

ELECTRONIC DESIGN TO DELIVERY INDEX

DECEMBER 2023

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



Supply: Overview

DECEMBER 2023

- The Industry Supply Index reported a decline of 2 points (-1.1%), totaling 167 points this month. This represents a marginal deceleration in the recent upward trend observed in the supply index.
- Integrated circuits remain at its highest supply level of 202 points, an increase of 33 points (19.5%) since July 2023.
- The Sensor index experienced the most substantial decline, decreasing 13 points (-8.3%) to 144 points.
- The Connector index has had a consistent decline for the past three months, reaching a value of 158 points from a peak of 166 in August 2023.

DECEMBER 2023

INDUSTRY INDEX

167

CHANGE
MONTH OVER MONTH

▼ **2**

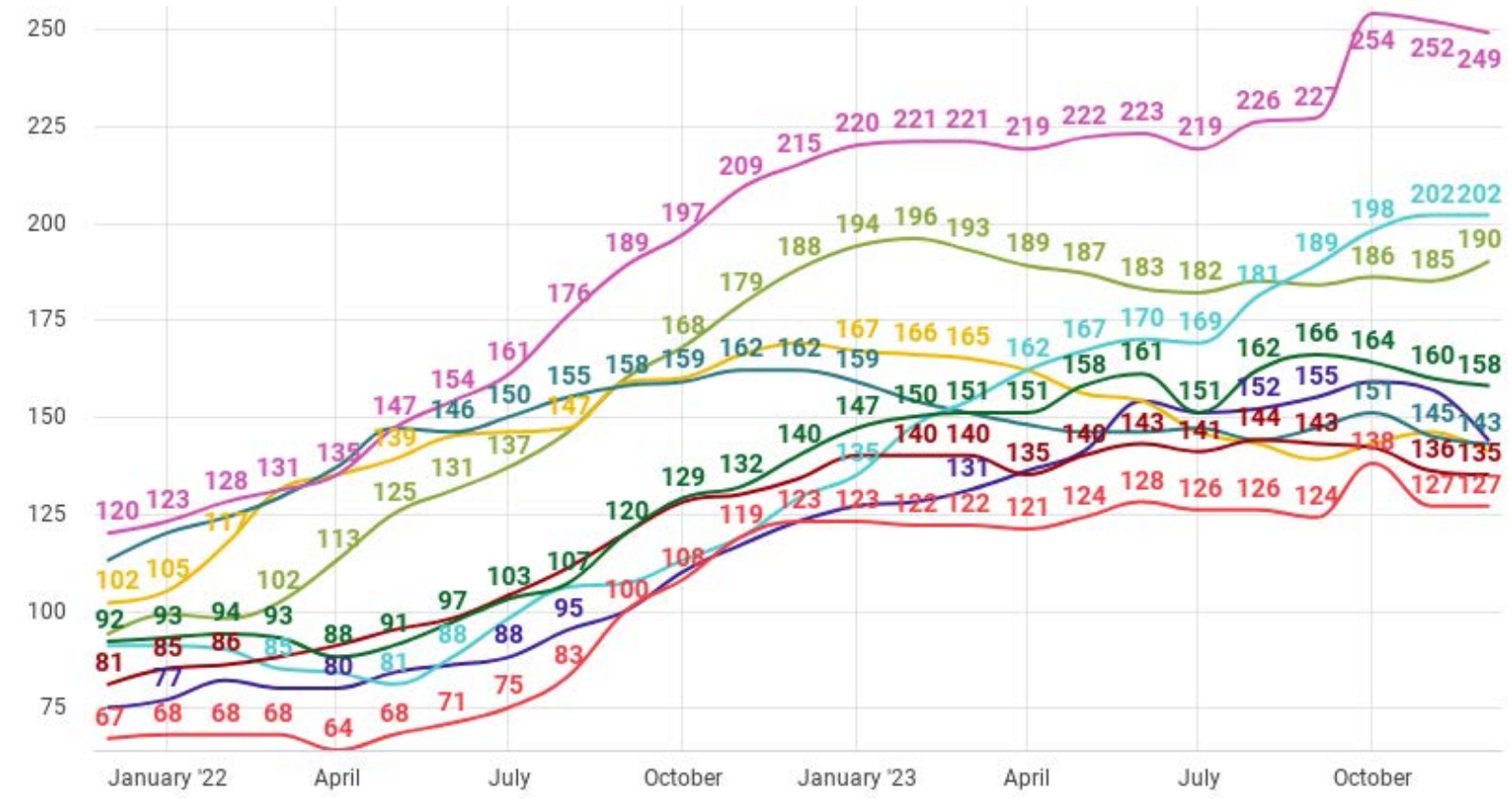
CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Circuit Protection	249	▼	3
Connectors	158	▼	2
Discrete Semiconductors	127	▶	Flat
Electromechanical	135	▼	1
Integrated Circuits	202	▶	Flat
Optoelectronics	143	▼	2
Passive Components	141	▼	5
Power Products	190	▲	5
Sensors	144	▼	13



INDUSTRY SUPPLY INDEX



SUPPLY INDEX BY CATEGORY



Supply: Integrated Circuits

DECEMBER 2023

- The Supply Index for Integrated Circuits remained unchanged at 202 points in December. This signifies the conclusion of the fourth consecutive month of growth following a slight decline in July 2023, when it reached a low of 169.
- Voltage Regulators - Switching dropped to 168 points from its peak of 251 (-33%) on the previous month. This marks the end of an 18th consecutive month of growth since May 2022.
- The only subcategory index increase was seen in Amplifiers - Op Amps Buffer, Instrumentation at 9 points, which has increased to its highest value of 184 points. This signifies a 52% increase from December 2022.

DECEMBER 2023

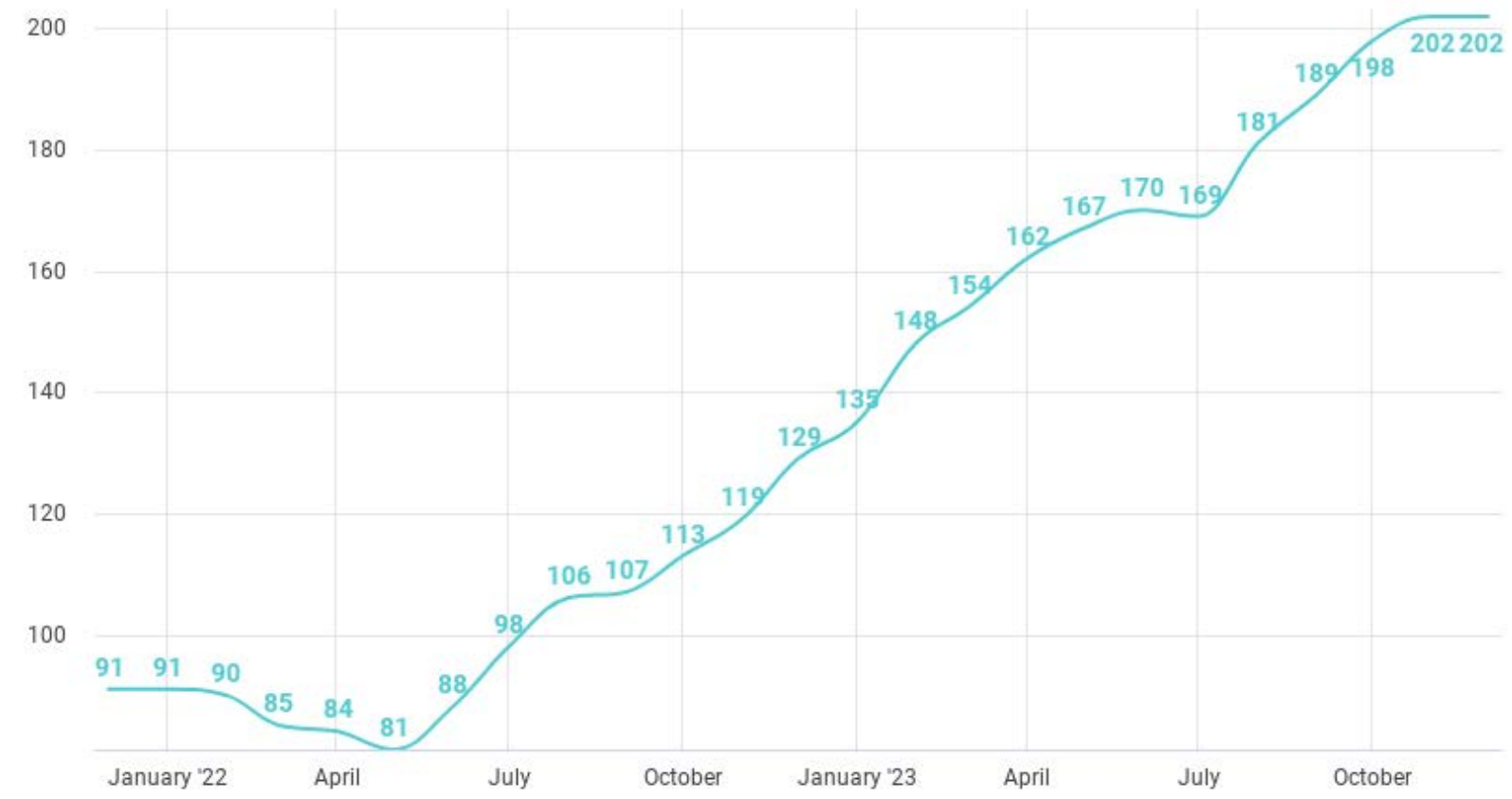
ALL INTEGRATED CIRCUITS

202 **Flat**

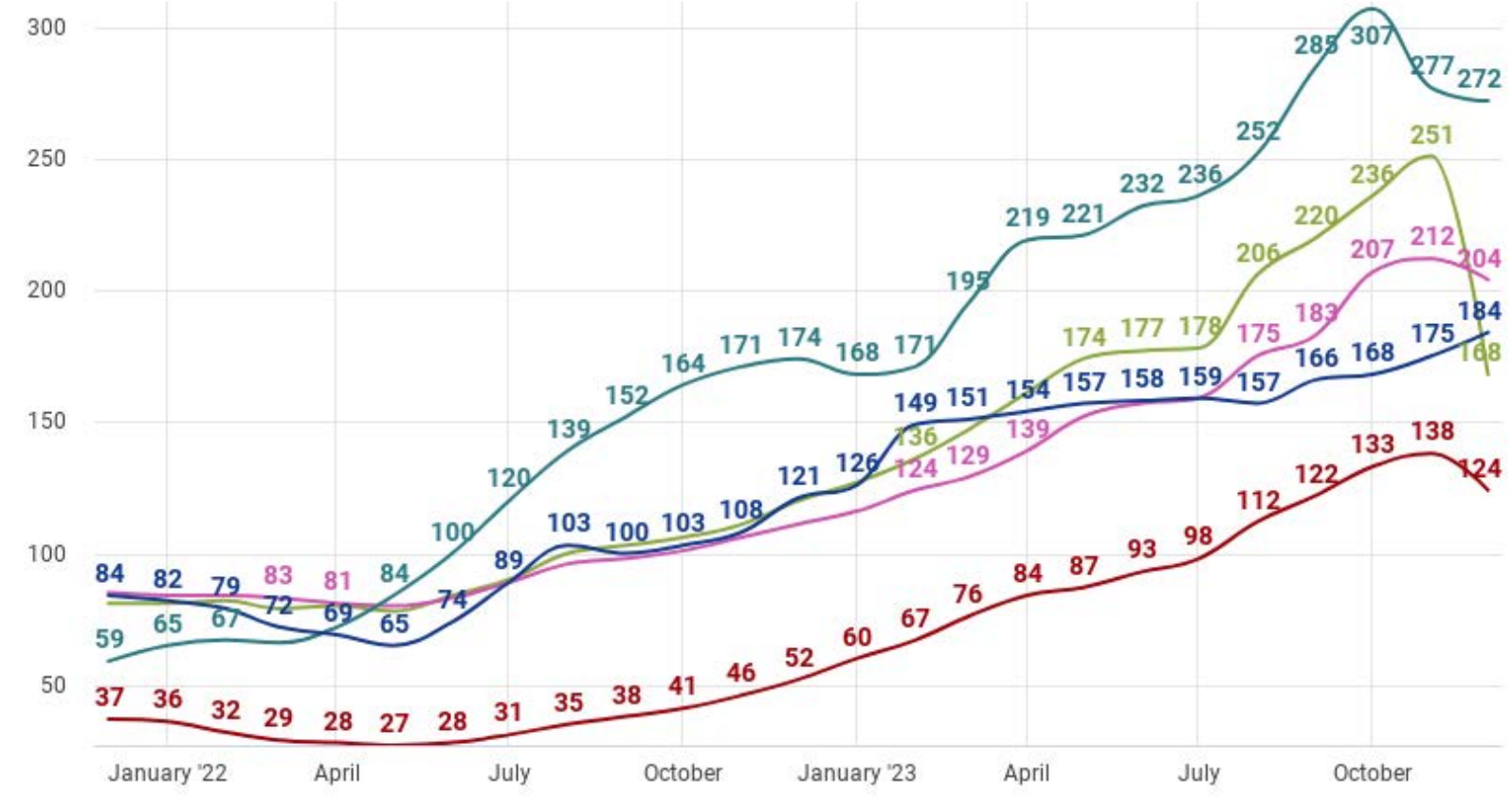
CHANGE MONTH OVER MONTH

CATEGORY	INDEX	CHANGE MONTH OVER MONTH
Amplifiers - Op Amps, Buffer, Instrumentation	184	▲ 9
Microcontrollers	124	▼ 14
RF Receivers, Transceivers	272	▼ 5
Voltage Regulators - Linear	204	▼ 8
Voltage Regulators - Switching	168	▼ 83

ALL INTEGRATED CIRCUITS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Supply: Passive Components

DECEMBER 2023

- The Supply Index for Passive Components reduced this month by 5 points (3.4%), resulting in an index value of 141 points.
- The Aluminum Electrolytic Capacitors had a further 3 points rise, reaching 161. This rise perpetuates a 24-month consecutive increasing trajectory from December 2021.
- The Fixed Inductors supply index subcategory was the sole category to see a reduction, dropping to a value of 160. This signifies a sustained decline that has been ongoing since June 2023.

DECEMBER 2023

ALL PASSIVE COMPONENTS

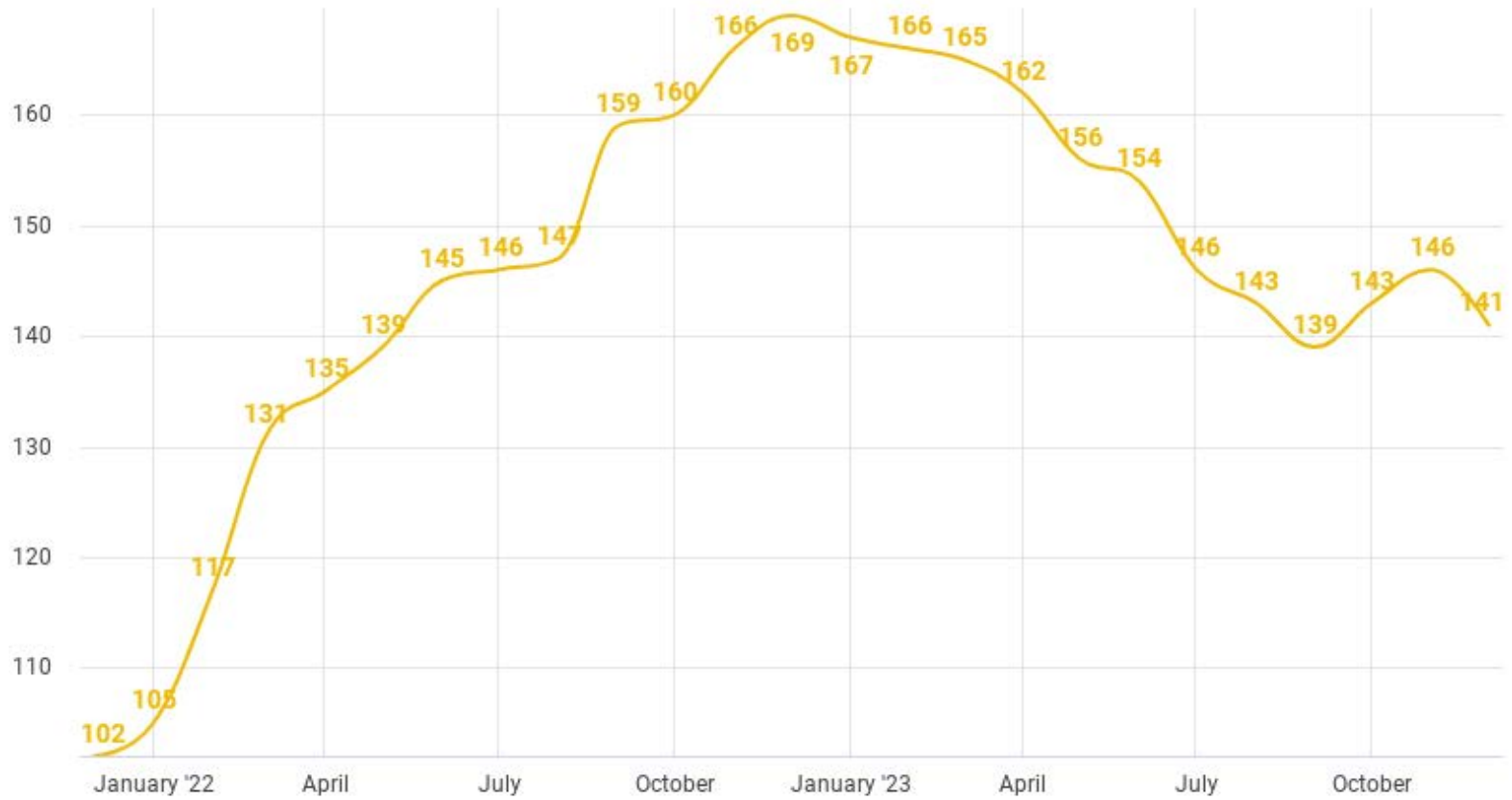
141

CHANGE
MONTH OVER MONTH

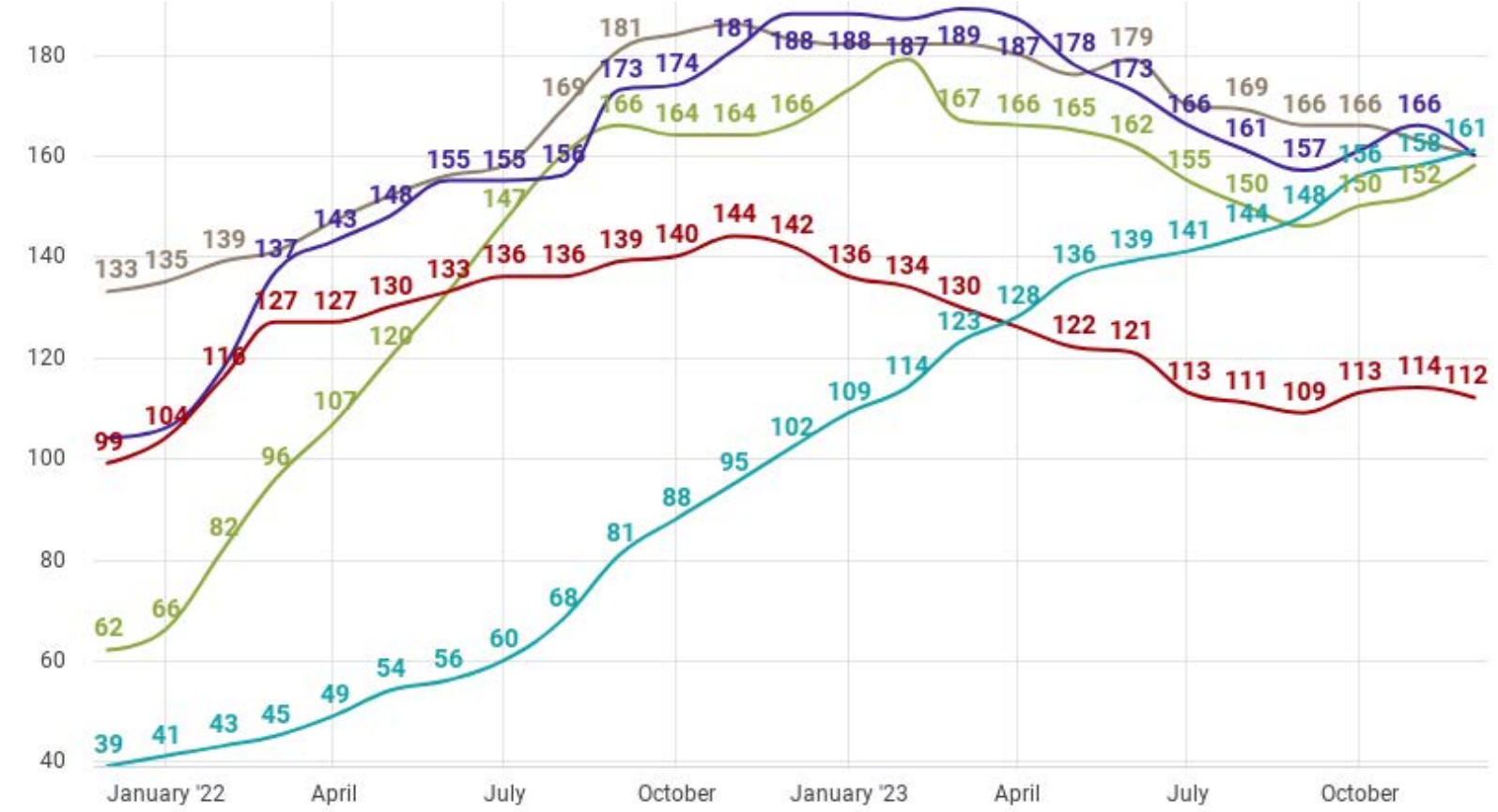
▼ 5

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Aluminum Electrolytic Capacitors	161	▲	3
Ceramic Capacitors	112	▼	2
Chip SMD Resistors	160	▼	6
Fixed Inductors	160	▼	3
Tantalum Capacitors	158	▲	6

ALL PASSIVE COMPONENTS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Supply: Discrete Semiconductors

DECEMBER 2023

- Discrete Semiconductor Supply Index remained unchanged at 127 points in December. This signifies a decline in comparison to the peak of 138 (-8%) seen in October 2023.
- MOSFETs increased by 2 points (1.2%), reaching 170 points. Over the course of the last 20 months (April 2022), supply has been steadily increasing.
- Following what appeared to be a significant increase in October, the supply index for both Schottky Diode and Rectifier Diodes experienced a decline of 1 point in December.
- Zener Diodes with 132 points, was the sole supply index that remained unchanged in December. This is a 57% increase from April 2023, when the index hit a low of 84 points.

DECEMBER 2023

ALL DISCRETE SEMICONDUCTORS

127

CHANGE MONTH OVER MONTH

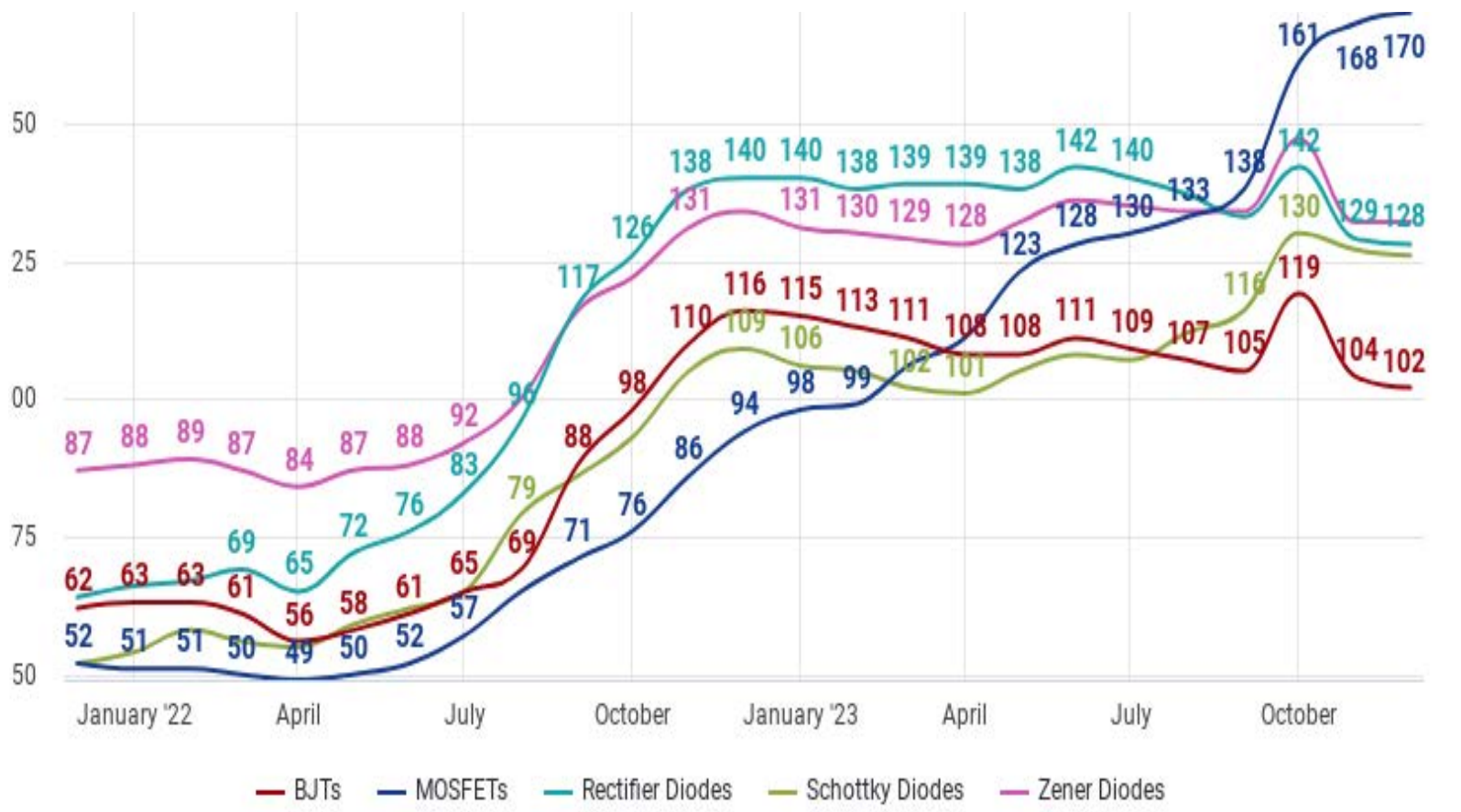
Flat

CATEGORY	INDEX	CHANGE MONTH OVER MONTH
BJTs	102	▼ 2
MOSFETs	170	▲ 2
Rectifier Diodes	128	▼ 1
Schottky Diodes	126	▼ 1
Zener Diodes	132	▶ Flat

ALL DISCRETE SEMICONDUCTORS SUPPLY INDEX



SUPPLY INDEX BY SUBCATEGORY



Demand: Overview

DECEMBER 2023

- The Industry Demand Index had a net rise of 2 points, representing a growth of 1.5%, resulting in a cumulative total of 136 points. This is the first month of incline since October 2023.
- Double-digit declines were reported in the Optoelectronics category of -11 points (-10%), bringing the category total below 100 for the first time in the last 4 months.
- The most significant subcategory index increase was reported in Discrete Semiconductors at 10 points (6.4%) totaling 166 points. The subcategory has grown for 3 consecutive months starting, in October 2023.

DECEMBER 2023

INDUSTRY INDEX

136

CHANGE
MONTH OVER MONTH

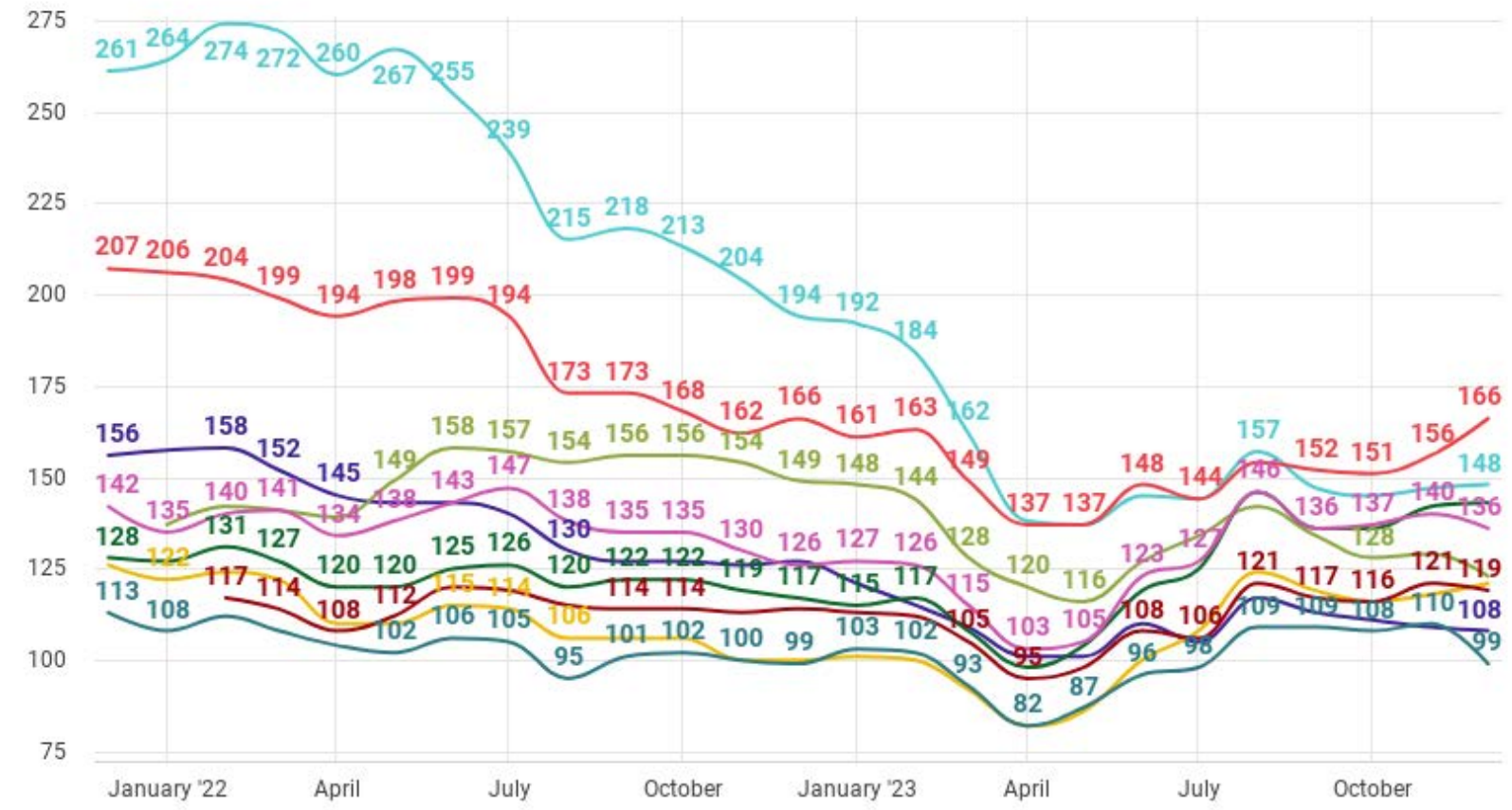
▲ 2

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Circuit Protection	136	▼	4
Connectors	143	▲	1
Discrete Semiconductors	166	▲	10
Electromechanical	119	▼	2
Integrated Circuits	148	▲	1
Optoelectronics	99	▼	11
Passive Components	121	▲	3
Power Products	123	▼	6
Sensors	108	▼	1

INDUSTRY DEMAND INDEX



DEMAND INDEX BY CATEGORY



Demand: Integrated Circuits

DECEMBER 2023

- The Demand Index for Integrated Circuits increased by 1 point in November totaling 148 points (0.7%). This trend has been risen for the last 2 months from Oct 2023.
- Microcontrollers saw the most significant decline in demand index, with a reduction of 30 points. This notable decrease is consistent with the downward trend in this index that started in February 2022, when demand peaked at 419 points (-68.2%).
- RF Receivers, Transceivers, and Voltage Regulators - Linear index has continued decreasing MoM since October 2023.

DECEMBER 2023

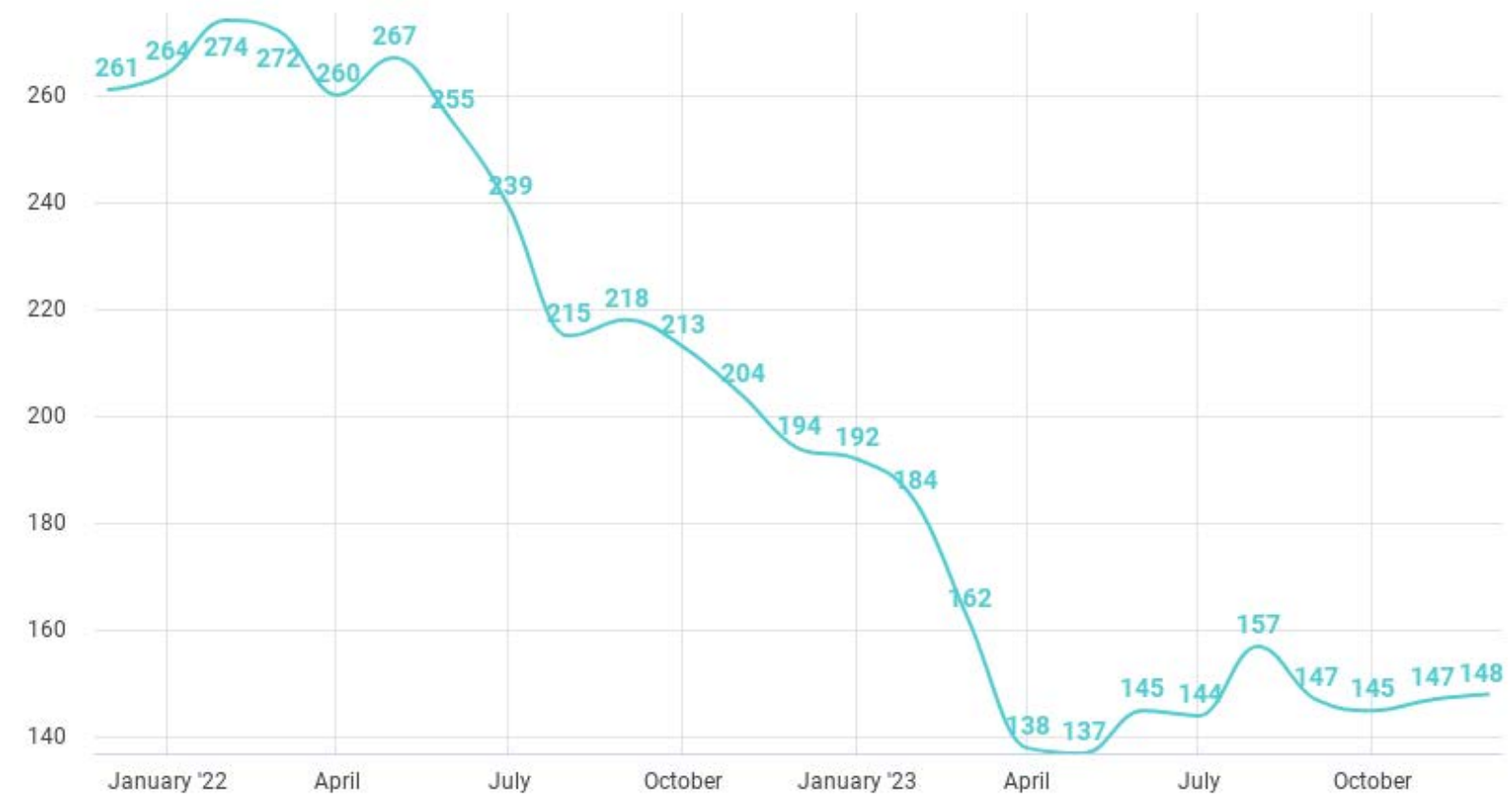
ALL INTEGRATED CIRCUITS

CHANGE
MONTH OVER MONTH

148 ▲ 1

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Amplifiers - Op Amps, Buffer, Instrumentation	143	▼ 10	
Microcontrollers	133	▼ 30	
RF Receivers, Transceivers	91	▼ 2	
Voltage Regulators - Linear	132	▼ 5	
Voltage Regulators - Switching	110	▼ 26	

ALL INTEGRATED CIRCUITS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY



Demand: Passive Components

DECEMBER 2023

- The Demand Index for Passive Components increased 3 points in December, totaling 121 points. This is the 2nd month in a row that demand has increased since October 2023.
- The largest subcategory demand index increase was reported in Chip SMD Resistors at 9 points (6.7%) totaling 116 points. This surge takes the index to the same level as the highest demand value seen in August 2023.
- Increases were also reported in the Ceramic Capacitors (2 pts.), Tantalum Capacitors (5 pts.), and Fixed Inductors (1 pt.) subcategories.
- Although the demand index for passive components has increased, this category could be worth keeping an eye on as market conditions evolve.

DECEMBER 2023

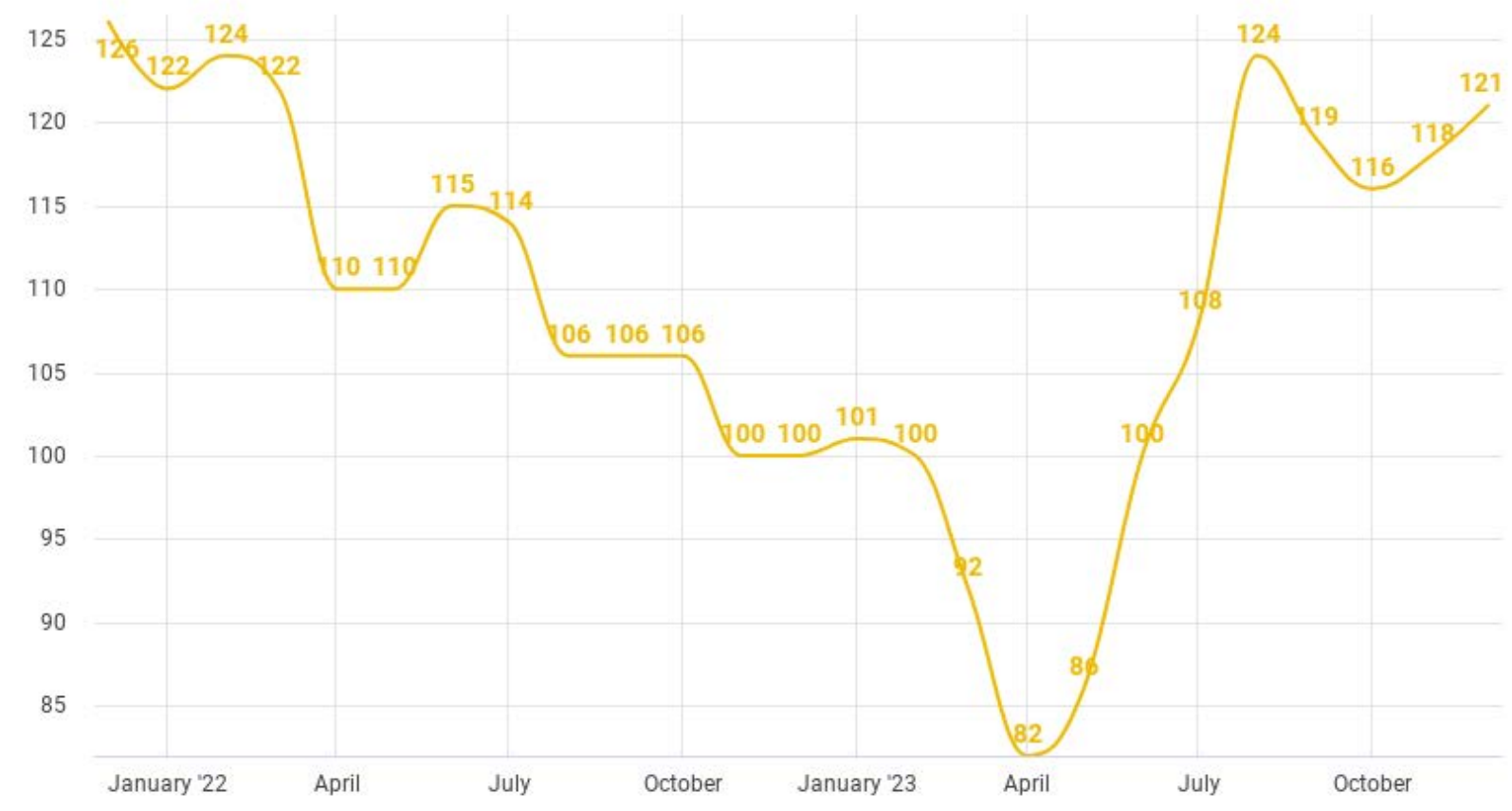
ALL PASSIVE COMPONENTS

CHANGE
MONTH OVER MONTH

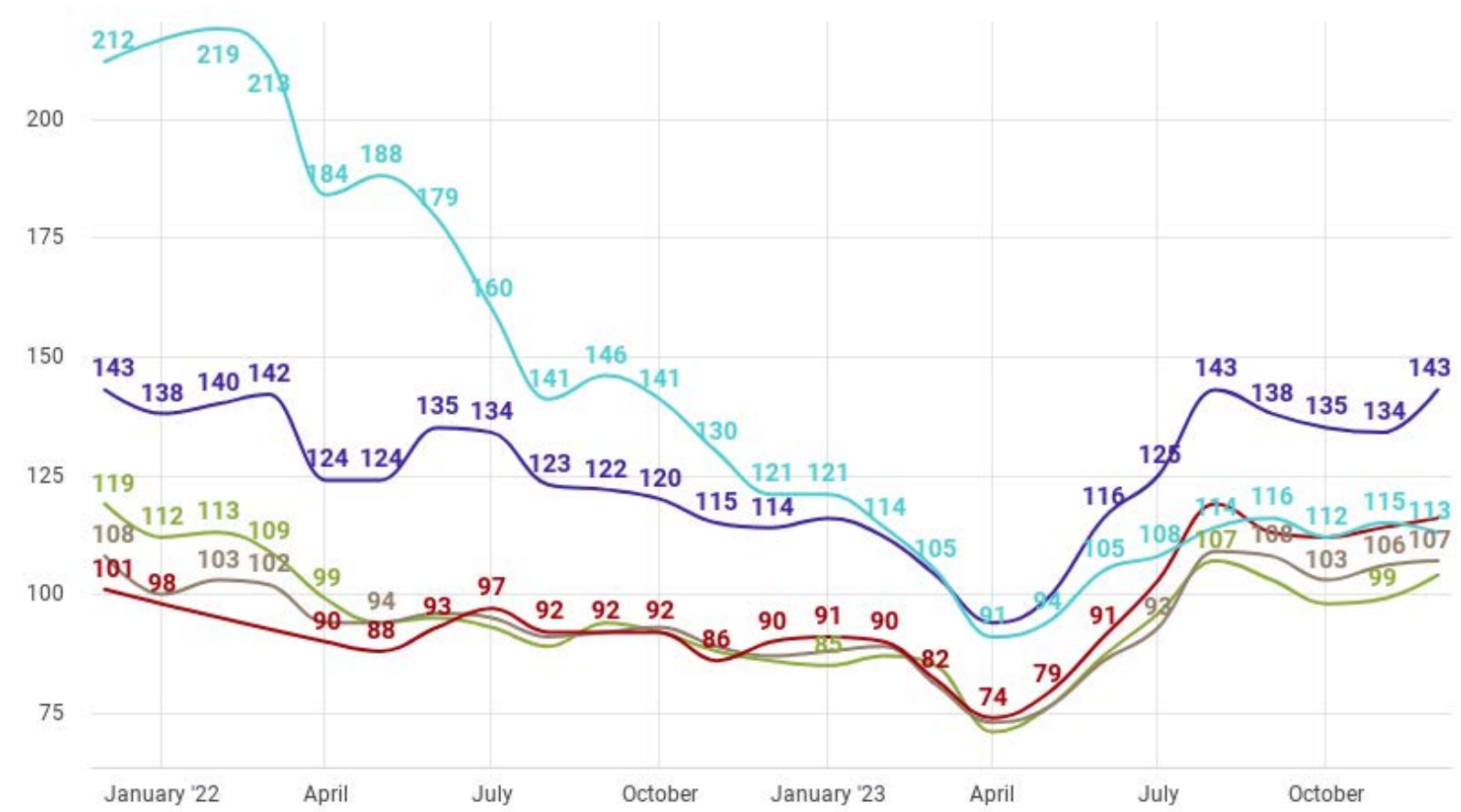
121 ▲ **3**

CATEGORY	INDEX	CHANGE	MONTH OVER MONTH
Aluminum Electrolytic Capacitors	113	▼	2
Ceramic Capacitors	116	▲	2
Chip SMD Resistors	143	▲	9
Fixed Inductors	107	▲	1
Tantalum Capacitors	104	▲	5

ALL PASSIVE COMPONENTS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY



Demand: Discrete Semiconductors

DECEMBER 2023

- The Discrete Semiconductor Industry Demand Index increased by 10 points (6.4%) in November due to mixed sourcing activity reported across all subcategory level indices.
- MOSFETs were the only demand indicator to grow, reaching 170 points (9 points).
- The subcategory with the most significant decline in the demand index was Zener Diodes, which fell by 7 points (-4.6%).

DECEMBER 2023

ALL DISCRETE SEMICONDUCTORS

166

CHANGE MONTH OVER MONTH

▲ 10

CATEGORY	INDEX	CHANGE MONTH OVER MONTH
BJTs	128	▼ 2
MOSFETs	170	▲ 9
Rectifier Diodes	136	▶ Flat
Schottky Diodes	156	▼ 3
Zener Diodes	144	▼ 7

ALL DISCRETE SEMICONDUCTORS DEMAND INDEX



DEMAND INDEX BY SUBCATEGORY

