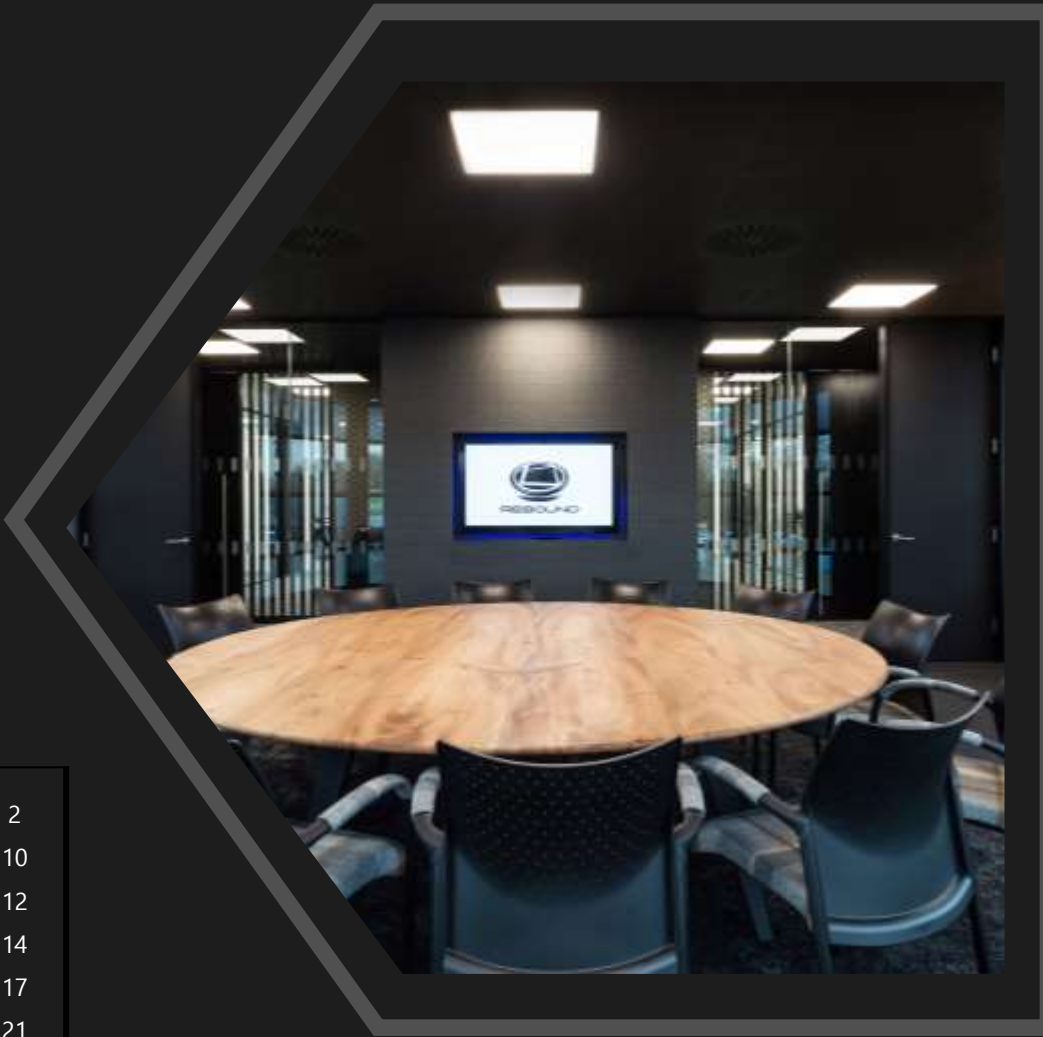




Rebound  
Electronics

# Market Insights Q4 2022



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# General Market Insight

## Impacts of Russia-Ukraine war to Semi-conductor Industry

- Russia and Ukraine are major producers of two materials used in semiconductor manufacturing; Neon and Palladium. The war between the 2 countries have the potential to further aggravate the semiconductor supply-chain issues and the chip shortage that impacted the industry for 2 years.
- Short term impact of this war on Semi-conductor industry is manageable but still the mitigation plans depends on the region and cannot quickly find alternative supply to prevent the production disruptions for 2-3 months.
- Assuming status quo of China remains, short-term impact is manageable.
- Semi-conductor supply chain is extremely interconnected. As a result, the complexity and cost of the industry will increase given the trade limitations and tariffs be expanded, in the long run.
- Companies might consider making more substantial investment in Neon recycling technologies should this war continues for long-term effects.

## Market Growth

- The global semi-conductor market is expected to reach USD 778 billion by 2026 with a CAGR of 7.7% from 2021-2026.
- This industry is attractive with opportunities in the communication, consumer electronics, automotive, and industrial sectors.
- Major drivers of this growth are the increasing price of semiconductor due to supply shortage, growth in wireless communication, increasing demand for advanced safety features in automotive, and growth in internet connected devices.
- Development of artificial intelligence-based semiconductors and increasing demand for semiconductors in autonomous driving technology directly impacts on the dynamics of the industry.

## Semiconductor Industry

- Majority of the semiconductor leaders has moved toward being more oriented by specific end-market to meet the future demand. It is predicted that by the end of 2022, there is a 22% semiconductor shortage.
- Wireless communications, automotive and Internet of things are the three key drivers of Semiconductor market growth next year.



- 18 of 27 countries in the European Union set new records for solar power generation between May and August of this year. Europe has already broken records for solar expansion as it works to replace the Russian fossil fuel imports that kept the lights on.
- Solar installations in the EU could see a bump as a result of the Ukraine War.
- China has far outpaced the rest of the world in terms of technological advances. Currently, China dominates the clean energy supply chains, including solar energy.
- Western countries are striving to increase their capacities on photovoltaic production capacities but is far behind China in terms of Technological knowledge, cost and scale.
- The supply of automotive microcontroller units (MCU) and power insulated-gate bipolar transistors (IGBT) is expected to remain in 2023
- The microcontroller unit (MCU) supply will remain tight in 2023, buoyed by strong demand for automotive and industrial control applications, according to Ron Martino, executive VP of global sales for NXP Semiconductors.
- Texas Instruments' third and largest 300-millimeter wafer fab production has cranked up. RFAB2's start up is an integral part of Dallas-based Texas Instruments' plan to invest tens of billions of dollars to help meet the needs of a global semiconductor supply chain that has struggled since pandemic through building half dozen of new fabrication plants.
- Infineon is on the lookout for suitable companies for acquisitions to boost growth and expansion of its portfolio in several fields including semiconductors, sensors, software, and artificial intelligence.
- Chipmaker Micron Technology announced to build largest semiconductor factory in the US. They have initially announced USD 20 Billion worth of spend and may spend up to USD 100 Billion over 20 years to expand it. The fabrication plant with about the size of 40 US football fields, to be located in Onondaga County, New York is expected to drastically increase the domestic supply of memory chips.
- A joint venture between taiwan-based Foxconn and India-based Vedanta to build a semiconductor plant in Gujarat India could start producing 12-inch wafers using the 28-nanometer process as early as 2025.
- The US federal fund has awarded GlobalFoundries with USD 30 million to advance the development and production of next generation GaN on silicon semiconductors at its facility located in Essex Junction, Vermont.
- Nordic Semiconductor company announced first Wi-Fi Chip, a new tiny 6x6 mm WiFi chip for all IoT use cases.
- Nexperia has bought the six-year-old Netherlands energy harvesting company, Nowi to provide sustainable alternative to battery power for their products.



- Silicon Labs grows revenue 46% year-on-year in third quarter of 2022 across both its Industrial & Commercial, and Home & Life businesses.
- Micron Technology kicked off mass production of its new high-capacity low-power 1-beta dynamic random-access memory (DRAM) chips at its plant in Hiroshima, Japan. A ceremony to start a large-scale output, highlighting the growing political importance of semiconductors for the two allies was attended by U.S Ambassador to Japan and Japanese officials.
- Onesemi has completed the divestment of its Japan Facility to JS Foundry as a strategy to expand gross margin and improve the financial results by reducing fixed cost footprint.
- A team of researchers at Johannes Kepler University in Linz, Austria, has come up with a biodegradable alternative to computer chips base made from the skin of a Ganoderma lucidum (a type of mushroom) that reduces the environmental impact of the technology.
- Japan's semiconductor firms including Toshiba Electronic Devices & Storage and JS Foundry are actively expanding investments in building new capacities for power devices to meet ever-increasing demand for EV applications.
- Toshiba will start construction of backend production facility for power semiconductors for use in Electric Vehicles and household electrical appliances in June 2024.
- Yangtze Memory Technologies Corp. (YMTC), China's largest memory chip maker, came under U.S. sanctions that led to increase in demand of 3D NAND chips from other companies. Apple ended its partnership with YMTC to avoid falling under sanctions.
- Applied Materials intends to expand its U.S. equipment manufacturing capacity as well as invest in new infrastructure to both accelerate collaboration with the industry ecosystem and develop the workforce needed to build America's strength in critical future technologies. Applied is also investing in its global infrastructure and will hold a ground-breaking ceremony for an expansion of its regional hub in Singapore.
- Kyocera will expand its investment in semiconductor-related production and other businesses including ceramic components.



## Analog Devices

- ADI have increased their scale and diversification, added more manufacturing agility, and fortified their customer brand. These strengths enable ADI to maintain their unwavering commitment to innovation and develop breakthrough solutions at the intelligent edge, while delivering long-term value for all stakeholders

## Bourns

- Bourns named as one of Four top suppliers of passive components operating in the French Market.
- The company received a best supplier of 2022 award from Syndicat Professionnel de la Distribution en Electronique Industrielle (SPDEI)

## Broadcom

- Investors in Broadcom have made splendid return of 150% over the past 5 years
- The company enables hybrid storage options for mainframe data with availability of CA 1 flexible storage solution.
- Broadcom said it had about USD 31 billion in product backlog with lead times of 50 weeks.

## Diodes Inc.

- Diodes Inc. stock has soared higher in recent weeks according to a strong report, but it is probably due for a correction with resistance in the way.
- The company has soared higher in the last month or so, helping it to greatly narrow losses for the year.

## Infineon

- Infineon Technologies AG announced moving digitalization to the edge-from-the-cloud. The next generation of its Software as a Service (SaaS) offering, Infineon's CIRRENT™ IoT Network Intelligence (INI).
- Infineon Technologies announced the extended partnership with VinFast in the field of electromobility. The inauguration of VinFast-Infineon Competence Center (VICC) is planned in the first quarter of 2023.

## Intel

- The Q3/Q4 backlog, which is less than 15% of the quantity purchased, is being impacted by a lack of capacity and a lack of raw materials. Intel is reducing its projections for the remainder of 2022 due to a shortage of silicon.
- Q3/Q4 allocation of 5M/10M series is expected to worsen. Delivery delays are heavily impacting lead times with certain parts are stretched to 2026/2027.



## Lattice

- Lattice Avant was recognized in the Sustainable Product category for its leadership power efficiency, performance, and small form factor, joining the Lattice Nexus™ FPGA platform that was recognized with the same award in 2021.

## Micron

- Announced it is shipping the Micron 2550 NVMe™ SSD to global PC OEM customers for use in mainstream laptops and desktops.
- The computer chip factory complex project in upstate New York which Micron claims will be the world's largest semiconductor fabrication facility, is expected to create nearly 50,000 jobs in New York, with the first phase investment of \$20 billion planned by the end of this decade.

## Molex

- Announced Single Pair Ethernet (SPE) technology as a new offering in its future product portfolio. Molex will preview the offering at the Smart Production Solutions (SPS) 2022 Showcase in Nuremberg, Germany on November 8-10.

## Murata

- Murata has been cooperating with Autotalks, a trailblazer in vehicle-to-everything (V2X) communication solutions, to introduce pioneering new technology that will facilitate progression towards cooperative safety and higher levels of automated mobility.

## NXP

- For the MK/MC industrial application series, particularly the MKxxxx and MCIMX27xxxx, shortages are anticipated. Most of the SPCxxx MCU allocation goes to NXP's international clients. In early July, NXP is also anticipated to raise pricing across the board by 15%. Industrial series lead times range from 52 to 78 weeks, and bookings are backlogged until 2023.

## Onsemi

- Most series' prices, including the NVT series, have increased by 10% to 15%. • Lead times for automotive parts are still exceeding 40 weeks. Consumer demand, on the other hand, is much lower, and 50% of orders for consumer parts are being cancelled by customers.

## Panasonic

- The general current standard lead time of its capacitors is 27 weeks.



## Renesas

- Major semiconductor producer Renesas Electronics reported on July 5 that a lightning strike brought on by Typhoon No. 4 had temporarily interrupted operations at its Kumamoto City facility. The company predicts that the lost production will amount to up to two weeks' worth of production because several industrial facilities are still closed. Although some of the production facilities are still shut down, no breakdowns or abnormalities have been found in the facilities, and the company expects to return to normal production levels by the 11th of this month.

## Samsung

- Samsung Electronics has launched a semiconductor packaging task force (TF). Placed directly under the CEO, the team is intended to enhance cooperation with large foundry customers in the packaging field. This team was put together by the company's memory and foundry divisions, researchers from the Semiconductor R&D Center, and engineers from the Test & System Package (TSP) of the DS Division. The group is anticipated to develop advanced packaging ideas that will improve client collaboration.

## Siemens

- Collaboration between Siemens and Nvidia to increase digital services. Siemens has signed a partnership agreement with chip designer Nvidia Corp to create an industrial metaverse - an enhanced virtual reality for companies to reduce the costs of running their factories, buildings and speed up new product design.

## Western Digital

- Western Digital's flash availability will be reduced by approximately 7 exabytes, which will occur predominantly in its third and fourth fiscal quarters, as the facilities ramp back to full production output.
- Western Digital Corp. announced that it has expanded its SanDisk® Professional line of premium storage solutions with the new PRO-G40™ SSD that supports dual-mode compatibility with both Thunderbolt™ 3 and USB 3.2 Gen 2 interfaces

## TDK

- The general current standard lead time of its film capacitors is 47 weeks.

## Wilma

- Wima have a 30 weeks lead time for its film capacitors caused by production delays and disruptions induced by the US-China trade clash.



ANALOG		PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Standard	Amplifiers & Comparators	→	→	32+
	Analog Interface	→	→	32+
	Power Management	→	→	32+
	Converters	→	→	32+
MPU/MCU		PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
MPU		→	→	42+
MCU	8 Bit & Lower	→	→	42+
	16 Bit	→	→	42+
	32 Bit & Higher	→	→	42+
DSP		→	→	42+
PROGRAMMABLE LOGIC		PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
		→	→	54
STANDARD LOGIC		PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Timing Products		→	↓	28+
Interface		→	↓	28+
Connectivity		→	↓	28+
Standard Logic		↑	↓	54
POWER		PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
FET		→	→	54
IGBT		→	↓	54
Rectifier		→	↓	22+
Other Power		→	↓	54





MEMORY	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Flash	→	↓	18+
eMMC	↓	↓	18+
EEPROM	→	→	28+
DRAM	↓	↓	18+
SRAM	→	→	18+
Solid State Drives	↓	↓	4-10

SENSORS	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
	→	→	28+

OPTO	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
LEDs (Low Power)	→	→	12-18
LEDs (Mid Power)	→	→	12-18
LEDs (High Power)	→	→	18+
Couplers	→	→	54
Fibre-Optic	→	→	28+
Infrared	→	→	28+
Other Opto	→	→	28+

DISCRETE	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Small Signal	→	↓	22+
RF	→	→	54

↔	Stable
↗	Increasing
↘	Decreasing
<b>SMA</b>	Selective Market Adjustment
<b>EOL</b>	End-of-Life

click on a category below:

<a href="#">Analog</a>	<a href="#">High- End</a>
<a href="#">Battery</a>	<a href="#">Interconnect</a>
<a href="#">Connectivity</a>	<a href="#">Opto / Lighting</a>
<a href="#">Discrete</a>	<a href="#">Memory</a>
<a href="#">Electromechanical</a>	<a href="#">Passives</a>

# Analog

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
AMS	Analog	10-40	↔	SMA	
BOSCH	Sensors	14-22	↘	↔	
DIODES	Multi- Source Analog/Power	32-42	↔	↔	
	Switching Regulators	28-48	↔	↔	
FTDI Chip	Interface	32-42	↔	↗	
Infineon	Sensors	20-54	↔	↗	
	Switching Regulators	42-54	↔	↔	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	48-54	↔	↔	
Maxlinear	Interface	38-42	↘	↗	
Melexis	Sensors	42-54	↗	SMA	
Microchip	Signal Chain (Amplifiers and Data Converters)	32-42	↔	↔	
	Timing	32-42	↔	↔	
	Switching Regulators	42-52	↔	↔	
MPS	Switching Regulators	48-52	↘	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
NXP	Sensors	18-54	↗	↗	
	Interface	38-54	↔	↔	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	48-54	↔	↗	
	Sensors	20-54	↗	↗	
ON Semiconductor	Signal Chain (Amplifiers and Data Converters)	38-44	↔	↗	
	Timing	38-44	↔	↔	
	Multi- Source Analog/Power	38-44	↔	↔	
	Switching Regulators	38-52	↔	↗	
Panasonic	Sensors	18-28	↗	↔	
3PEAK	Signal Chain (Amplifiers and Data Converters)	14-18	↔	↔	
Renesas	Signal Chain (Amplifiers and Data Converters)	38-42	↙	↗	
	Timing	52	↔	↔	
	Interface	38-42	↙	↗	
	Switching Regulators	38-42	↙	↗	
ROHM	Sensors	26-54	↗	↗	
	Switching Regulators	52	↔	↔	
ST Microelectronics	Sensors	14-26	↙	↔	
	Signal Chain (Amplifiers and Data Converters)	38-48	↙	↔	
	Multi- Source Analog/Power	42-52	↔	↔	
	Switching Regulators	42-52	↔	↔	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	42-54	↔	↔	
TE Sensor Solutions	Sensors	18-34	↗	↗	
Vishay	Sensors	26-54	↗	↔	



Batteries

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
Alium Batteries	Lithium Metal	22--24	↔	↗	
	Alkaline	12-14	↔	↗	
Energizer	Lithium Metal	16-18	↔	↗	
	Silver Oxide	10-12	↔	↗	
GP Batteries	Alkaline	16-18	↔	↔	
	Lithium Metal	20-22	↔	↔	
	Lithium Ion	18-20	↔	↔	
	Nickle Metal Hydride	12-14	↔	↔	
	Lead Acid	10-12	↔	↔	
	Carbon Zinc	10-12	↔	↔	
Panasonic	Alkaline	12-14	↔	↗	
	Lithium Metal	18-20	↘	↗	
	Nickle Metal Hydride	10-12	↔	↗	
	Carbon Zinc	10-12	↔	↗	
Renata Batteries	Lithium Metal	18-20	↔	↗	
	Lithium Ion	22-24	↗	↗	
	Nickle Metal Hydride	12-14	↔	↗	
	Silver Oxide	10-12	↔	↗	
	Carbon Zinc	10-12	↔	↗	
Rayovac	Alkaline	10-12	↔	↗	
	Lithium Metal	12-14	↔	↗	
	Nickle Metal Hydride	10-12	↔	↗	
	Carbon Zinc	10-12	↔	↗	
	Alkaline	10-12	↔	↗	



# Batteries

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
VARTA	Alkaline	12-14	↔	↗	
	Lithium Metal	20-26	↔	↗	
	Lithium Ion	34-40	↗	↗	
	Nickle Metal Hydride	12-14	↔	↗	
Tadiran Batteries	Lithium Metal	14-16	↔	↗	



# Connectivity

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
AMS	RFID	30-32	↗	↔	
	802.15.4/Zigbee Modules	28-34	↗	↗	
CEL	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers & Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	32	↗	↗	
	Bluetooth Modules	28-38	↗	↗	Cypress is now Infineon
Infineon + Cypress	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers and Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	28- 54	↗	↗	
Fibocom	Cellular Modules	18-22	↔	↔	
Kyocera AVX	Antennas	10-12	↔	↔	
	Wi-Fi Modules	38-54	↘	↔	
Laird Connectivity	Antennas	18-22	↗	↔	
	LoRa	~32-54	↗	↔	
	Cellular Modules	8-12	↔	↔	
Linx Technologies	Antennas	12-14	↗	↔	
	Transceivers/Receivers	12-14	↗	↔	
Melexis	Transceivers/Receivers	18	↔	↔	
	RFID	16-18	↔	↔	
	Wi-Fi Modules	26-28	↗	↔	
Microchip	Bluetooth Modules	26-28	↔	↔	
	Transceivers/Receivers	20-22	↔	↗	
	LoRa	34	↗	↔	
MultiTech	Cellular Modules	28-32	↔	↔	
	LoRa	~32	↗	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Murata	Wi-Fi Modules	28-52	↗	↔	
	Bluetooth Modules	28-52	↘	↔	
	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers and Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	14-22	↔	↔	
	LoRa	54	↔	↔	
Nearson	Antennas	18	↔	↔	
NXP	Multi-Protocol/Chip Solutions	54	↗	↗	
	Transceivers/Receivers	26	↔	↗	
	RFID	28-54	↗	↗	Parts on allocation
	High Power IC's	54	↗	↗	
	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers and Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	28-54	↗	↗	
ON Semiconductor	Bluetooth Modules	18-32	↗	↔	
Panasonic	Bluetooth Modules	42-44	↗	↗	
	RFID	16-18	↔	↔	
Pulse Electronics	Antennas	10-12	↔	↗	
Semtech	Transceivers/Receivers	38	↗	↗	
	LoRa	18-54	↔	↔	
Sierra Wireless	Multi-Protocol/Chip Solutions	42-48	↗	↔	
	Cellular Modules	32-42	↘	↔	Intel based radios are at 52 weeks
Silex Technology	Wi-Fi Modules	30-54	↗	↗	
ST Microelectronics	Bluetooth Modules	32-42	↗	↗	
	Transceivers/Receivers	54	↗	↗	
	RFID	32-42	↗	↗	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Synapse Wireless	802.15.4/Zigbee Modules	20-22	↗	↔	
Taoglas	Antennas	22-24	↗	↗	
TDK	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers and Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	14-22	↔	↔	
Thales	Cellular Modules	20-22	↗	↔	
U-Blox	Bluetooth Modules	28-54	↘	↔	Parts are on allocation, lead time is 26+
	Cellular Modules	28-54	↗	↔	
	GPS	28-54	↔	↔	Parts are on allocation and increasing in cost
	WiFi Modules	28-54	↗	↔	





Discrete

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Diodes Inc.	Low Voltage MOSFETS	42-54	↙	↔	
	TVS Diodes	20-32	↙	↔	
	Bridge Rectifiers	16-34	↙	↔	
	Schottky Diodes	16-54	↙	SMA	
	Rectifiers	16-34	↙	↔	
	Switching Diodes	14-54	↔	SMA	
	Small Signal MOSFETS	32-48	↔	SMA	
	Zener Diodes	16-48	↙	SMA	
	Bipolar Transistors	16-48	↙	SMA	
	Digital Transistors	16-48	↙	SMA	
	General Purpose Transistors	16-48	↙	SMA	
	Logic	32-42	↔	↔	
EATON	ESD	18-22	↔	↔	
	Fuses	16-22	↗	↗	
	Clips and Holders	14-18	↔	↗	
Everlight	Optocoupler Components	32	↙	SMA	
Fairchild (ON Semiconductor)	IGBTs	42-54	↔	↔	
	Bridge Rectifiers	36-54	↔	↔	
	Rectifiers	50-66	↙	↔	
	Switching Diodes	18-54	↔	↗	
	Small Signal MOSFETS	32-54	↔	↗	
	Bipolar Transistors	22-54	↔	SMA	
	Optocoupler Components	20-32	↔	↔	
Goford Semiconductor	Low Voltage MOSFETS	6-8	↗	↙	
	Medium Voltage MOSFETS	6-8	↗	↔	
	High Voltage MOSFETS	8	↗	↔	for 650,700V parts are active
Hollyfuse	Fuses	12-16	↔	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Infineon	Low Voltage MOSFETS	28-56	↙	↔	
	High Voltage MOSFETS	52-56	↔	↔	
	IGBTs	42-52	↔	↗	
	Wide Bandgap Mosfets	44-54	↔	↔	
	Digital Transistors	14-54	↔	SMA	
	General Purpose Transistors	14-54	↔	SMA	
	Mil-Aero Transistors	20-48	↙	↗	
Isocom Components	Optocoupler Components	4-6	↔	↔	
IXYS	High Voltage MOSFETS	52-56	↔	↔	
	IGBTs	52-56	↔	↔	
	Thyristors/Triacs	32-52	↗	SMA	
Keystone	Clips and Holders	12-18	↗	SMA	
Lite-On	Optocoupler Components	26-32	↔	↔	
Littelfuse	ESD	20-32	↔	↔	
	Diode Arrays	18-32	↙	SMA	
	Varistors	22-38	↙	SMA	
	Wide Bandgap Mosfets	44-54	↔	↔	
	Fuses	16-22	↔	SMA	
	PTC Fuses	20-28	↔	↔	
	Clips and Holders	16-22	↔	↔	
	Thyristors/Triacs	26-42	↔	↔	
	TVS Diodes	26-42	↙	SMA	
	Sensors	18-32	↔	SMA	
Micro Commercial Components	Low Voltage MOSFETS	22-26	↔	↔	
	High Voltage MOSFETS	22-28	↔	↔	
	Schottky Diodes	12-22	↙	↔	
	Switching Diodes	12-22	↙	↔	
	Zener Diodes	14-28	↙	SMA	
	General Purpose Transistors	12-18	↙	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Microchip	Wide BandGap Mosfets	26-30	↔	↔	
Microsemi	High Voltage MOSFETS	44-54	↔	↔	
	IGBTs	44-54	↔	↔	
	Mil-Aero Diodes	34-58	↔	↔	
	Mil-Aero Transistors	34-62	↔	↔	
	Low Voltage MOSFETS	50-54	↔	↗	
Nexperia	ESD	18-52	↔	↔	
	Schottky Diodes	10-52	↘	↗	
	Switching Diodes	10-52	↘	↗	
	Small Signal MOSFETS	14-52	↘	SMA	
	Zener Diodes	10-52	↘	SMA	
	Bipolar Transistors	10-52	↘	↗	
	Digital Transistors	10-52	↘	SMA	
	General Purpose Transistors	10-52	↘	SMA	
ON Semiconductor	Logic	10-14	↘	SMA	
	Low Voltage MOSFETS	38-54	↘	↔	
	High Voltage MOSFETS	38-54	↔	↔	
	ESD	22-52	↔	↗	
	Wide Bandgap Mosfets	44-54	↔	↔	
	Schottky Diodes	18-54	↔	↗	
	Rectifiers	50-65	↘	↗	
	Switching Diodes	18-54	↔	↗	
	Small Signal MOSFETS	18-54	↔	↗	
	Zener Diodes	18-54	↔	↗	
	Bipolar Transistors	18-54	↔	↗	
	Digital Transistors	22-54	↔	↗	
	General Purpose Transistors	22-54	↔	↗	
	Logic	22-32	↘	↗	
ProTek Devices	Diode Arrays	14-18	↗	↗	
Renesas	Optocoupler Components	54	↗	↗	
ROHM	High Voltage MOSFETS	44-54	↔	↔	
	Wide Bandgap Mosfets	44-54	↔	↔	
	Schottky Diodes	22-54	↔	↗	
	Switching Diodes	22-54	↔	↗	
	Digital Transistors	22-54	↔	↗	
	General Purpose Transistors	22-54	↔	↗	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Schurter	Fuses	22-42	↗	↗	
	Clips and Holders	22-32	↗	↗	
Semtech	Diode Arrays	22-24	↔	↔	
ST Microelectronics	Low Voltage MOSFETS	52-56	↔	↔	
	High Voltage MOSFETS	50-54	↔	↔	
	IGBTs	50-54	↔	↔	
	ESD	32-48	↔	↔	
	Wide Bandgap Mosfets	44-54	↔	↔	
	Thyristors/Triacs	42-52	↔	SMA	
	TVS Diodes	32-42	↔	↔	
	Rectifiers	50-52	↔	↔	
	Bipolar Transistors	22-42	↔	SMA	
TDK EPCOS	Varistors	24-42	↔	↔	
TE Connectivity	PTC Fuses	32-36	↔	↔	
Vishay	Low Voltage MOSFETS	54-68	↔	↔	
	High Voltage MOSFETS	54-68	↔	↔	
	TVS Diodes	14-48	↘	↔	
	Bridge Rectifiers	28-82	↘	↔	
	Rectifiers	14-78	↘	↔	
	Zener Diodes	30-62	↔	SMA	
	Optocoupler Components	54+	↘	SMA	



# Electromechanical

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Abracon	Timing	14-56+	↙	↗	
ADDA	Fans	22-26	↔	↔	
Alps Electric	Switches	26-34	↗	↔	
American Zettler	Relays	18-54+	↔	↔	
Bivar	Hardware	12-18	↔	↔	
Boyd	Fans	14-16	↗	↗	
	Heatsinks	18-26	↔	↔	
C&K	Switches	14-32	↔	↔	
Churod Electronics	Relays	10-32	↔	↔	
Citizen Finedevice	Timing	14-54	↔	↗	
COSEL	Power Supplies (AC/DC)	50	↗	↔	
	Power Supplies (DC/DC)	50	↗	↔	
CTS	Switches	10-12	↔	↔	
	Timing	14-54	↔	↗	
CUI Inc	Power Supplies (AC/DC)	26-54+	↗	↔	
	Power Supplies (DC/DC)	18-54+	↙	↔	
	Heatsinks	12-14	↔	↔	
Delta	Fans	42-54	↗	↔	
Diodes Inc	Timing	12-52	↔	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
E-Switch	Switches	18-20	↔	↔	
ECS Inc.	Timing	16-54+	↔	↗	
EPSON Electronics America	Timing	28-42+	↙	↗	
Essentra Components	Hardware	14-14	↗	↗	
Fox	Timing	12-42+	↔	↗	
Grayhill	Switches	22-26	↔	↔	
Heyco	Hardware	12-14	↔	↗	
Hongfa	Relays	18-54+	↔	SMA	
Infineon	Relays	20-24	↔	↔	
IXYS	Relays	12-32	↔	↔	
Keystone	Hardware	14-16	↗	↗	
Kyocera International	Timing	30	↔	↔	
Meanwell	Power Supplies (AC/DC)	22-30	↙	↗	
Microchip	Timing	14-28	↔	↗	
Murata	Timing	10-12	↔	↔	
Murata Power Solutions	Power Supplies (AC/DC)	28-54	↗	↗	
	Power Supplies (DC/DC)	22-42	↗	↗	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
NKK Switches	Switches	12-20	↗	↔	
NMB	Fans	40-52	↗	↔	
Ohmite	Fans	12-14	↗	↗	
Orion Fans	Fans	32-34	↔	↗	
Panasonic	Relays	16-32	↔	↗	
	Switches	12-14	↔	↔	
Qualtek	Fans	22-26	↔	↔	
Raltron	Timing	12-42	↔	↔	
RECOM	Power Supplies (AC/DC)	26-72+	↗	↔	
	Power Supplies (DC/DC)	16-38	↗	↔	
Rosenberg	Fans	18-20	↔	↔	
Schneider Electric	Relays	18-20	↔	↔	
Song Chuan	Relays	26-62	↔	↔	
SUNON	Fans	32-44	↔	↔	
TE Connectivity Sensors	Relays	14-16	↔	↔	All stable except the IM ready Series-allocation 52+ weeks
	Switches	12-14	↔	↔	
Vicor	Power Supplies (AC/DC)	28-34	↔	↗	
	Power Supplies (DC/DC)	28-34	↔	↗	
Wakefield Thermal	Heatsinks	12-14	↔	↔	
Wall Industries	Power Supplies (AC/DC)	10-12	↔	↔	
	Power Supplies (DC/DC)	10-12	↔	↔	
ZF Electronics	Switches	20-22	↔	↔	



# High - End

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
AZ Displays	LCD's	36-40	↔	↔	
Compulab	SOM	44	↔	↔	
Cypress	8 bit MCU	48-54	↔	↔	
	32 bit MCU	48	↗	↔	
	USB	54+	↔	↔	
	Automotive	34-48	↔	↔	
Formerica	Fibre Optic Transceivers	20-22	↔	↔	
Holtek	8 bit MCU	24-36	↗	↔	
	32 bit MCU	24-36	↗	↔	
Infineon	Automotive	Allocation	↔	↔	
Lattice Semiconductor	FPGA	44-54+	↗	↗	
Microchip	8 bit MCU	38-54+	↙	↔	
	32 bit MCU	38-54+	↙	↔	
	PHY/ Ethernet	32-54	↔	↔	
	USB	54+	↔	↔	
	32 bit MPU	32-54	↔	↔	
Microsemi	FPGA	44-54+	↙	↔	
NXP	8 bit MCU	38-54	↙	↔	
	32 bit MCU	28-54	↙	↔	
	Automotive	38-54	↔	↔	
	32 bit MPU	34-54	↙	↔	
	Network Processors	28-44	↙	↔	
Raystar	LCD	6	↔	↔	
Renesas	8 bit MCU	42	↙	↗	
	32 bit MCU	42	↙	↗	
	Automotive	48	↔	↔	
	32 bit MPU	48	↔	↔	
Sharp	LCDs	42-46	↔	↔	
ST Microelectronics	8 bit MCU	50	↙	↔	
	Automotive	42-54	↔	↔	
	32 bit MPU	28-34	↙	↔	
	STM32F0- 32 bit MCU	24	↙	↔	
	STM32F1- 32 bit MCU	24	↙	↔	
	STM32L- 32 bit MCU	24	↙	↔	
Zilog	8 bit MCU	26-42	↗	↗	





# Interconnect

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Adam Tech	I/O Connectors	18-24	↙	↔	
	PCB Connectors	18-24	↙	↔	
Altech Corp.	Terminal Blocks & Crimps	14	↔	↗	
Amphenol Communications Solutions	D-Sub Connectors	10-12	↔	↔	
	Data & Telecom	10-12	↔	↔	
	PCB Connectors	10-12	↔	↔	
	FFC/FPC	10-12	↔	↔	
Amphenol Sine System	Circular Connectors	26	↔	↔	
ASSMAN WSW Components	Data & Telecom	22	↔	↔	
	PCB Connectors	22	↔	↔	
	IC Sockets	22	↔	↔	
Bulgin	Circular Connectors	14	↔	↔	
EDAC	PCB Connectors	16-24	↔	↔	
Global Connector Technology	PCB Connectors	10-12	↔	↔	
	FFC/FPC	10-12	↔	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
HALO Electronics	Data & Telecom	10-45	↙	↔	
HARTING	PCB Connectors	12-14	↔	↗	
Hirose Electric	PCB Connectors	18-28	↙	↔	
	RF Connectors	18-28	↙	↔	
	FFC/FPC	18-28	↙	↔	
JST	PCB Connectors	28-54	↔	↗	
Mil-Max	PCB Connectors	6-8	↔	↗	
	IC Sockets	6-8	↔	↗	
Ouipiin	PCB Connectors	16-22	↙	↗	
Sullins	PCB Connectors	8-10	↔	↔	
TE Connectivity	Automotive Connectors	32-42	↙	↗	
	Circular Connectors	30-32	↙	↗	
	Relays	38-40	↙	↗	
	D-Sub Connectors	10-12	↔	↗	
	Data & Telecom	10-12	↙	↗	
	PCB Connectors	18-20	↙	↗	
	RF Connectors	14-16	↔	↗	
	IC Sockets	8-10	↔	↗	
	Terminal Blocks & Crimps	16-18	↔	↗	
	Lighting Connectors	10-12	↔	↗	
WAGO	Terminal Blocks & Crimps	16	↔	↗	
	Lighting Connectors	16	↔	↗	
WECO	Terminal Blocks & Crimps	22	↔	↔	



# Lighting Solutions & Opto

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Bridgelux	Chip On Board (CoB)	12-14	↔	↔	
Dialight	Indication LEDs	12-18	↗	↔	
	6V (LED Optics)	12-18	↔	↔	
Everlight	Automotive LEDs (AEC-Q101 Certified)	10-12	↔	↔	
	Infrared Components/ LED	16-18	↗	↔	
	Indication LEDs	16-18	↗	↔	
	UV LEDs	10-12	↔	↔	
Excellence Optoelectronics Inc.	Automotive LEDs (AEC-Q101 Certified)	10-12	↔	↔	
General Luminaire	Standard Light Engines (Level 2 Boards)	16-18	↔	↔	
Inolux	Indication LEDs	8-10	↔	↔	
Kingbright	LED Displays	12-14	↔	↔	
	Indication LEDs	10-12	↔	SMA	
Lite-On	Infrared Components/ LED	16-18	↔	↔	
	LED Displays	16-18	↔	↔	
	Indication LEDs	18-22	↔	↔	
Lumex	LED Displays	18	↔	↔	
	Indication LEDs	10-16	↔	↔	
Lumileds	Illumination High Power LEDs (White)	10-14	↘	↔	
	Illumination High Power LEDs (Colors)	10-12	↔	↗	
	Illumination High Power LEDs (White & Colors)	10-12	↔	↔	
	Horitcultural Mid Power LEDs (White & Colors)	10-12	↘	↔	
	Automotive LEDs (AEC-Q101 Certified)	16-18	↔	↔	
	Chip On Board (CoB)	10-12	↔	↔	
	Standard Light Engines (Level 2 Boards)	20-28	↔	↔	
	Infrared Components/ LED	28	↔	↔	
Meanwell	UV LEDs	Call	↗	↔	
	LED Drivers	12-22	↘	↔	
Murata	Lighting Controls	28-32	↔	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Nichia	Illumination High Power LEDs (White)	8-12	↔	SMA	
	Illumination High Power LEDs (Colors)	8-12	↔	↔	
	Illumination High Power LEDs (White & Colors)	10-12	↔	↔	
	Horitcultural Mid Power LEDs (White & Colors)	10-12	↔	↔	
	Chip On Board (CoB)	14-16	↔	↔	
Raystar	OLEDs	20-24	↔	↗	
	TFT Displays	26-52	↔	↔	
ROHM	Infrared Components/ LED	8-10	↔	↔	
	Indication LEDs	22-48	↗	↔	
Samsung LED	Illumination High Power LEDs (White)	8-10	↔	↔	
	Illumination High Power LEDs (White & Colors)	10-12	↔	↔	
	Horitcultural Mid Power LEDs (White & Colors)	10-12	↔	↔	
	Chip On Board (CoB)	8-10	↔	↔	
	Standard Light Engines (Level 2 Boards)	10-12	↔	↔	
Seoul Semiconductor	Illumination High Power LEDs (White)	10-12	↔	↔	
	Illumination High Power LEDs (White & Colors)	8-10	↔	↔	
	Horitcultural Mid Power LEDs (White & Colors)	8-10	↔	SMA	
	Chip On Board (CoB)	10-12	↔	↔	
	Standard Light Engines (Level 2 Boards)	12-14	↔	↔	
Seoul Viosys	UV LEDs	10-12	↔	↔	
Stanley Electric	LED Displays	14	↔	↔	
	Indication LEDs	12-14	↔	↔	
SunLed	LED Displays	10-12	↔	↔	
Team Source	TFT Displays	26-30	↘	↘	
TE Connectivity	6A (Heat Sinks, LED Holders)	22-52	↔	↔	
TT Electronics-Optek Technology	Infrared Components/ LED	18-22	↗	↔	
VCC	Indication LEDs	14	↔	↗	
Vishay	Infrared Components/ LED	22-54	↗	↗	
	Indication LEDs	22-54	↗	↗	
	UV LEDs	16-18	↗	↔	



Memory

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
ADATA	Memory Modules	10-12	↔	↔	
	eMMC	12-14	↙	SMA	
	Memory Cards	10-14	↙	SMA	
	Solid State Drives (SSD)	10-14	↙	SMA	
Alliance Memory	PC (Commodity) DRAM	4-22	↙	SMA	
	Mobile RAM	18-54	↔	↔	
	SRAM	14-48	↔	↔	
	NOR Flash	14-22	↔	↔	
	NAND Flash	10-26	↙	↔	
	eMMC	16-18	↔	↔	
Cypress	SRAM	14-54	↔	↔	
	NOR Flash	34-54	↔	↗	
	FRAM & NVSRAM	18-54	↔	↔	
Everspin Technologies	MRAM	14-30	↔	↗	
Greenliant	NOR Flash	18-28	↔	↔	
	eMMC	18-28	↙	↔	
	Memory Cards	10-18	↙	SMA	
	Solid State Drives (SSD)	10-18	↙	SMA	
Kingston	PC (Commodity) DRAM	6-8	↙	SMA	
	Memory Modules	4-8	↔	↔	
	eMMC	6-12	↙	SMA	
	Memory Cards	6-22	↙	SMA	
	Solid State Drives (SSD)	4-18	↙	SMA	
Macronix	NOR Flash	14-22	↙	SMA	
	NAND Flash	10-14	↔	SMA	
	eMMC	54-56	↗	↗	Parts on allocation, MXIC is not quoting and not taking new orders for the time being



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Microchip	SRAM	48-50	↔	↗	
	NOR Flash	54-102	↗	↗	
	EEPROM	54-102	↗	↗	
	EPROM	14-28	↔	↗	
ON Semiconductor	SRAM	22-42	↔	↔	
	EEPROM	22-42	↔	↔	
Renesas	SRAM	22-24	↔	↔	
Samsung	PC (Commodity) DRAM	54-56	↔	↔	
	Memory Modules	54-56	↔	↔	Parts on allocation, Samsung is not quoting and not taking new orders for the time being
	eMMC	54-56	↔	↔	
	Solid State Drives (SSD)	54-56	↔	↔	
SkyHigh Memory	SLC NAND Flash	20-22	↙	SMA	
	eMMC	18-20	↙	SMA	
STMicroelectronics	EEPROM	54-56	↔	↔	Now on allocation



# Passives

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Apl Delevan	Inductors	16-20	↔	↔	
	Filters- Common Mode Choke	10-12	↔	↔	
	High Frequency Transformer	10-12	↔	↔	
Coilmaster Electronics	Inductors	10-12	↔	↔	
	LAN Magnetics Transformer	10-12	↔	↔	
	Ferrite Beads	10-12	↔	↔	
CTS	Resistor Networks	18-42	↗	↔	
Eaton	Capacitors- Supercapacitors	32-54+	↔	↗	
	Inductors	22-32	↗	↔	
ELNA	Capacitors- Supercapacitors	32-54+	↔	↔	
HALO Electronics	Inductors	48-58	↔	↔	
Murata	Filters	38-48	↗	↔	
	Inductor / Transformers	14-22	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	18-20	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	18-20	↔	↔	
		22-26	↔	↔	
	Leaded Capacitors- Ceramic	22-26	↔	↔	
	Specialty Capacitors	26-28	↔	↔	
NIC Components	Electrolytic	24-42	↘	↔	
	Filters	16-22	↗	↔	
	Inductors	16-22	↔	↔	
	Fixed Resistors	14-20	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	20-22	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	18-20	↔	↔	
	Leaded Capacitors- Ceramic	28-30	↔	↔	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Nichicon	Electrolytic	26-28	↙	↗	
	Electrolytic	32-34	↙	↔	
Panasonic	Capacitors- Polymer Tantalum	22	↔	↔	
	Inductors / Transformers	24-30	↔	↔	
	Fixed Resistors	32-50	↙	↔	
	Resistor Networks	54+	↗	↔	
Paktron Capacitors	Capacitors- Film	14-18	↔	↔	
Samsung Electro-Mechanics	Fixed Resistors	46-48	↔	↗	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	16-18	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	18-20	↔	↔	
	Surface Mount General Capacitors-Ceramic *Automotive Upgrade	20-22	↔	↔	
Stackpole Electronics	Fixed Resistors	20-32	↔	↔	
Sumida	Inductors	28-42	↔	↔	
Taiyo Yuden	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	20-26	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	32-36	↔	↔	
	Surface Mount General Capacitors-Ceramic *Automotive Upgrade	32-54	↔	↔	
TDK	Capacitors- Film	42-52	↗	↗	
	Filters	18-32	↗	↗	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	22-26	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	24-30	↔	↔	
	Surface Mount General Capacitors-Ceramic *Automotive Upgrade	32-44	↔	↔	
TDK EPCOS	Capacitors- Film	26-54+	↔	↗	
	Filters	28-38	↗	↔	





MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
TT Electronics-BI Technologies	Trimmers & Pots	42-54	↔	↔	
TT Electronics-IRC	Fixed Resistors	22-54	↗	↗	
United Chemi-Con	Electrolytic	32-52+	↘	↔	
Viking	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	18-	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	26-30	↔	↔	
Vishay	Trimmers & Pots	12-28	↗	↗	
	Capacitors- Film	22-32	↔	↗	
	Capacitors- Supercapacitors	16-22	↔	↔	
	Capacitors- Tantalum Molded	22-26	↘	↔	
	Capacitors- Tantalum Conformals	26	↔	↔	
	Capacitors- Polymer Tantalum	22-26	↔	↔	
	Inductors / Transformers	14-22	↔	↔	
	Fixed Resistors	54+	↔	↗	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	32-42	↔	↔	
	Leaded Capacitors- Ceramic	46-48	↔	↔	
	Specialty Capacitors	42-46	↔	↔	
WIMA	Capacitors- Film	22-28	↘	↔	
Würth Elektronik	Inductors / Transformers	28-42	↔	↔	
Yageo	Fixed Resistors	26-30	↔	↔	
	Resistor Networks	26-30	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Less than 1 uf )	18-20	↔	↔	
	Surface Mount General Capacitors- Ceramic ( Greater than 1 uf )	20-22	↔	↔	
	Surface Mount General Capacitors- Ceramic *Automotive Upgrade	28-32	↔	↔	

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