26.2	10%	30%	6%
Turkey	22.2	24%	23%	-1%

Chart 2. Global Design Activity Trends



Design Activity: Americas Trends

JULY 2023

Design Activity Index
 Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.
 Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the Americas region.

Chart 3. Americas Design Activity Trends

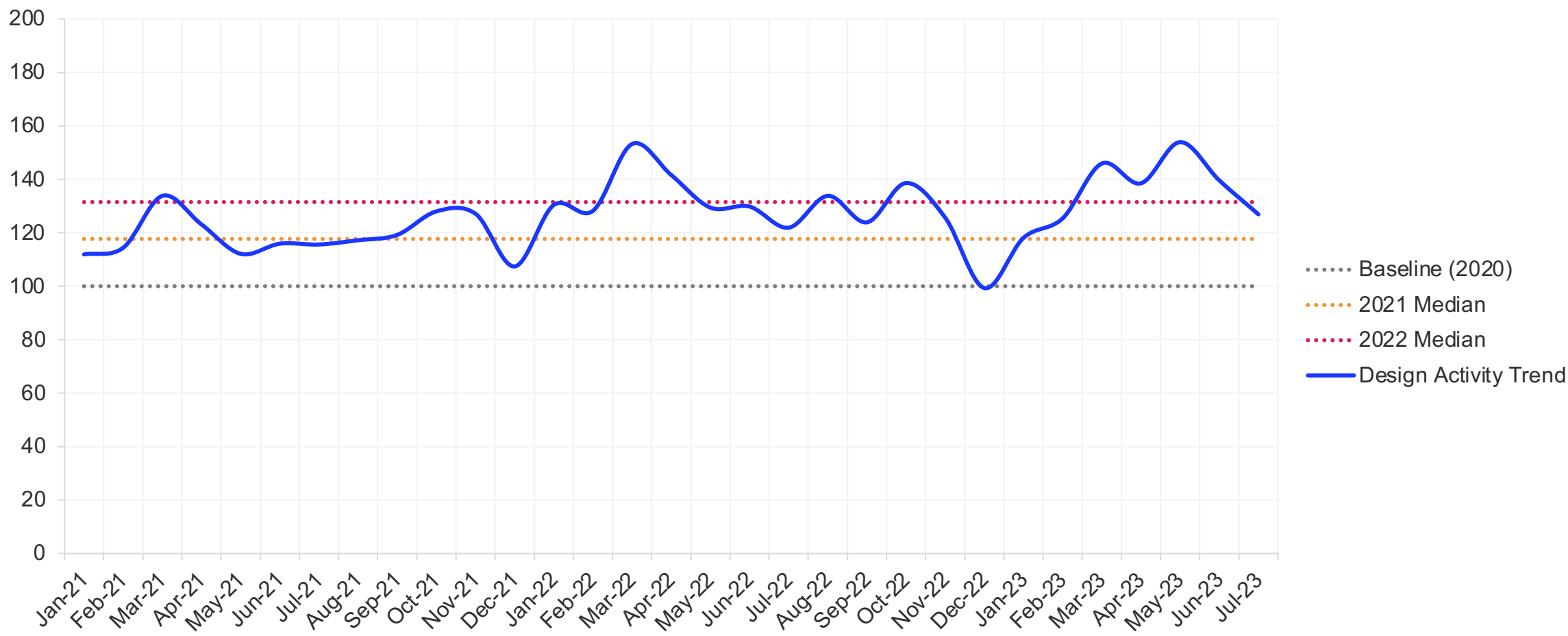


Table 2. Top 15 Product Categories in Americas

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	0%	11%	2%
Capacitors	59.6	-32%	29%	1%
Resistors	51.9	3%	15%	1%
Power Circuits	50.9	3%	-5%	2%
Diodes	35.0	-10%	7%	-1%
Transistors	31.0	-9%	1%	0%
Optoelectronics	25.2	-1%	1%	1%
Microcontrollers and Processors	18.8	-14%	-23%	-2%
Terminal Blocks	18.5	-12%	11%	0%
Inductors	17.3	-11%	12%	11%
Drivers And Interfaces	15.9	-5%	-2%	2%
Signal Circuits	15.5	-13%	-6%	2%
Switches	14.9	-5%	12%	2%
Logic	14.6	-32%	-10%	0%
Amplifier Circuits	13.6	-12%	-2%	-1%

Design Activity: EMEA Trends

JULY 2023

Design Activity Index
 Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.
 Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the EMEA region.

Chart 4. EMEA Design Activity Trends

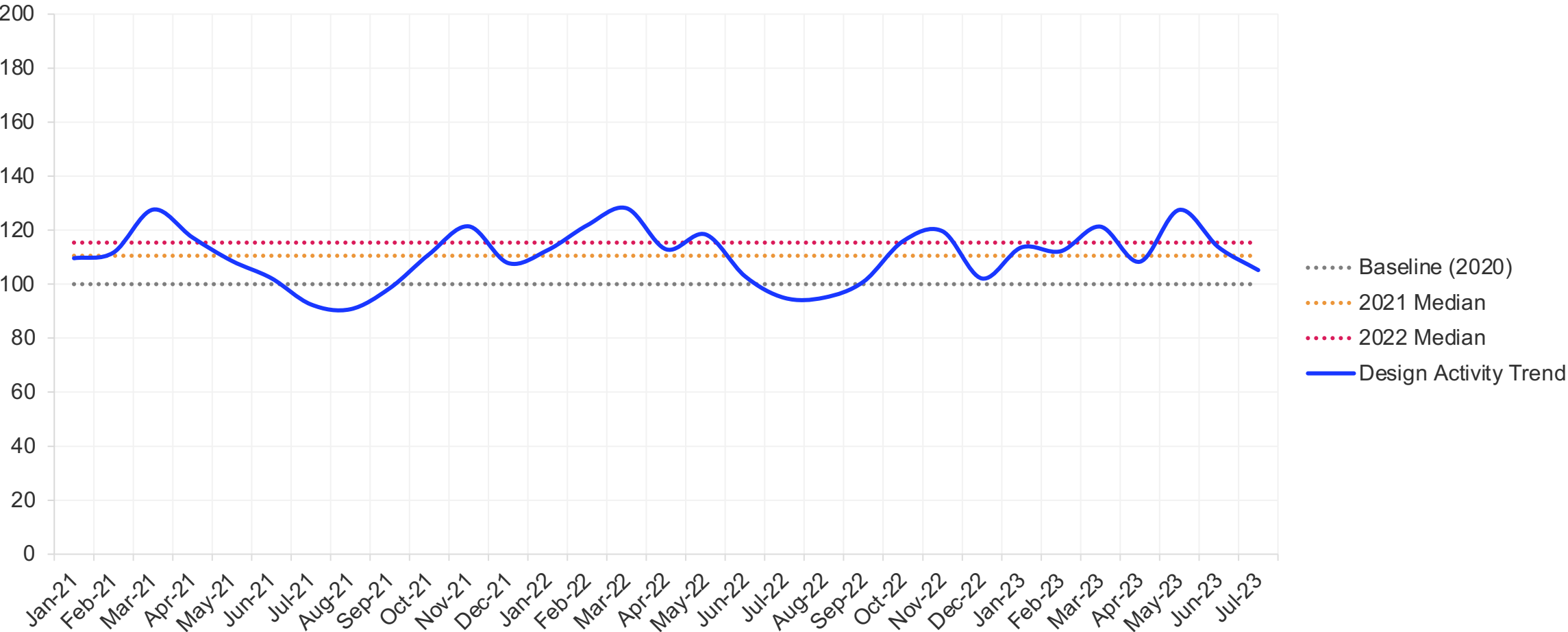


Table 3. Top 15 Product Categories in EMEA

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-8%	13%	-1%
Power Circuits	59.5	-5%	4%	-2%
Capacitors	54.7	-9%	10%	0%
Resistors	51.0	-9%	20%	1%
Diodes	47.9	-3%	24%	0%
Transistors	35.5	-7%	16%	-2%
Optoelectronics	26.5	-9%	2%	-2%
Microcontrollers and Processors	25.6	-8%	-4%	-4%
Inductors	22.4	-11%	8%	5%
Terminal Blocks	21.5	-16%	19%	-3%
Drivers And Interfaces	19.8	-8%	9%	-3%
Signal Circuits	19.4	-10%	1%	-3%
Amplifier Circuits	17.9	-2%	8%	0%
Logic	17.3	-4%	6%	-3%
Switches	13.5	-8%	11%	-1%

Design Activity: APAC Trends

JULY 2023

Design Activity Index

Based on part level activity by engineers on the DSI Network. Activities included are related to part evaluation and part placement in designs via EDAs. Activities, are normalized, weighted, and scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum volume of activities in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of design activities across the DSI Network in the APAC region.

Chart 5. APAC Design Activity Trends

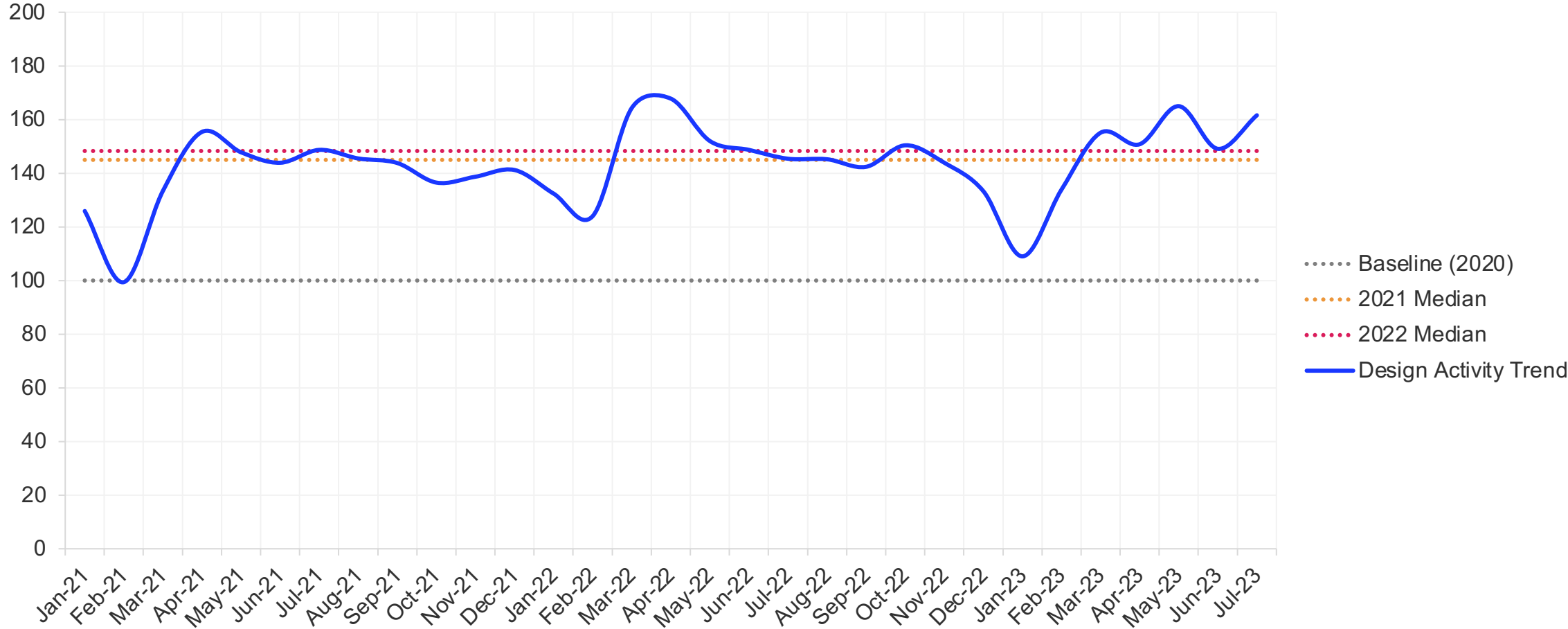


Table 4. Top 15 Product Categories in APAC

Product Class	Design Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	6%	8%	6%
Power Circuits	78.1	14%	12%	8%
Capacitors	67.3	16%	36%	9%
Diodes	56.6	15%	23%	7%
Resistors	54.6	14%	36%	8%
Transistors	40.9	4%	6%	6%
Microcontrollers and Processors	38.0	-1%	-4%	5%
Optoelectronics	28.5	9%	12%	6%
Drivers And Interfaces	25.6	8%	4%	6%
Signal Circuits	24.7	11%	-6%	8%
Amplifier Circuits	23.3	-9%	0%	7%
Inductors	22.9	5%	33%	15%
Logic	21.4	-1%	-19%	1%
Terminal Blocks	15.9	11%	30%	7%
Filters	15.2	14%	9%	7%

Sourcing Activity Overview

JULY 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Global sourcing activities decrease by -6%, performing in line with seasonal trends.

Global sourcing activities performed as expected, decreasing -6% month-over-month due to seasonality. All regions experienced decreases in demand in July. The APAC region performed the best, decreasing only -3% month-over-month.

Compared to the prior year, global demand decreased by -28% as manufacturing activities continued to show signs of contraction.

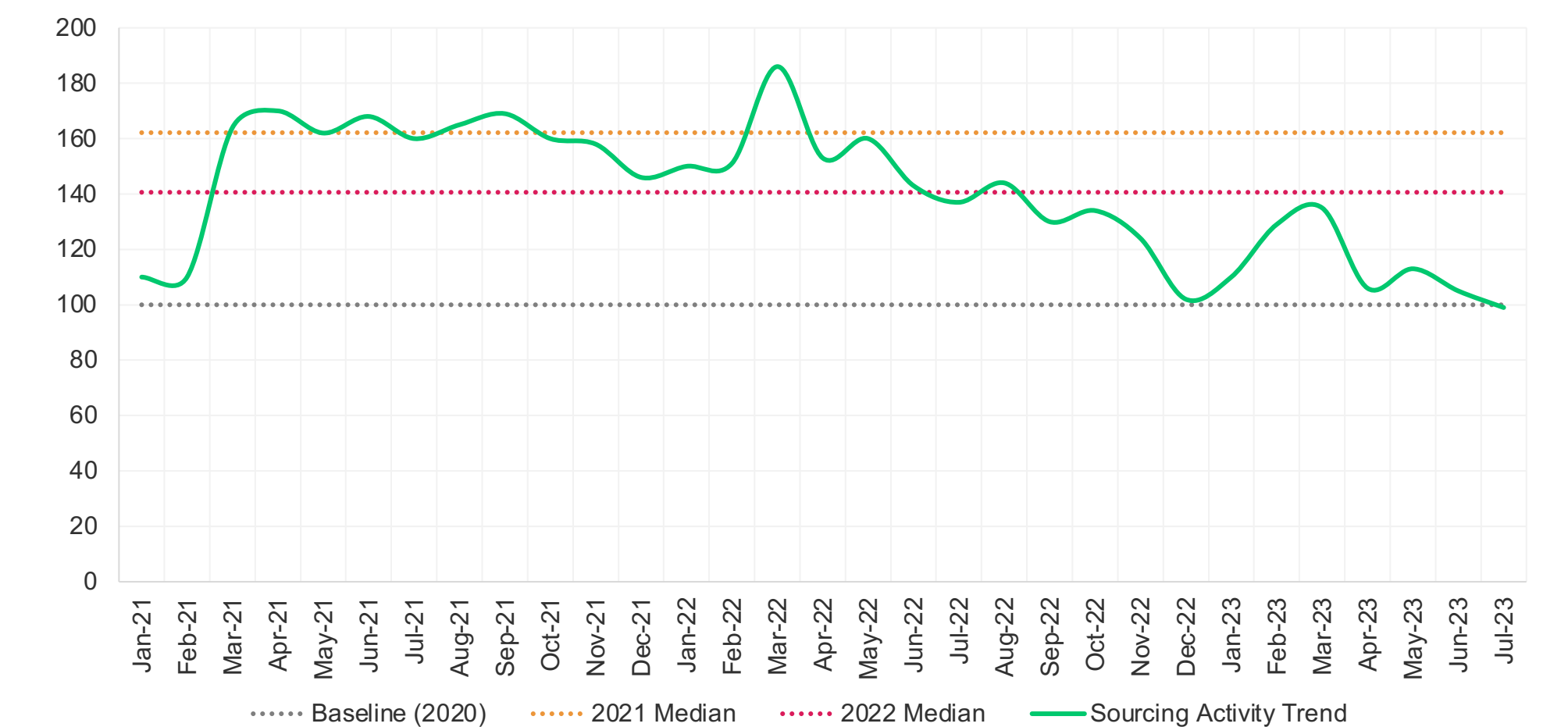
Key markets seeing the largest year-over-year decrease in buyer demand for the month included the United States (-36%); India (-29%); South Korea (-27%); Germany (-32%), Taiwan (-27%), Canada (-31%), and France (-31%). In these countries, demand for semiconductor devices observed the largest decrease year-over-year, while interconnects and passives saw a more moderate decrease in demand.

Looking ahead to calendar Q3, global sourcing activities are expected to continue to remain stagnant as economic outlook for the 2nd half of the year have been revised / reduced in the market. From a DSI Network perspective, we anticipate global sourcing activities to decrease -5% quarter-over-quarter in Q3.

Table 5. Sourcing Activity Summary

		vs. Prior Month	vs. Prior Year	6mo. CMGR
Global		-6.0%	-27.8%	-1.7%
Region	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
APAC	100.0	-3.0%	-22.0%	2.6%
AMER	55.1	-9.5%	-34.6%	-4.5%
EMEA	37.0	-8.5%	-31.0%	-6.4%
Top 10 Countries				
Country	Sourcing Activity Index	vs. Prior Month	vs. Prior Year	6mo. CMGR
China (incl. Hong Kong)	100.0	-2%	-17%	7%
United States	84.4	-12%	-36%	-5%
India	30.7	-14%	-29%	-4%
Republic of Korea	22.3	-10%	-27%	-2%
Germany	17.0	-1%	-32%	-6%
Taiwan	13.6	-1%	-27%	3%
Canada	9.4	-9%	-31%	-4%
Singapore	8.8	31%	-3%	6%
Malaysia	8.0	11%	-19%	4%
France	7.1	-20%	-31%	-9%

Chart 6. Global Sourcing Activity Trends



Sourcing Activity: Americas Trends

JULY 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the Americas region.

Chart 7. Americas Sourcing Activity Trends

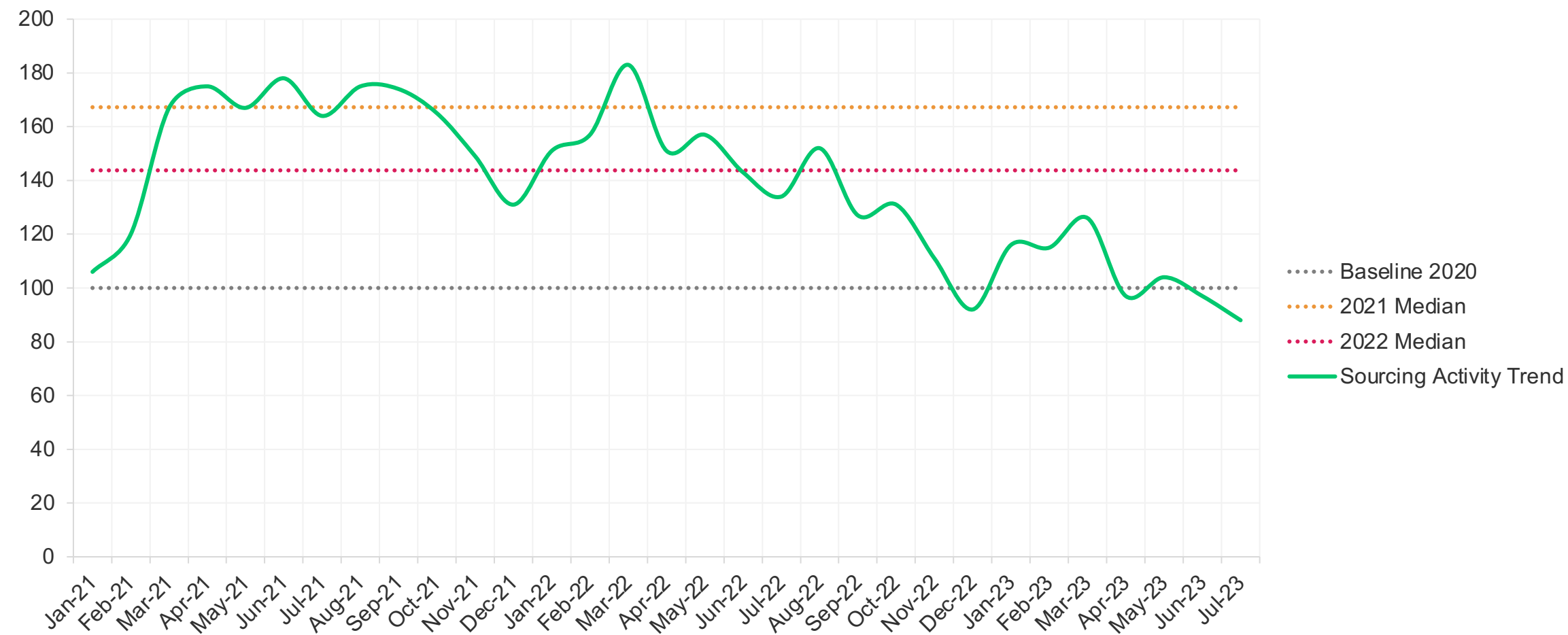


Table 6. Top 15 Product Categories in Americas

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	-13%	-28%	-4%
Capacitors	98.3	-6%	-21%	-1%
Resistors	88.2	1%	-28%	-2%
Power Circuits	61.4	-17%	-45%	-8%
Diodes	50.0	-1%	-37%	-4%
Transistors	45.9	-6%	-46%	-7%
Microcontrollers and Processors	41.1	-16%	-49%	-8%
Connector Support	31.8	-8%	-18%	-3%
Amplifier Circuits	27.9	-15%	-26%	-4%
Terminal Blocks	23.5	-13%	-28%	-4%
Optoelectronics	23.0	-13%	-28%	-5%
Drivers And Interfaces	20.1	-18%	-53%	-9%
Inductors	18.3	-10%	-18%	-2%
Logic	17.5	-19%	-59%	-7%
Memory	15.6	0%	-41%	-4%

Sourcing Activity: EMEA Trends

JULY 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the EMEA region.

Chart 8. EMEA Sourcing Activity Trends

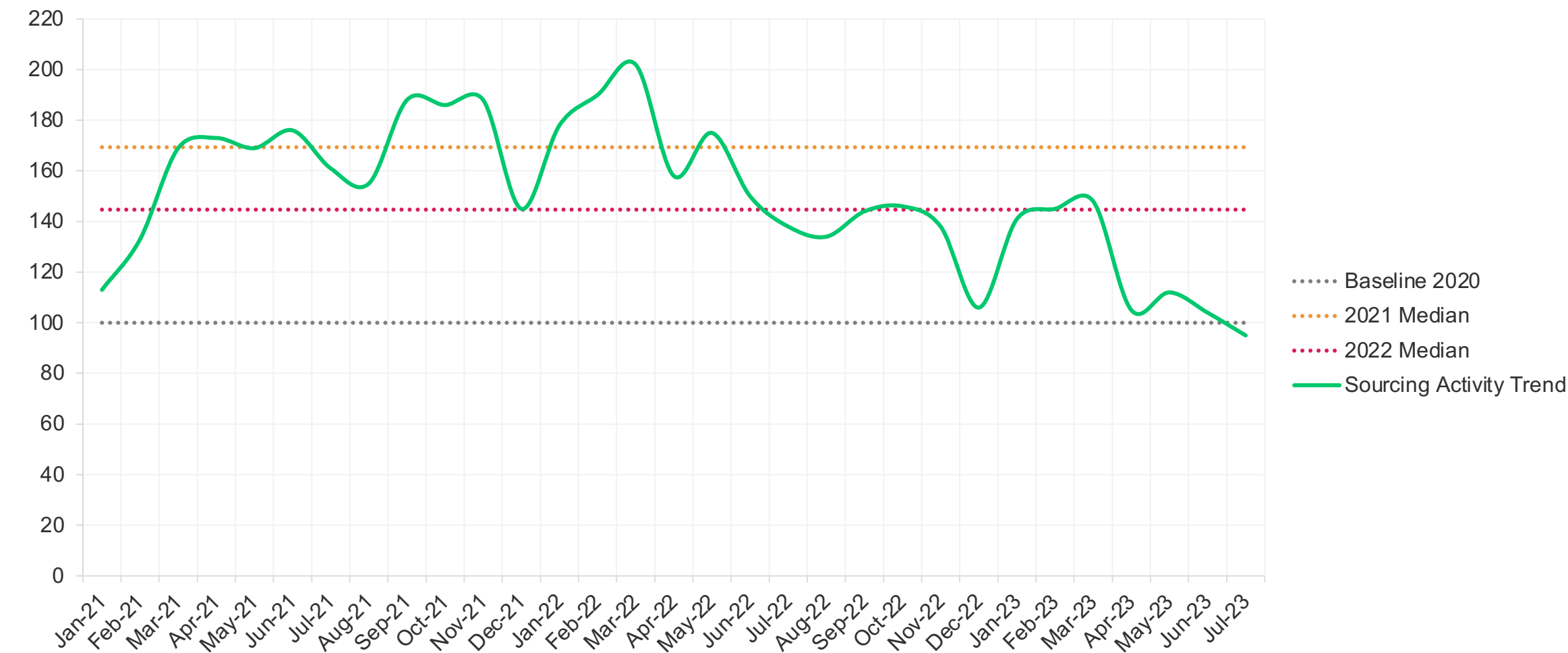


Table 7. Top 15 Product Categories in EMEA

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Capacitors	100.0	-4%	-11%	-2%
Power Circuits	86.7	-15%	-40%	-9%
Connectors	83.0	-7%	-18%	-4%
Resistors	79.3	-2%	-14%	-3%
Microcontrollers and Processors	67.4	-7%	-49%	-9%
Transistors	67.1	-9%	-39%	-10%
Diodes	66.6	-10%	-35%	-6%
Amplifier Circuits	39.4	-13%	-21%	-6%
Drivers And Interfaces	35.0	-11%	-46%	-10%
Optoelectronics	30.3	-10%	-23%	-6%
Inductors	25.0	-9%	-11%	-3%
Memory	22.5	0%	-40%	-7%
Logic	21.7	-16%	-52%	-8%
Connector Support	21.4	1%	-4%	-2%
Signal Circuits	18.9	-21%	-48%	-11%

Sourcing Activity: APAC Trends

JULY 2023

Sourcing Activity Index

Based on part level activity by buyers on the DSI Network. Activities included are related to buy clicks on the the DSI Network. Index is scored on a scale of 0 – 100.

Index scores are relative to the dimensions of data being included in the analyses (ie. Country, manufacturer, categories). A value of 100 reflects maximum value in the given data set. A value of 50 reflects half of the maximum value in the given data set.

Following data provides a breakdown of sourcing activities across the DSI Network in the APAC region.

Chart 9. APAC Sourcing Activity Trends

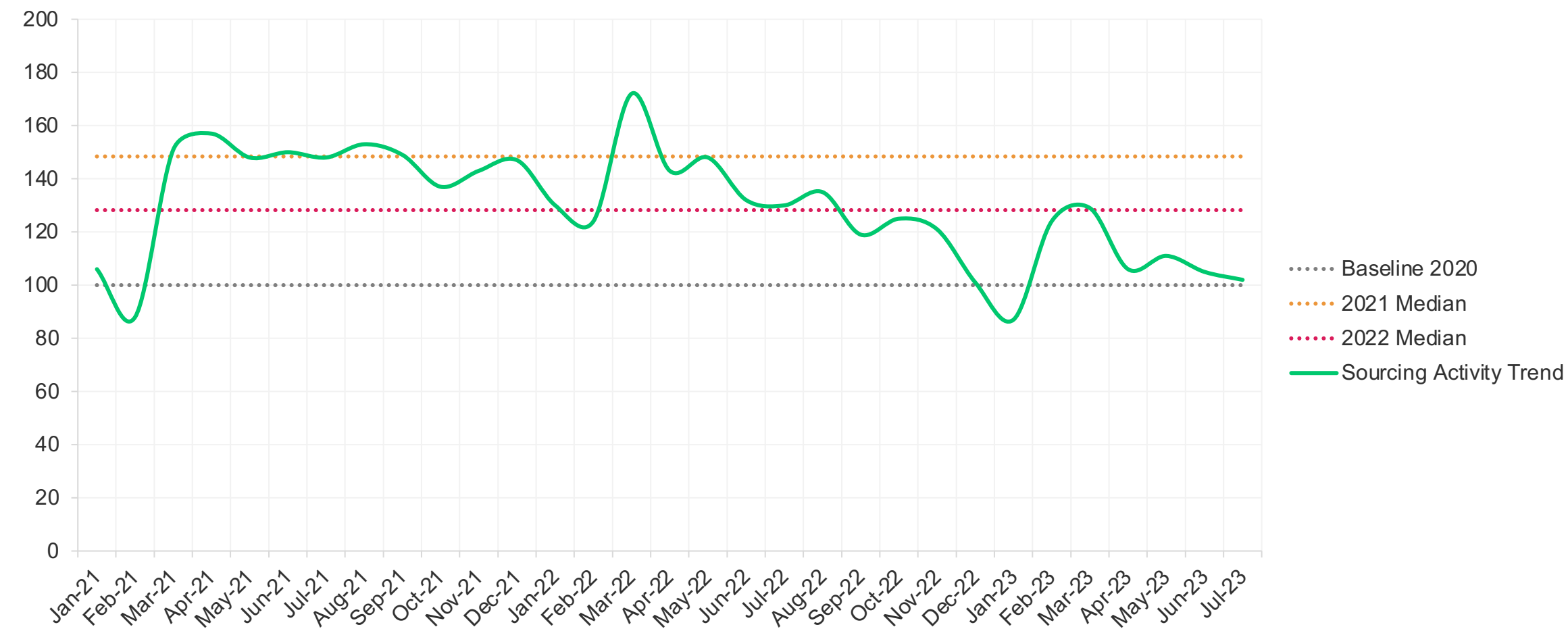


Table 8. Top 15 Product Categories in APAC

Product Class	Sourcing Activity Index	M/M%	Y/Y %	6mo. CMGR
Connectors	100.0	1%	-18%	5%
Power Circuits	92.9	-10%	-30%	1%
Capacitors	91.6	-4%	-15%	5%
Microcontrollers and Processors	85.3	-2%	-23%	4%
Transistors	74.9	-1%	-29%	-2%
Resistors	73.2	-5%	-18%	4%
Diodes	69.3	-1%	-25%	2%
Amplifier Circuits	38.2	-14%	-5%	4%
Drivers And Interfaces	33.2	-9%	-40%	-4%
Memory	29.4	4%	-26%	4%
Optoelectronics	29.1	-4%	-13%	5%
Connector Support	27.5	7%	-9%	7%
Converters	26.8	-6%	2%	5%
Logic	24.9	0%	-43%	-1%
Inductors	23.8	-1%	-5%	5%

Recap

JULY 2023

- Global design and sourcing activities both decreased for the second consecutive months across the DSI Network as we follow seasonal trends.
- Global design activities decreased -2% month-over-month but continued to show signs of growth compared to last year (+10%) indicating that design projects and component research by engineers have not slowed
- Global sourcing activities decreased -6% month-over-month and -28% year-over-year. Decreases were seen across all regions. Key markets seeing the largest year-over-year decrease in buyer demand for the month included the United States (-36%); India (-29%); South Korea (-27%); Germany (-32%), Taiwan (-27%), Canada (-31%), and France (-31%). In these countries, demand for semiconductor devices observed the largest decrease year-over-year, while interconnects and passives saw a more moderate decrease in demand
- Looking ahead to the remainder of Q3, global design activities are estimated to decrease -6% quarter-over-quarter, but grow +7% compared to Q3 2022
- Global sourcing activities are estimated to decrease -5% quarter-over-quarter in Q3, while decreasing -25% compared to Q3 2022

