

ELECTRONIC DESIGN TO DELIVERY INDEX

SEPTEMBER 2023

Delivering insights for millions of electronic components and millions of daily user interactions across design, supply chain, and manufacturing.



SPECTRA

Supply: Overview

SEPTEMBER 2023

- The Industry Supply Index increased by 3 points this month totaling 164 points. This is the 2nd month of a lift since the slight dip seen in July 2023.
- Activity was mixed across all subcategory indices. Increases were seen in Integrated Circuits (8 pts.), Connectors (4 pts.), Optoelectronics (3 pts.), and Sensors (3 pts.).
- The largest supply index decline was seen in Passive Components with a 4 point (2.4%) drop, totaling 139 points. This is the 10th month of a downward trend that started in January 2023.
- Other declines were reported in Discrete Semiconductors (2 pts.), Electromechanical (1 pt.), and Power Products (1 pt.).

SEPTEMBER 2023

INDUSTRY INDEX

164

CHANGE
MONTH OVER MONTH

▲ 3

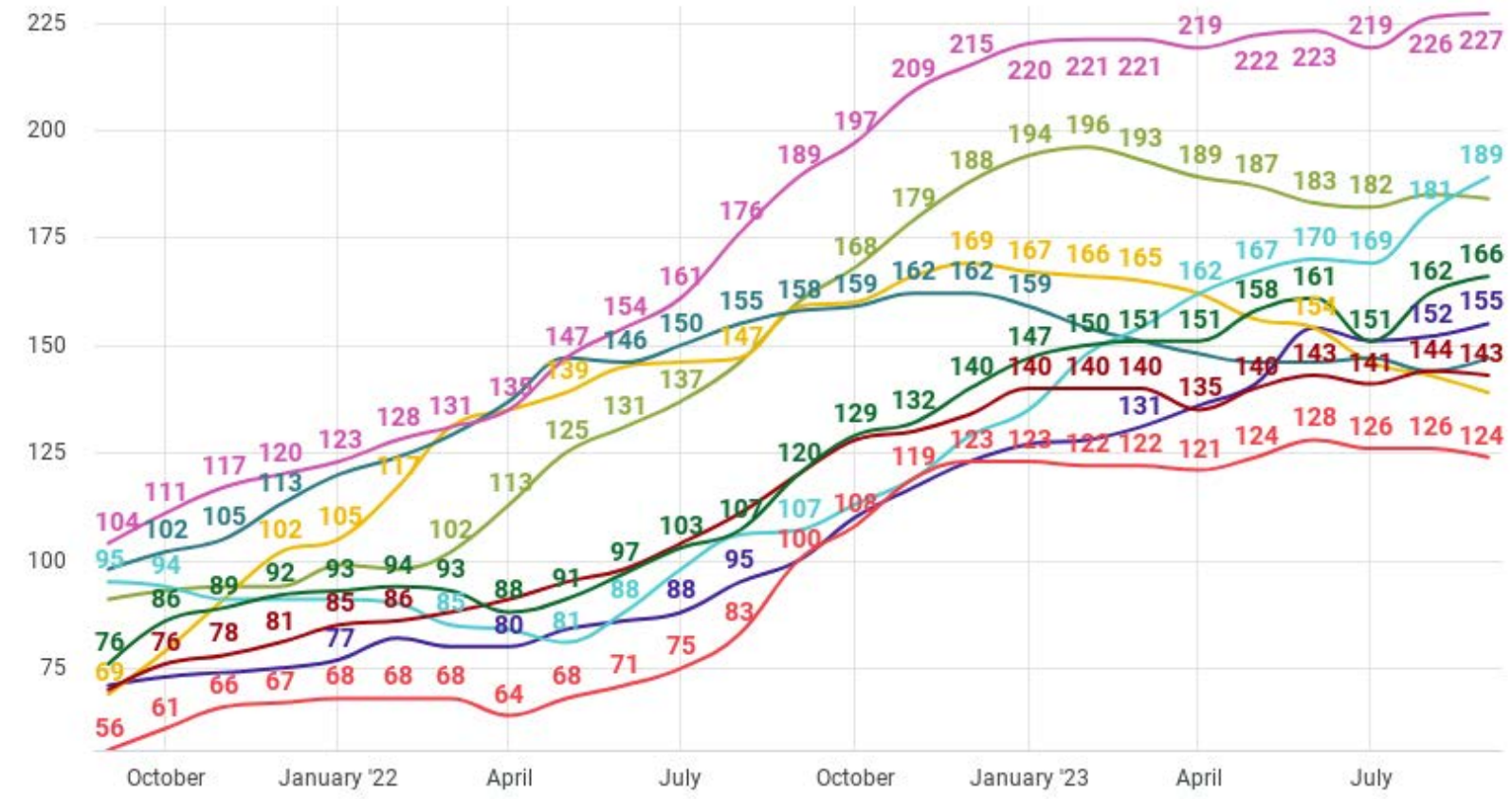
CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Circuit Protection	227	▲	1
Connectors	166	▲	4
Discrete Semiconductors	124	▼	2
Electromechanical	143	▼	1
Integrated Circuits	189	▲	8
Optoelectronics	147	▲	3
Passive Components	139	▼	4
Power Products	184	▼	1
Sensors	155	▲	3



INDUSTRY SUPPLY INDEX



SUPPLY INDEX BY CATEGORY



Supply: Integrated Circuits

SEPTEMBER 2023

- The Supply Index for Integrated Circuits increased by 8 points in September, for a total index value of 189 points. This increase is due to strong increases reported in all of the subcategory indices.
- The largest supply index lift in September was reported in RF Receivers, Transceivers at 33 points, for an index total of 285 points. This adds to the 117 point increase in this index since January 2023.
- Other notable increases were seen in Voltage Regulators - Switching (14 pts.), Amplifiers - Op Amps, Buffer, Instrumentation (9 pts.), and Voltage Regulators - Linear (8 pts.).
- Microcontrollers saw a double-digit increase of 10 points for a total index value of 122 points. This increase continues a 16 month upward trend since May 2022, when the index low reported was 27 points.

SEPTEMBER 2023

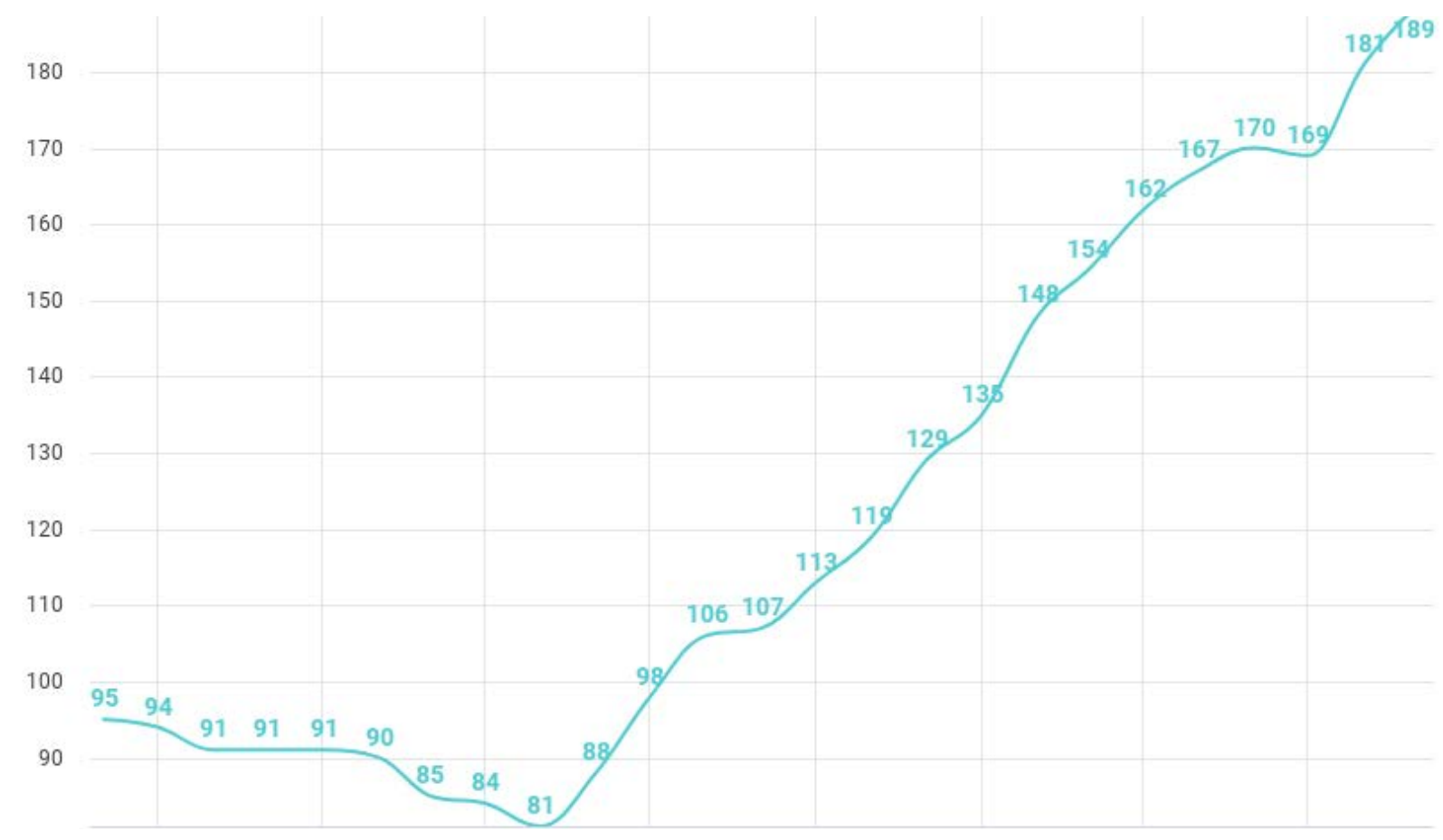
ALL INTEGRATED CIRCUITS

189

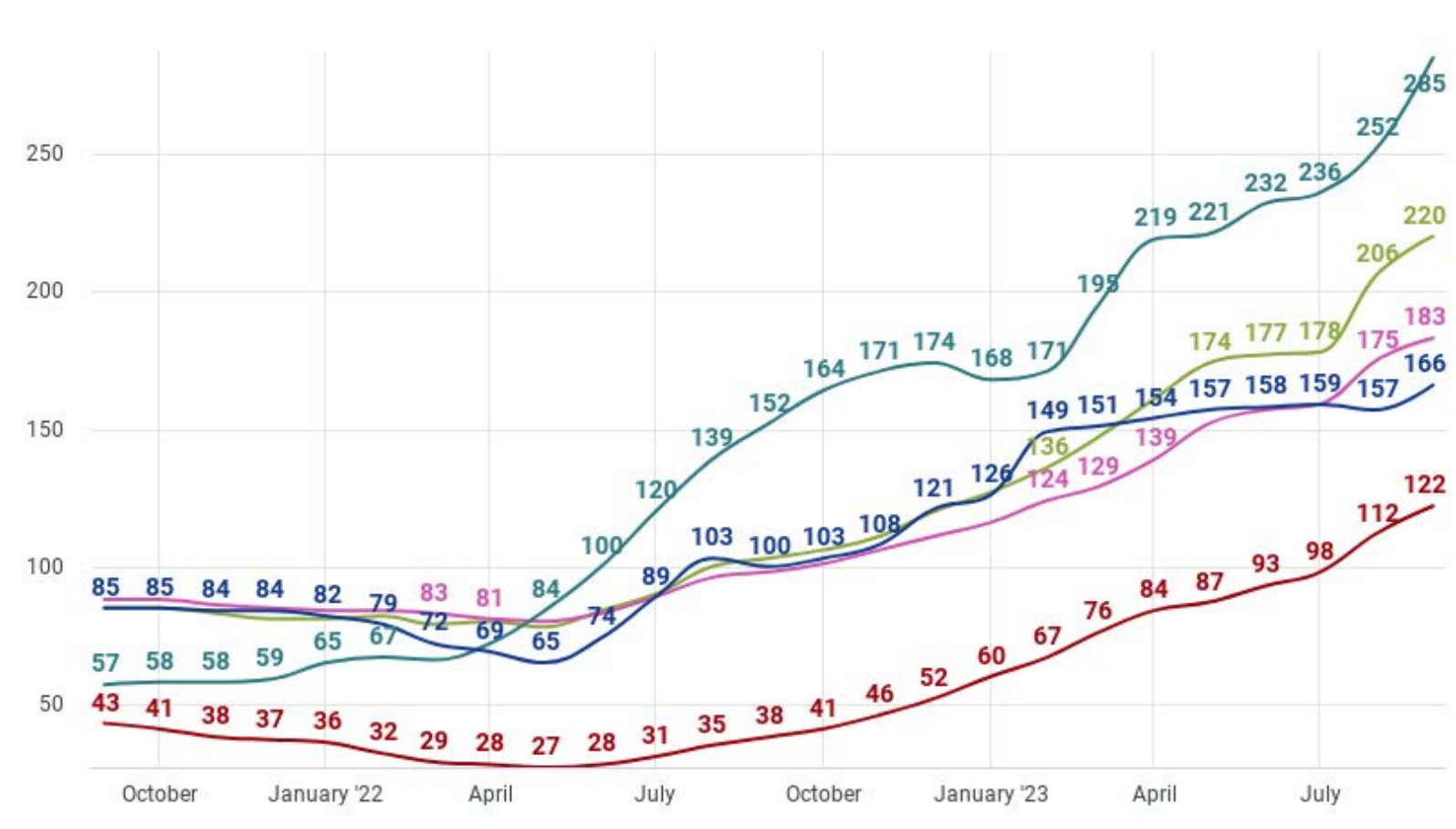
CHANGE
MONTH OVER MONTH **▲ 8**

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Amplifiers - Op Amps, Buffer, Instrumentation	166	▲ 9	
Microcontrollers	122	▲ 10	
RF Receivers, Transceivers	285	▲ 33	
Voltage Regulators - Linear	183	▲ 8	
Voltage Regulators - Switching	220	▲ 14	

ALL INTEGRATED CIRCUITS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Supply: Passive Components

SEPTEMBER 2023

- The Supply Index for Passive Components dropped 4 points (2.9%) this month for an index value of 139 points. This is the 9th month-over-month decline since December 2022 for a total change of 30 points (21.6%).
- The largest index declines were reported in Chip SMD Resistors at 4 points (2.5%), and Tantalum Capacitors at 4 points (2.7%). Both of these supply indices reporting declines since Q1 2023.
- Other supply index declines seen were in Fixed Inductors at 3 points (1.8%) and Ceramic Capacitors at 2 points (1.8%).
- The only increase was reported in Aluminum Electrolytic Capacitors at 4 points (2.8%), for a total index value of 148 points. This index has reported a strong recovery since August of 2021, where the last low was 38 points.

SEPTEMBER 2023

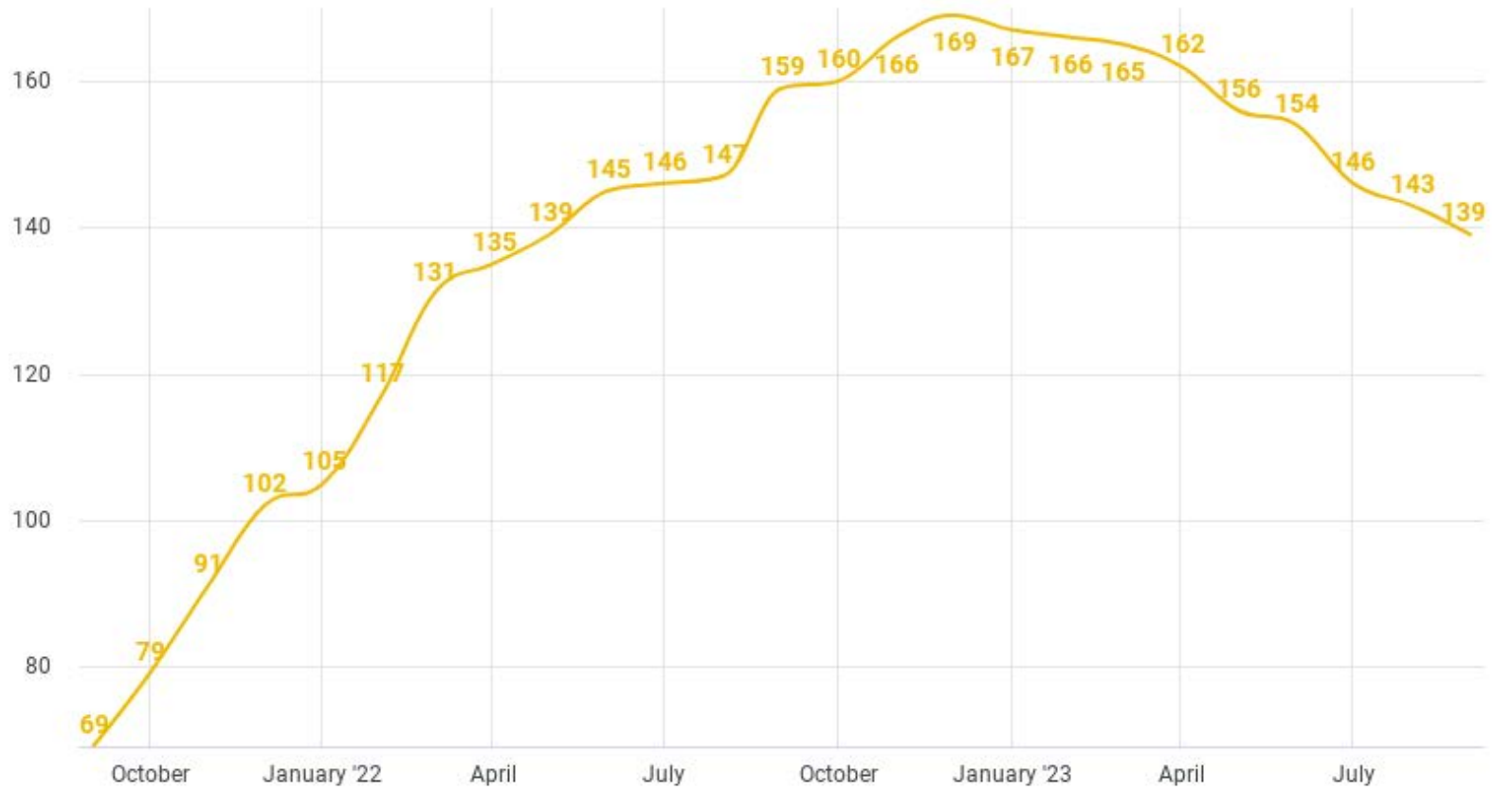
ALL PASSIVE COMPONENTS

CHANGE
MONTH OVER MONTH

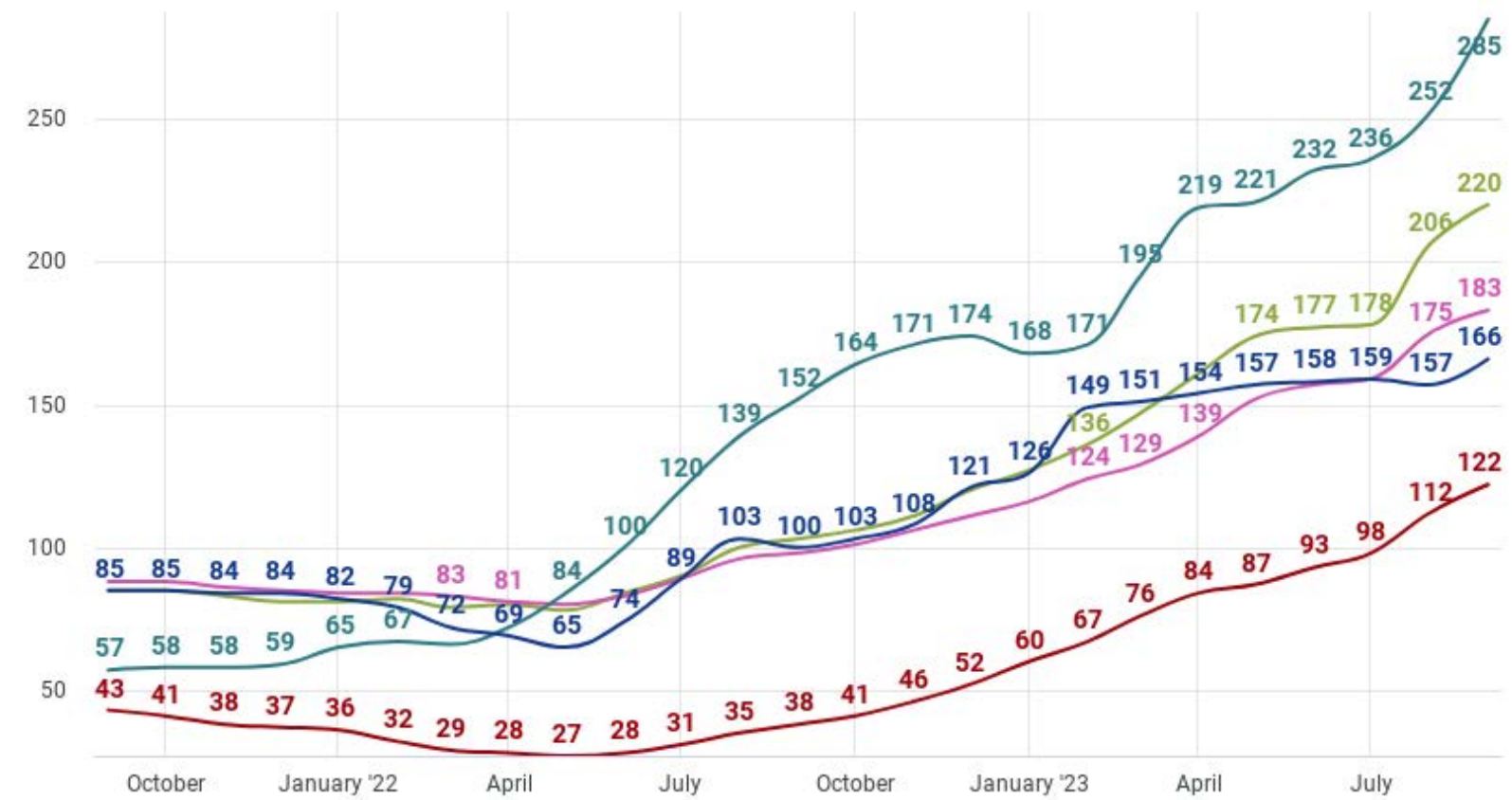
139 ▼ **4**

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Aluminum Electrolytic Capacitors	148	▲	4
Ceramic Capacitors	109	▼	2
Chip SMD Resistors	157	▼	4
Fixed Inductors	166	▼	3
Tantalum Capacitors	146	▼	4

ALL PASSIVE COMPONENTS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Supply: Discrete Semiconductors

SEPTEMBER 2023

- The Discrete Semiconductor Supply Index reported a decline of 2 points (1.6%), totaling 124 points this month. This is a slight shift in the momentum we have seen most recently for this supply index.
- The only increases seen were in the MOSFETs category with 5 points (3.6%), totaling 138 points and Schottky Diodes with 4 points (3.4%), totaling 116 points.
- The Zener Diodes supply index remained flat in September at 134 points. This index has remained relatively flat since May 2023, hovering around the 132 - 136 point mark.
- Supply index decreases were reported in Rectifier Diodes at 4 points for an index value of 133, and BJTs at 2 points for an index value of 105. Both of these supply indices have trended downward since December 2022.

SEPTEMBER 2023

ALL DISCRETE SEMICONDUCTORS

124

CHANGE MONTH OVER MONTH
▼ 2

CATEGORY	INDEX	CHANGE MONTH OVER MONTH
BJTs	105	▼ 2
MOSFETs	138	▲ 5
Rectifier Diodes	133	▼ 4
Schottky Diodes	116	▲ 4
Zener Diodes	134	▶ Flat

ALL DISCRETE SEMICONDUCTORS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Demand: Overview

SEPTEMBER 2023

- The Industry Demand Index decreased overall by 8 points (5.7%) this month to a total of 132 points. This is the first index decline since the last index low in April 2023 at 106.
- Double-digit declines were reported in Circuit Protection (10 pts.), Connectors (10 pts.), and Integrated Circuits (10 pts.).
- Optoelectronics was the only demand index to remain flat in September at 109 points. This is after a notable recovery that began in April 2023 when the index was at it's record low of 82 points.
- More demand index decreases were seen in Power Products (8 pts.), Passive Components (5 pts.), Electromechanical (4 pts.), Sensors (4 pts.), and Discrete Semiconductors (2 pts.).

SEPTEMBER 2023

INDUSTRY INDEX

132

CHANGE
MONTH OVER MONTH

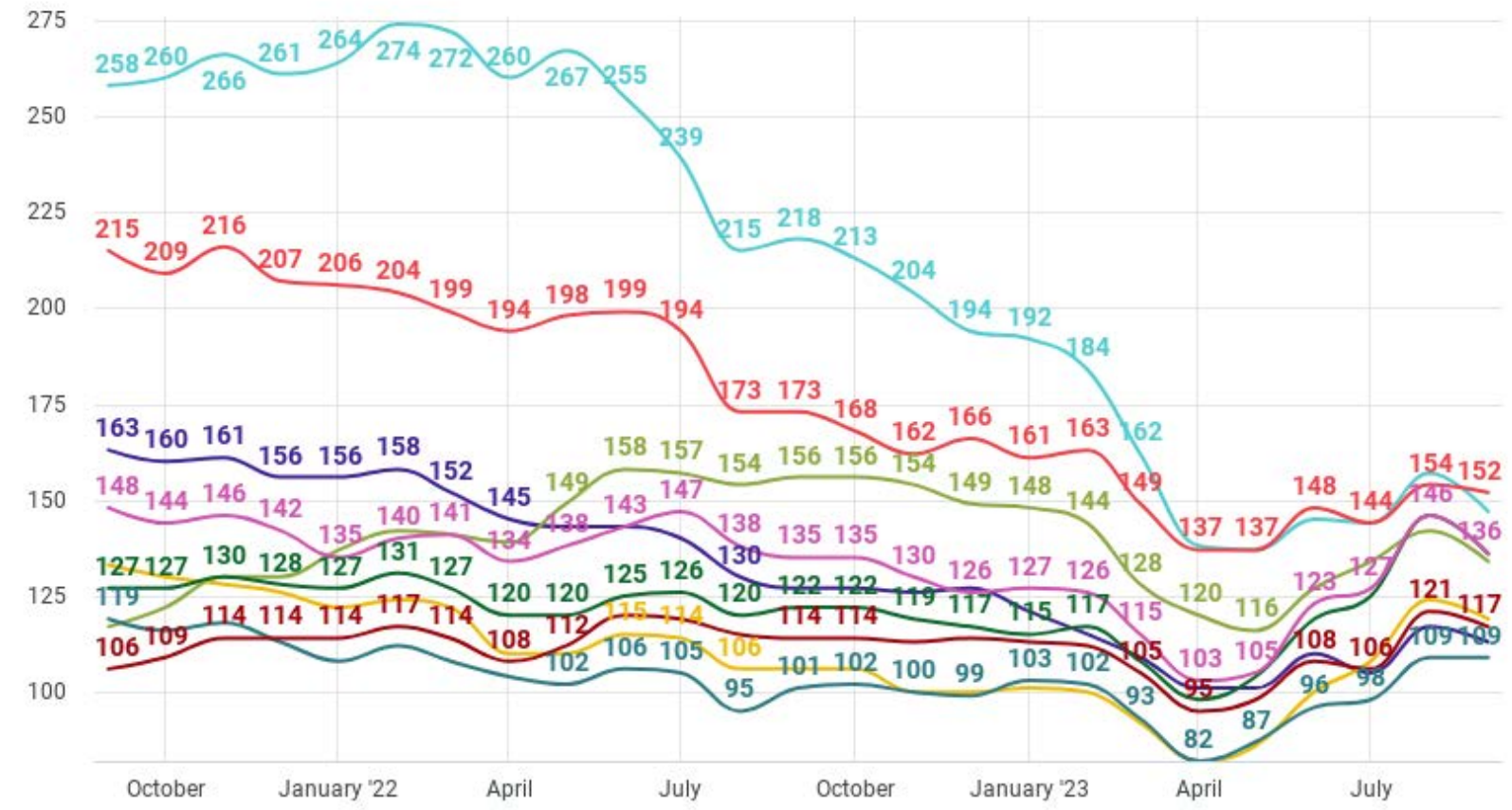
▼ **8**

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Circuit Protection	136	▼	10
Connectors	136	▼	10
Discrete Semiconductors	152	▼	2
Electromechanical	117	▼	4
Integrated Circuits	147	▼	10
Optoelectronics	109	▶	Flat
Passive Components	119	▼	5
Power Products	134	▼	8
Sensors	113	▼	4

INDUSTRY DEMAND INDEX



DEMAND INDEX BY CATEGORY



Demand: Integrated Circuits

SEPTEMBER 2023

- The Demand Index for Integrated Circuits decreased 10 points in September totaling 147 points. This decrease is due to decreases across most of the Integrated Circuits subcategory level indices.
- The largest demand index decrease was seen in Microcontrollers at 22 points. This notable decrease is consistent with the downward trend in this index that started in February 2022.
- Additional double-digit demand index decreases were seen in Voltage Regulators - Switching (12 pts.), Amplifiers - Op Amps, Buffer, Instrumentation (11 pts.) and Voltage Regulators - Linear (11 pts.).
- The only demand index increase reported in the Integrated Circuits category was in RF Receivers, Transceivers at 2 points for an index total of 97 points.

SEPTEMBER 2023

ALL INTEGRATED CIRCUITS

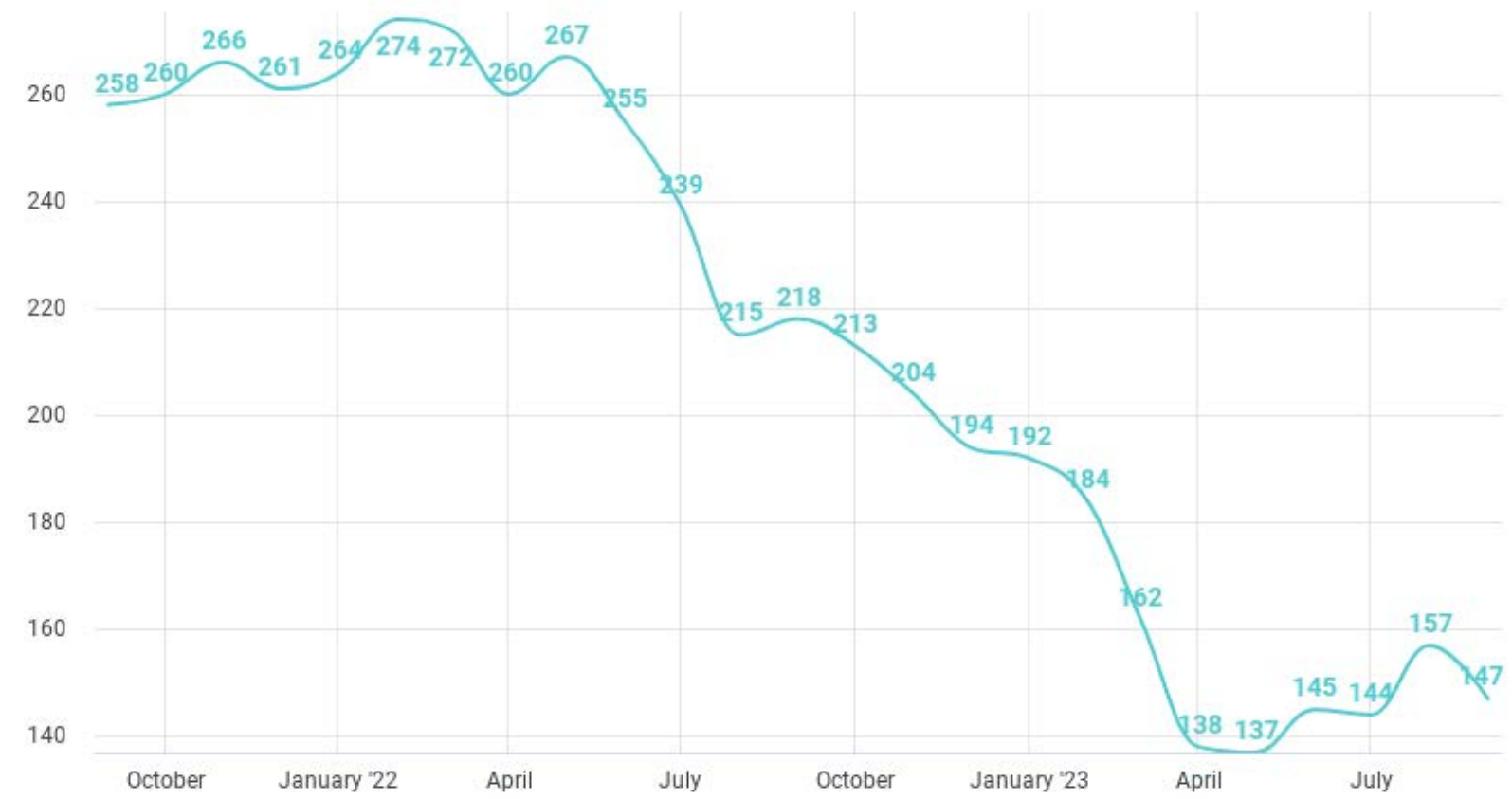
147

CHANGE
MONTH OVER MONTH

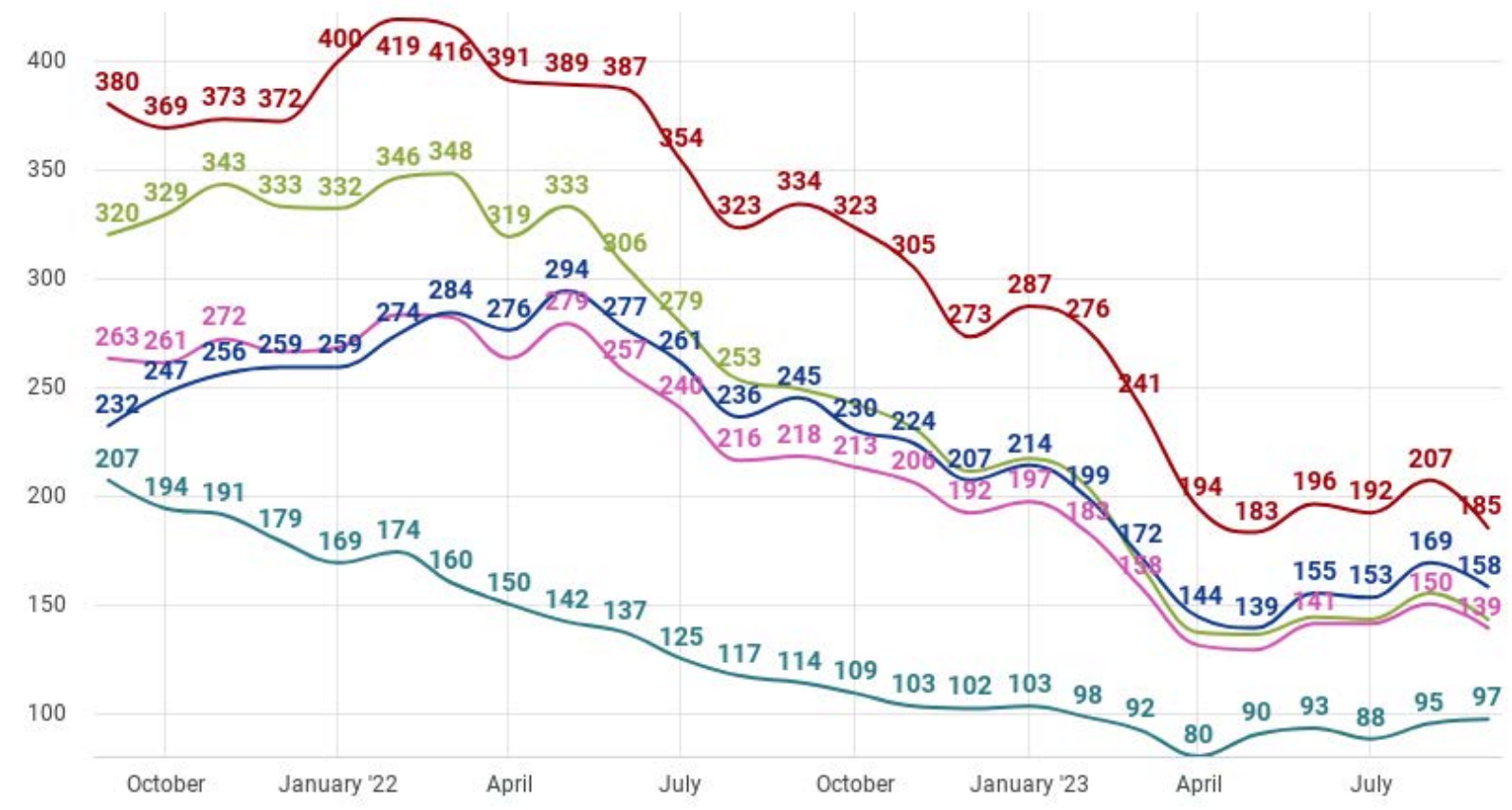
▼ 10

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Amplifiers - Op Amps, Buffer, Instrumentation	158	▼	11
Microcontrollers	185	▼	22
RF Receivers, Transceivers	97	▲	2
Voltage Regulators - Linear	139	▼	11
Voltage Regulators - Switching	143	▼	12

ALL INTEGRATED CIRCUITS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY



Demand: Passive Components

SEPTEMBER 2023

- The Demand Index for Passive Components decreased 5 points in September, totaling 119 points. This is the first decrease for this demand index since April 2023.
- The only subcategory demand index increase was reported in Aluminum Electrolytic Capacitors at 2 points (1.8%) totaling 116 points. This increase is the 5th month-over-month increase reported since April 2023.
- Decreases were reported in the Ceramic Capacitors (8 pts.), Chip SMD Capacitors (5 pts.), Tantalum Capacitors (4 pts.), and Fixed Inductors (1 pt.) subcategories.
- Even with a decline in the demand index for Passive Components, the supply index is reporting a consistent decline. This may be a category to watch as the market starts to shift.

SEPTEMBER 2023

ALL PASSIVE COMPONENTS

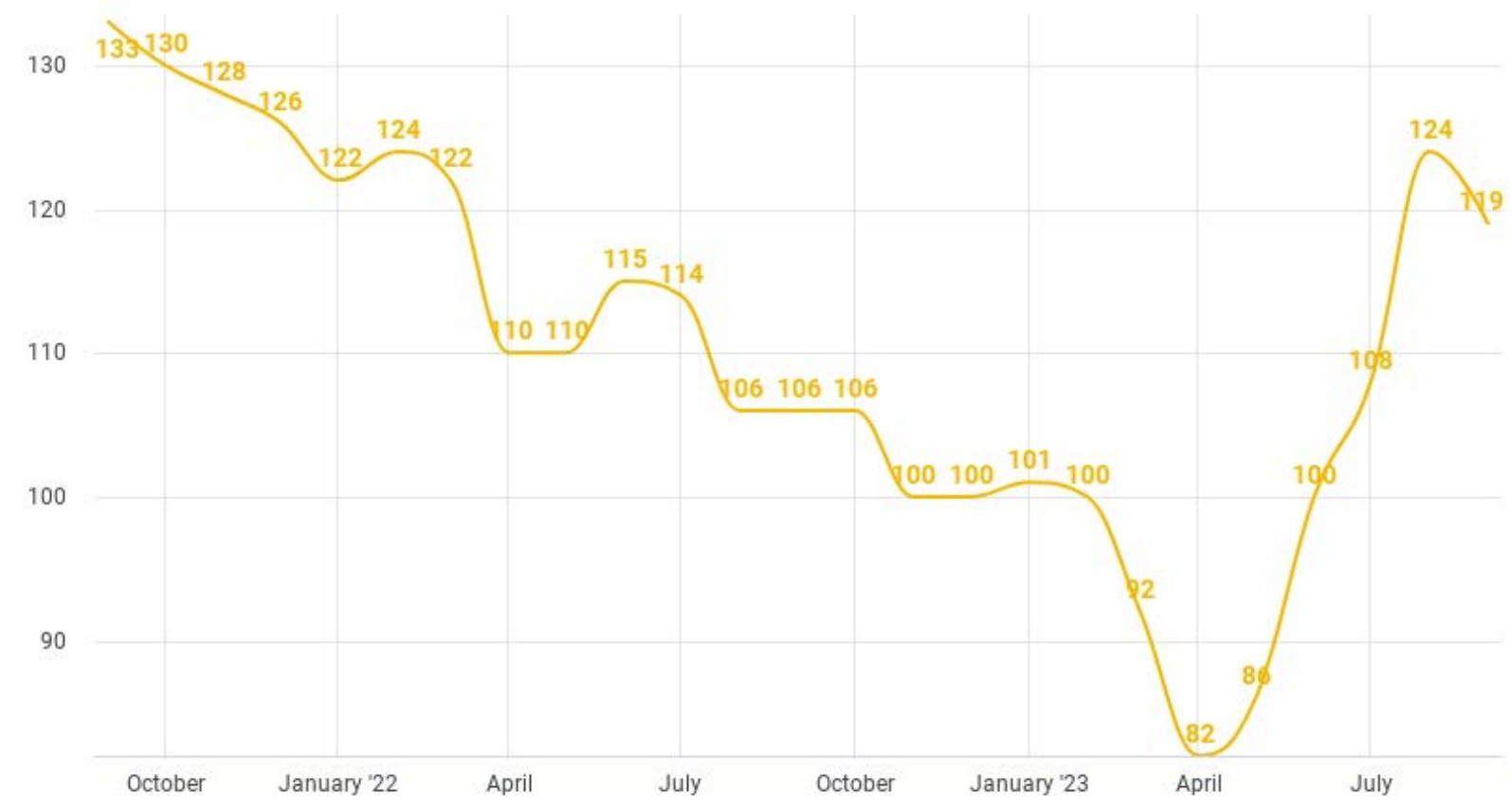
119

CHANGE
MONTH OVER MONTH

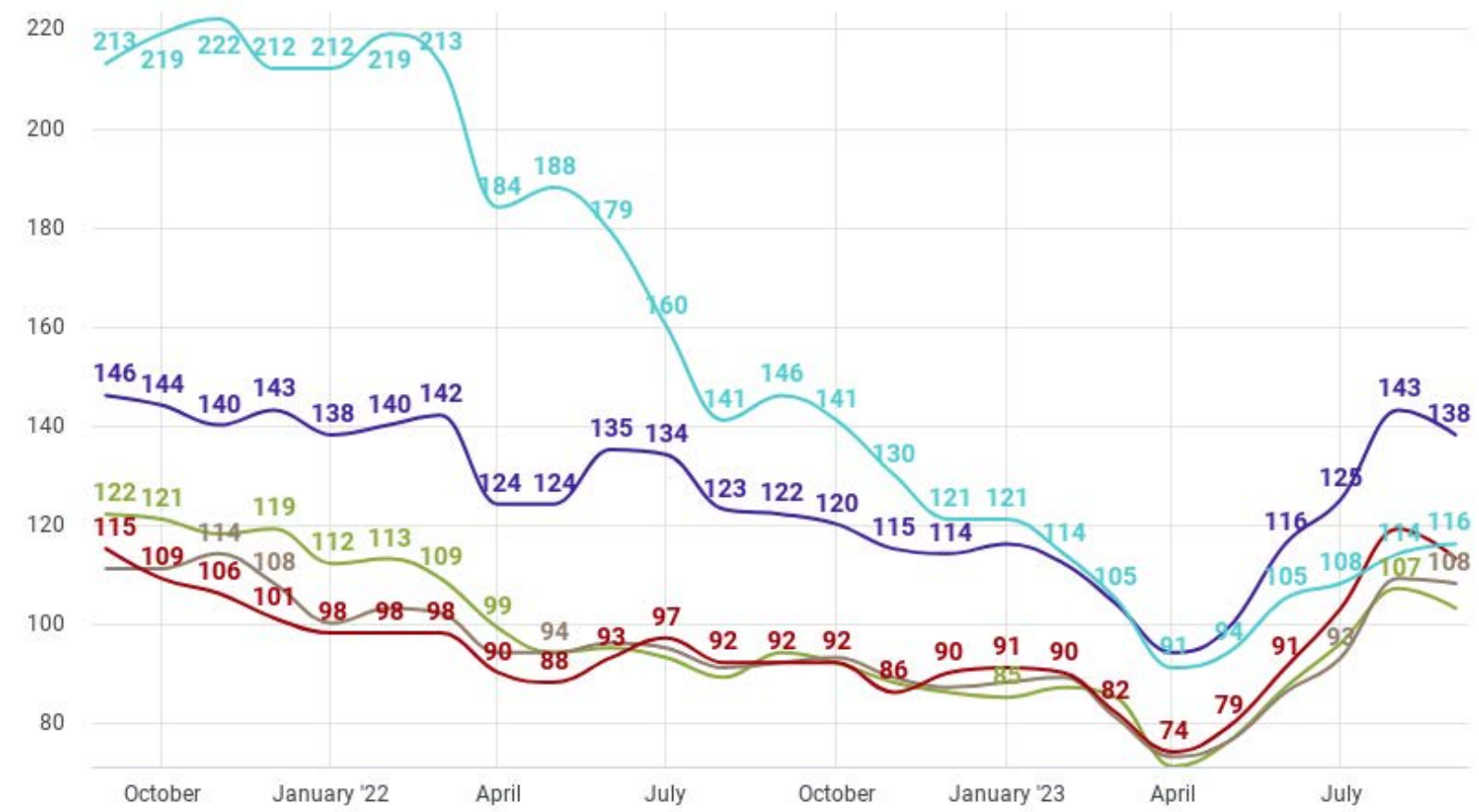
▼ 5

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Aluminum Electrolytic Capacitors	116	▲	2
Ceramic Capacitors	113	▼	8
Chip SMD Resistors	138	▼	5
Fixed Inductors	108	▼	1
Tantalum Capacitors	103	▼	4

ALL PASSIVE COMPONENTS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY



Demand: Discrete Semiconductors

SEPTEMBER 2023

- The Discrete Semiconductor Industry Demand Index decreased by 2 points in September, due to mixed sourcing activity reported across all subcategory level indices.
- The only subcategory level demand index increase was seen in BJTs at 2 points for total value of 152 points. This demand index is reporting signs of a plateau that started in July 2023.
- The largest index decrease was seen in the Schottky Diodes category with 8 points (4.3%) for a total index value of 161 points.
- Other demand index decreases were seen in Rectifier Diodes (6 pts.), Zener Diodes (5 pts.), and MOSFETs (4 pts.).

SEPTEMBER 2023

ALL DISCRETE SEMICONDUCTORS

152

CHANGE MONTH OVER MONTH ▼ **2**

CATEGORY	INDEX	CHANGE MONTH OVER MONTH
BJTs	131	▲ 2
MOSFETs	165	▼ 4
Rectifier Diodes	137	▼ 6
Schottky Diodes	161	▼ 8
Zener Diodes	154	▼ 5

ALL DISCRETE SEMICONDUCTORS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY

