Q1 2024 Lead Time Report

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Price Increases in Memory and Market Recovery for 2H24

Welcome to 2024. With a new year just beginning, the semiconductor, interconnect, and passive markets are looking to make their big comeback. According to analysts from various research firms, 2024 will see a rebound in the microelectronics market in 2H24. There will still be cyclical pressure and inventory overhang to grapple with over 1H24. Despite successful progress in excess inventory mitigation, there are still weeks of surplus to digest.

Artificial intelligence, specifically large language models (LLMs) and generative AI will fuel demand for specific electronic components such as high-bandwidth memory (HBM) and graphics processing units (GPUs). Memory is also poised to be a primary growth driver during 2024, with a possible 40% increase. Research shows that unfulfilled DDR5 orders are fueling market uncertainty in DRAM. This has sparked a flurry of orders as buyers try to build up stockpiles.

This contrasts with 2023 when the memory sector experienced a sharp decline in consumer demand. To prevent another bullwhip from glut to shortage, memory manufacturers have expressed their intention to continue strategic production cuts over 1H24. The goal is to keep supply-demand tight, ensuring the market is heading toward a more stabilized recovery.

The NAND Flash market is undergoing the same problem, with buyers increasing orders during the traditional off-season to bulk stockpiles.

The semiconductor market has the potential to grow 13.1% over 2024, reaching a possible growth rate of 20.2% year-on-year.

That rate depends on who you ask, with some analysts being more optimistic about the year's possibilities than others.

Even with a market recovery in the forecast, remaining challenges can develop into particularly detrimental disruptions should they catch organizations unaware. Ongoing geopolitical volatility, such as the U.S.-China trade war, the Israel-Hamas conflict, and the Ukraine-Russia conflict, are already causing unrest within the global supply chain. This has resulted in logistics challenges from the Red Sea Crisis to export restrictions on chip manufacturing equipment and raw materials.

It will be pertinent to monitor the market for shifts and how global events, from weather to labor shortages, may impact the recovering supply chain. Over the last few years, we haven't faced one black-swan event but a cascade. It isn't out of the realm of possibility for the same to occur in 2024.

SEMICONDUCTOR MARKET TRENDS

Volatile Memory

Future Lead Times	Mix of Going Up, Stable (through March)
Price	Mostly Going Up

Unfilled DDR5 orders are causing uncertainty in the market, leading many buyers to stockpile components. Several suppliers have announced their intention to resume strategic production cuts through 1H24 to keep supply-demand tight. The DRAM market saw an average price increase of 13%-18% in 1Q24. The average lead time for volatile memory is 11-17 weeks.

Micron Technology continues its customer support plans on DDR I/DDR II, DDR3/LPDDR3, and DDR4/LPDDRA product lines. Lead times and prices could increase on DDR3/LPDDR3 and DDR4/LPDDR4 over Q1 24.

Samsung's DDR3 1Gb and 2Gb have been EOL'd. DDR4/LPDDR4 products could see a price and lead time increase in Q1 24.

SEMICONDUCTOR MARKET TRENDS

Volatile Memory

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
SRAM	Infineon	20 - 30 weeks	Stable –	Stable –	Former Cypress
	ISSI	18 - 20 weeks	Stable –	Stable –	
SDRAM	ISSI	8 - 16 weeks	Stable –	Stable –	
	Micron	10 - 14 weeks	Stable –	Up ▲	
	Winbond	12 - 18 weeks	Stable –	Up ▲	
DDRI/DDRII	ISSI	8 - 16 weeks	Stable –	Stable –	
	Micron	10 - 14 weeks	Stable –	Up ▲	Customer Support Plan
	Winbond	12 - 18 weeks	Stable –	Up ▲	
DDR3/LPDDR3	ISSI	8 - 16 weeks	Stable –	Stable –	
	Micron	8 - 14 weeks	Up ▲	Up ▲	Customer Support Plan. Price and lead time might increase in CQ4 23
	Samsung	10 - 16 weeks	Up ▲	Up ▲	DDR3 1Gb + 2Gb EOL´d
	Winbond	12 - 18 weeks	Up ▲	Up ▲	
DDR4/LPDDR4	Micron	8 - 14 weeks	Up ▲	Up ▲	Customer Support Plan. Price and lead time might increase in CQ4 23
	Samsung	10 - 16 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24

SEMICONDUCTOR MARKET TRENDS

Non-Volatile Memory

Future Lead Times	Mix of Going Up, Stable, Going Down
Price	Mix of Going Up, Stable

The NAND-Flash market is in the middle of a price correction, with prices rising 15%-20% in 1Q24. Like DRAM, buyers are stockpiling components during the market sector's low-demand season. The average lead time for non-volatile memory is 13-19 weeks.

Micron will continue its customer support plan on Flash-NOR and Flash-NAND.

Kioxia's P-WSON package for Flash-NAND is on allocation.

Microchip's EEPROM products are still on a PSP Program, and Onsemi's are on allocation.

SEMICONDUCTOR MARKET TRENDS

Non-Volatile Memory

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Flash-NOR	Micron	12 - 18 weeks	Stable –	Up ▲	Customer Support Plan
	Infineon	18 - 22 weeks	Stable –	Stable –	Former Cypress
	ISSI	10 - 14 weeks	Stable –	Stable –	
	Macronix	8 - 12 weeks	Stable –	Stable –	
	Winbond	10 - 16 weeks	Stable –	Stable –	
Flash-NAND	Micron	8 - 16 weeks	Up ▲	Up ▲	Customer Support Plan
	Sky High Memory	8 - 12 weeks	Stable –	Up ▲	
	Kioxia	12 - 16 weeks	Up ▲	Up ▲	P-WSON package on Allocation
	Macronix	10 - 14 weeks	Stable –	Up ▲	
	Winbond	10 - 16 weeks	Stable –	Up ▲	
FRAM/MRAM	Infineon	8 - 20 weeks	Stable –	Stable –	Former Cypress
	Everspin	12 - 20 weeks	Stable –	Stable –	
EEPROM	Microchip (former Atmel)	25 - 30 weeks	Down ▼	Stable –	PSP Program
	ON Semiconductor	30 - 40 weeks	Stable –	Stable –	Allocation
	STMicroelectronics	20 - 25 weeks	Down ▼	Stable –	

SEMICONDUCTOR MARKET TRENDS

Storage

Future Lead Times	Mostly Going Up (through March)
Price	Mostly Going Up

Increased adoption of cloud computing and digitalization is fueling the resurgence in demand for SSDs and other products. The average lead time for storage is 10-15 weeks.

eMMC products by **WD/Sandisk, Kioxia, and Samsung** could see price and lead time increases in Q4 2023 and Q1 2024.

SSD products by **Micron, WD/Sandisk, and Kioxia** will increase price and lead time in Q1 2024.

Micron's low-density eMMC products (4GB, 8GB, 16GB) are now EOL.

ISSI's 2D NAND Technology is no longer receiving support.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
eMMC	Micron	12 - 16 weeks	Up ▲	Up ▲	Low density eMMC (4GB, 8GB, 16GB) EOL.
	WD / Sandisk	8 - 12 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24
	SkyHigh Memory	10 - 12 weeks	Stable –	Up ▲	
	Kioxia	12 - 15 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24
	ISSI	12 - 25 weeks	Stable –	Stable –	2D Nand Technology not any longer supported
	Samsung	8 - 18 weeks	Up ▲	Up ▲	Price and lead time might increase in CQ4 23
SSD	Micron	8 - 12 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24
	WD / Sandisk	8 - 15 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24
	Kioxia	12 - 15 weeks	Up ▲	Up ▲	Price and lead time increase in Q4-23 / Q1-24
	Virtium	10 - 12 weeks	Up ▲	Up ▲	
Cards	WD / Sandisk	8 - 15 weeks	Stable –	Up ▲	
	Micron	14 - 16 weeks	Stable –	Up ▲	

SEMICONDUCTOR MARKET TRENDS

Discrete

Future Lead Times	Mostly Stable (through March)
Price	Mostly Stable

Stabilization in lead time and price continues, with future downward trends expected. The average lead time for discrete is 20-47 weeks.

Vishay is experiencing lead time and price reductions on General Discrete and Power products.

Nexperia will see lead time and price reductions on its General Discrete and Power product lines.

ON Semiconductor will see lead time and price reductions on its General Discrete products. Onsemi's SiC Fet and Rectifier product lines will have decreased lead times.

STMicroelectronics will have lead time and price reductions on its General Discrete products.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
General Discrete	ON Semiconductor	12 - 26 weeks	Down ▾	Stable –	LT & Price reductions
	Vishay	22 - 30 weeks	Stable –	Down ▾	LT & Price reductions
	STMicroelectronics	12 - 26 weeks	Stable –	Stable –	LT & Price reductions
	Nexperia	8 - 16 weeks	Stable –	Down ▾	LT & Price reductions
Power	Nexperia	12 - 39 weeks	Stable –	Stable –	LT reductions
	STMicroelectronics	26 - 52 weeks	Stable –	Stable –	
	Vishay	52 - 100 weeks	Down ▾	Stable –	LT reductions
	Infineon	8 - 42 weeks	Stable –	Stable –	
	ON Semiconductor	20 - 36 weeks	Stable –	Stable –	

SEMICONDUCTOR MARKET TRENDS

Discrete

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
SiC - Fet	Wolfspeed	30 - 85 weeks	Stable –	Stable –	Q4 Price increase
	Infineon	36 - 60 weeks	Stable –	Stable –	
	ON Semiconductor	20 - 52 weeks	Stable –	Stable –	LT Decrease - Additional Cap
	STMicroelectronics	26 - 52 weeks	Stable –	Stable –	
SiC - Rectifier	Wolfspeed	12 - 85 weeks	Stable –	Stable –	Q4 Price increase
	Infineon	26 - 52 weeks	Stable –	Stable –	
	ON Semiconductor	13 - 45 weeks	Stable –	Stable –	LT Decrease - Additional Cap
	STMicroelectronics	20 - 52 weeks	Stable –	Stable –	
Optocouplers	ON Semiconductor	20 - 36 weeks	Stable –	Stable –	
	Toshiba	16 - 26 weeks	Stable –	Stable –	
	Vishay	18 - 26 weeks	Stable –	Down ▾	

SEMICONDUCTOR MARKET TRENDS

Standard Logic & Linear

Future Lead Times	Mix of Going Down, Stable (through March)
Price	Mostly Stable

Lead time and price continue to trend down among suppliers. Stability is expected across suppliers in the coming months. The average lead time for standard logic and linear products is 7-20 weeks.

Nexperia's Logic packages have short lead times with none on allocation.

On Semiconductor is still experiencing severe shortages after its TPSCo fab was decommissioned. This will continue to impact products in 1H24.

Texas Instruments Logic and Linear components continue to see supply improvements.

STMicroelectronics announced lead time and price reductions for its Linear products.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Logic	Nexperia (NXP / PSH)	4 - 16 weeks	Down ▾	Down ▾	Nearly all packages are available with short LTs - no ALLOCATION at all
	ON Semiconductor (incl. exFSC)	8 - 40 weeks	Down ▾	Stable –	TPSCo fab decommit causing severe shortage and outlook for CY2023 and 1H2024 remains challenging for supply, unless moving to alternate part numbers and fabs. A few Logic parts are discontinued due to Wafer Fab being sold.
	Texas Instruments	8 - 26 weeks	Stable –	Stable –	Supply improved from Q1
Linear	STMicroelectronics	8 - 20 weeks	Stable –	Stable –	LT and price reductions
	Texas Instruments	8 - 26 weeks	Stable –	Stable –	Supply improved from Q1

SEMICONDUCTOR MARKET TRENDS

Advanced Analog

Future Lead Times	Mostly Stable (through March)
Price	Mostly Stable

Supply constraints are still prominent in the advanced analog market sector, but some suppliers see improvements in production capacity for specific lines. The average lead time for advanced analog products is 23-41 weeks.

Analog Devices announced capacity was improving for its Dataconverters, OPA, Interfaces, and Power Management products. Lead times are now very stable on ADI.

Texas Instruments reports that supplies are improving for its Dataconverters, OPA, Interfaces, and Power Management products. Supplies remain constrained for its high-speed ADC series, high-precision amp series, isolation series, and high voltage and isolated power series.

STMicroelectronics reports that Dataconverters, OPA, Multimedia, and Power Management products are still under supply constraints. Lead time and prices are rising on its Multimedia products.

Infineon reports that supply constraints will affect its Power Management product lines.

NXP cites supply constraints as contributing to increased lead times on its Interface products.

SEMICONDUCTOR MARKET TRENDS

Advanced Analog

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Dataconverters	Analog Devices	13 - 52 weeks	Stable –	Stable –	Lead times now very stable on ADI
	Texas Instruments	25 - 35 weeks	Stable –	Stable –	Supply improved except some high speed ADC series.
	STMicroelectronics	30 - 35 weeks	Stable –	Stable –	Supply Constraint
OPA	Analog Devices	13 - 33 weeks	Stable –	Stable –	Lead times now very stable on ADI
	Texas Instruments	12 - 35 weeks	Down ▼	Down ▼	Supply improved except some high precision amp series.
	STMicroelectronics	30 - 35 weeks	Stable –	Stable –	Supply Constraint
Interfaces (LVDS,UART USB)	NXP Semiconductor	39 - 45 weeks	Stable –	Stable –	Supply Constraint
	Analog Devices	13 - 52 weeks	Stable –	Stable –	Lead times now very stable on ADI
	Texas Instruments	20 - 35 weeks	Down ▼	Stable –	Supply improved except some isolation series
Multimedia Products	NXP Semiconductor	40 - 52 weeks	Stable –	Stable –	
	STMicroelectronics	30 - 40 weeks	Up ▲	Up ▲	Prices and lead times up
Power Management (Low Drop, PWM, Switching Reg.)	STMicroelectronics	30 - 40 weeks	Stable –	Stable –	Supply Constraint
	Texas Instruments	12 - 35 weeks	Down ▼	Down ▼	Supply improved except some high voltage & isolated power series.
	Infineon	30 - 45 weeks	Stable –	Stable –	Supply Constraint
	Analog Devices	13 - 45 weeks	Stable –	Stable –	Lead times now very stable on ADI

SEMICONDUCTOR MARKET TRENDS

Embedded Processing

8-Bit Lead Time/Price	Mostly Stable
16-Bit Lead Time/Price	Stable
32-Bit Lead Time/Price	Mostly Stable
DSP Lead Time/Price	Mostly Stable

The market continues to stabilize, but supplies remain tight in certain regions. Automotive and industrial products continue to see significant supply constraints. The average lead time for embedded processing is 15-48 weeks.

Silicon Laboratories 8/32-bit lead times and prices have now stabilized.

NXP Semiconductor's 8/16/32-bit and DSP products are seeing improved lead times, but automotive and industrial MCUs remained constrained. NXP's 32-bit and DSP lead times remain long, with many items still 52 weeks out.

Microchip's 8/16/32-bit products are beginning to see improvements in lead time across all regions. Microchip's PSP program remains ongoing.

STMicroelectronics's products are seeing drops as EMEA notes demand reduction. For 32-bit products, APAC is still witnessing lead time reductions and negotiable pricing. Other regions are experiencing severe supply constraints on STM32H7 and STM32F families.

Texas Instruments' 16-bit and DSP products see supply improvements across all regions.

Infineon's 8/32-bit products in America are experiencing lead time improvement. Other parts are still in allocation across all regions. Most of Infineon's 16-bit products are either EOL or obsolete.

Analog Devices sees lead time improvement in APAC for DSP products.

SEMICONDUCTOR MARKET TRENDS

Embedded Processing

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
8 Bit	NXP Semiconductor	12 - 52 weeks	Down ▾	Stable –	Lead-times are improving, but automotive and industrial MCU's continues to be constrained.
	Infineon	10 - 48 weeks	Stable –	Stable –	Americas has seen a slight improvement to LT. Some parts still on allocation across all regions.
	Microchip	16 - 75 weeks	Stable –	Stable –	Lead-times continue to improve across all regions. PSP program is still ongoing.
	Silicon Laboratories	12 - 20 weeks	Stable –	Stable –	Lead-time and prices are stable.
	STMicroelectronics	16 - 35 weeks	Stable –	Stable –	Lead-times dropped slightly. EMEA seeing reduction in demand.
16 Bit	Infineon	12 - 52 weeks	Stable –	Stable –	A lot of parts in this category are EOL or obsolete.
	NXP Semiconductor	12 - 52 weeks	Stable –	Stable –	Lead-times are improving, but automotive and industrial MCU's continues to be constrained.
	Microchip	16 - 75 weeks	Stable –	Stable –	Lead-times continue to improve across all regions. PSP program is still ongoing.
	STMicroelectronics	16 - 52 weeks	Stable –	Stable –	EMEA seeing slight reduction in demand.
	Texas Instruments	16 - 52 weeks	Stable –	Stable –	Small supply improvements across all regions.
32 Bit	AMD	14 - 26 weeks	Stable –	Stable –	
	Infineon	20 - 52 weeks	Stable –	Stable –	Some supply improvements, but situation remains tight.
	Intel	18 - 25 weeks	Stable –	Stable –	
	Microchip	16 - 75 weeks	Stable –	Stable –	Lead-times continue to improve across all regions. PSP program is still ongoing.
	NXP Semiconductor	13 - 52 weeks	Down ▾	Stable –	Lead-times still remain long in Q4 '23. Multiple items still at 52 weeks.
	Silicon Laboratories	12 - 20 weeks	Stable –	Stable –	Lead-time and prices are stable.
	STMicroelectronics	10 - 35 weeks	Stable –	Stable –	APAC seeing LT reduction and negotable pricing. Other regions still seing severe supply constraints on the STM32H7 & STM32F family.
DSP	Analog Devices	13 - 52 weeks	Stable –	Stable –	APAC seeing lead-time improvements. Stable across other regions.
	NXP Semiconductor	13 - 52 weeks	Down ▾	Stable –	Lead-times still remain long in Q4 '23. Multiple items still at 52 weeks.
	Texas Instruments	26 - 52 weeks	Stable –	Stable –	Small supply improvements across all regions.

SEMICONDUCTOR MARKET TRENDS

Programmable Logic

Future Lead Times	Mostly Down (through March)
Price	Stable

Intel expects continued lead time reductions over 1Q24. The average lead time for programmable logic is 20-25 weeks.

FPGA and CPLD products are now off allocation.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
FPGA (new CycloneV, StratixV, ArriaV)	Intel	22 - 28 weeks	Down ▾	Stable –	Off allocation
FPGA (focus Cyclone, Stratix, Arria)	Intel	26 - 30 weeks	Down ▾	Stable –	Off allocation
FPGA (legacy 6K, 8K,10K,Apex)	Intel	26 - 30 weeks	Down ▾	Stable –	Off allocation
CPLD	Intel	22 - 28 weeks	Down ▾	Stable –	Off allocation
Tools	Intel	4 - 8 weeks	Stable –	Stable –	

SEMICONDUCTOR MARKET TRENDS

Lighting

Future Lead Times	Stable (through March)
Price	Stable

Lead time and price across the market sector remain stable, with a lead time reduction over the last quarter. The average lead time for lighting is 6-8 weeks.

Cree remarks that its MK-R LEDs have a lead time of 36 weeks, and its Element G LEDs have an average period between 16 - 18 weeks.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
LED <0.5W	Cree	4 - 6 weeks	Stable –	Stable –	
	Lumileds	6 - 8 weeks	Stable –	Stable –	
	Osram	6 - 8 weeks	Stable –	Stable –	
	Samsung	6 - 8 weeks	Stable –	Stable –	
LED >0.5W	Cree	6 - 8 weeks	Stable –	Stable –	MK-R LEDs - 36 weeks / Element G LEDs- 16- 18 weeks
	Lumileds	6 - 8 weeks	Stable –	Stable –	
	Osram	8 - 12 weeks	Stable –	Stable –	
	Samsung	6 - 8 weeks	Stable –	Stable –	
Optic	Ledil	6 - 8 weeks	Stable –	Stable –	

PEMCO MARKET TRENDS

Passives

Future Lead Times	Mostly Stable
Price	Mix of Going Up, Stable, Down

Stabilization continues to rise across the passive component market. Raw material shortages still impact some product spaces, increasing prices and lead times. The average lead time for passives is 19-37 weeks.

Panasonic's SMD products within the EU continue to experience long lead times.

Vishay's CRCW family is on allocation within the EU.

Walsin's automotive-grade SMD resistors are seeing price decreases in the EU.

Bourns increased prices on its Network and Array Resistors, Over-Voltage Protection Varistors, Over-Voltage Protection Thyristors and TVS Diodes, and Over-Current and Protection Fuses.

Bourns cites the lack of ceramics in the EU contributing to increased prices and lead times for Trimmers and Potentiometers.

Vishay's Network and Array Resistor products are obsolete in the EU.

Epcos and Vishay have increased prices on their Non-Linear Resistors and Thermistors due to raw material shortages and logistics costs in the EU.

Vishay reports no SSP pricing for Sfemice Potis in the EU.

Littelfuse continues to see raised prices resulting from raw material and logistics costs for Over-Voltage Protection Varistors, Over-Voltage Protection Thyristors and TVS Diodes, and Over-Current Protection Fuses in the EU and APAC.

AVX announced lead stabilization at 22 weeks for its Radial Varistor series.

Epcos also raised prices on their product lines for Over-Voltage Protection Varistors due to raw materials and logistics challenges.

Abracon's MEMS oscillator is still on allocation in APAC.

Kemet has placed an order stop on some specific MLCC product lines in the EU.

Murata announced a new valid price on MLCC products in the EU.

Vishay's Tantalum Capacitors are backlogged but are managed on a first-come, first-serve basis within AP. Lead times over the previous month were stable in Asia.

PEMCO MARKET TRENDS

Passives

Epcos normal Film Capacitors see 16 - 20 weeks lead times in AP. High Power Film Capacitors are still at 26 weeks. Vishay forecasts lead time and price reductions on their product lines.

Epcos Aluminum Capacitors face lead times of 12 - 16 weeks in AP. TDK announced an allocation for Snap-In Capacitors.

Nichicon canceled all customer quotes in the EU for Aluminum Capacitors. In AP, Nichicon's case sizes, 6.3x7.7, 8x10, and 10x10, will increase in price. In contrast, Vishay sees decreased price and lead time for its products.

Bourns Inductors, Chokes, and Coils saw lead times stabilize at 16 weeks in the EU.

Vishay announced shortened lead times and decreased prices on its Inductors, Chokes, and Coils.

Epcos increased prices by 10% in the EU, with the price rising in SSP for EMI Filters, Ferrites, Transformers, Inductors, Chokes, and Coils.

Schaffner increased prices on most Netto Quotes for EU orders.

PEMCO MARKET TRENDS

Passives

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Resistors Standard Chip (SMD)	Panasonic	50 - 60 weeks	Stable –	Stable –	EU: still long lead times
	Vishay	22 - 56 weeks	Stable –	Up ▲	EU: Allocation for CRCW
	Yageo	12 - 28 weeks	Stable –	Stable –	
	Walsin	16 - 25 weeks	Stable –	Stable –	EU: price decrease on Walsin /Kamaya Automtive grade SMD Resistors
Resistors Networks & Arrays	Bourns	15 - 26 weeks	Stable –	Up ▲	Cost increase effective May'23.
	Vishay	30 - 50 weeks	Stable –	Stable –	EU: Obsolete
	Yageo	16 - 24 weeks	Stable –	Stable –	
	Walsin	15 - 24 weeks	Stable –	Stable –	
Non-Linear Resistors Thermistors	Epcos	18 - 30 weeks	Stable –	Up ▲	EU: price increase due to increase in raw material and logistic cost
	Murata	20 - 24 weeks	Stable –	Stable –	
	Vishay	20 - 30 weeks	Stable –	Up ▲	EU: price increase due to increase in raw material and logistic cost
Trimmers & Potentiometers	Bourns	20 - 44 weeks	Up ▲	Up ▲	Cost increase effective May'23. EU: Lack of raw material (supply of Ceramics) for Trimpot
	TT Electronics	20 - 44 weeks	Stable –	Stable –	
	Vishay	22 - 60 weeks	Stable –	Up ▲	EU: No SSP pricing for Sfernice Potis
Over-Voltage Protection Varistors	AVX	17 - 30 weeks	Stable –	Stable –	
	Bourns	16 - 40 weeks	Stable –	Up ▲	Cost increase effective May'23.
	Littelfuse	15 - 30 weeks	Stable –	Stable –	EU: April price increase due to increase in raw material and logistic cost, overall average 8%
	Epcos	20 - 30 weeks	Stable –	Up ▲	EU: price increase due to increase in raw material and logistic cost
Over-Voltage Protection Thyristors & TVS Diodes	AVX	10 - 50 weeks	Stable –	Stable –	AP: Radial Varistor LT 22WKS
	Bourns	14 - 54 weeks	Stable –	Up ▲	Cost increase effective May'23.
	Littelfuse	15 - 30 weeks	Stable –	Stable –	APAC price increase due to increase in raw material and logistic cost; EU: April price increase due to increase in raw material and logistic cost, overall average 8%

PEMCO MARKET TRENDS

Passives

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Over-Current Protection Fuses	Bourns	16 - 20 weeks	Stable –	Up ▲	Cost increase effective May'23.
	Littelfuse	15 - 30 weeks	Stable –	Stable –	EU: April price increase due to increase in raw material and logistic cost, overall average 8%
	Schurter	15 - 35 weeks	Stable –	Stable –	
Frequency Control Crystals & Oscillators	Abracon	30 - 99 weeks	Up ▲	Up ▲	APAC: MEMS oscillator is still on allocation
	Kyocera	14 - 45 weeks	Stable –	Stable –	
	ESC	30 - 52 weeks	Up ▲	Up ▲	
	IQD	30 - 35 weeks	Up ▲	Stable –	
	TXC	18 - 24 weeks	Stable –	Stable –	
Frequency Control Resonators	Abracon	9 - 30 weeks	Stable –	Stable –	
	Geyer	9 - 16 weeks	Stable –	Stable –	
	Murata	9 - 24 weeks	Stable –	Stable –	
Frequency Control	Abracon	24 - 50 weeks	Stable –	Stable –	
	Murata	16 - 24 weeks	Stable –	Stable –	
Capacitors Ceramic Multilayer (MLCC)	AVX	14 - 25 weeks	Stable –	Stable –	
	Kemet	20 - 30 weeks	Stable –	Stable –	EU: order stop on specific parts
	Murata	15 - 22 weeks	Stable –	Stable –	EU: new price valid from Oct. 10th
	Samsung EM	18 - 22 weeks	Up ▲	Stable –	
Capacitors Tantalum	AVX	12 - 32 weeks	Stable –	Stable –	
	Kemet	12 - 28 weeks	Stable –	Stable –	
	Samsung EM	25 - 27 weeks	Stable –	Stable –	
	Vishay	18 - 42 weeks	Stable –	Stable –	AP: Backlog being managed on first come, first serve basis. Lead time prev month stable in Asia.
Capacitors Film	Epcos	26 - 70 weeks	Stable –	Stable –	AP: LT's 16-20wks for normal FILM. High Power Film still 26wks,
	Kemet	26 - 30 weeks	Stable –	Stable –	
	Vishay	18 - 24 weeks	Up ▲	Down ▼	Shorten L/T and will price down
	Wima	14 - 20 weeks	Stable –	Stable –	

PEMCO MARKET TRENDS

Passives

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Capacitors Aluminium	Epcos	35 - 44 weeks	Stable –	Stable –	AP: Lt: 12-16wks, EU: TDK Anounced an allocation for Snap In Capacitors
	Nichicon	12 - 20 weeks	Stable –	Stable –	AP: Case sizes 6.3x7.7, 8x10 and 10x10 have been extended; price increase; EU: all customer quotes cancelled
	Panasonic	40 - 56 weeks	Up ▲	Stable –	
	Vishay	18 - 24 weeks	Up ▲	Stable –	Shorten L/T and will price down
Inductors Chokes Coils	Abracon	12 - 24 weeks	Stable –	Stable –	
	Bourns	16 - 28 weeks	Stable –	Stable –	EU: LT Trend vs previous month stable or decreased, current LT average 16
	Eaton	15 - 20 weeks	Stable –	Stable –	
	Epcos/TDK	48 - 52 weeks	Up ▲	Up ▲	EU: Price increased, Prices increased in SSP
	Murata	18 - 25 weeks	Stable –	Stable –	
	Pulse	16 - 22 weeks	Stable –	Stable –	
	Vishay	18 - 22 weeks	Stable –	Down ▼	Shorten L/T and will price down
Transformers	Bourns	8 - 20 weeks	Stable –	Up ▲	EU: LT Trend vs previous month stable or decreased, current LT average 16
	Epcos	12 - 30 weeks	Stable –	Up ▲	EU: Price increased, Price increased in SSP
	Pulse	16 - 22 weeks	Stable –	Stable –	
Ferrites	Epcos	20 - 40 weeks	Stable –	Up ▲	EU: Price increased around 10%, Price increased in SSP
	Ferroxcube	8 - 20 weeks	Stable –	Up ▲	
Filters (EMI)	Abracon	10 - 14 weeks	Stable –	Stable –	
	Epcos	15 - 30 weeks	Stable –	Up ▲	EU: Price increased around 10%, Price increased in SSP
	Schaffner	14 - 20 weeks	Stable –	Up ▲	EU: Price increased in most of Netto Quotes
	TE Connectivity	20 - 22 weeks	Stable –	Stable –	

PEMCO MARKET TRENDS

Interconnect

Future Lead Times	Mostly Stable (through March)
Price	Mostly Stable

Lead time and price stabilization continue across the market, with some prices increasing. The average lead time is 15-20 weeks.

FCI filed new quarterly prices on all interconnect technology product lines.

Molex has a new DBP on all interconnect technology product lines.

Samtec's Headers/Stiks, IDC, DIN, PCB, Mod Jack, Gang Jack, High-Speed Board to Board, High-Speed I/O, I/O, D-Sub, and Power products have stable lead times but are still higher than usual. EMEA will see prices increase.

TE Connectivity filed new prices on all its interconnect technology products.

Amphenol TCS High-Speed Board to Board and High-Speed I/O products will see no significant change in their current 18-24 weeks lead time.

ITT Cannon reports higher than usual but stable lead times on I/O, D-Sub, and Power products, with costs increasing.

Phoenix shut down in December for system upgrades. This has impacted lead times for its Terminal Blocks, Circular Industrial, and Ethernet products.

PEMCO MARKET TRENDS

Interconnect

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Headers/Stiks, IDC, DIN, PCB, Mod Jack, Gang Jack	3M	14 - 22 weeks	Stable –	Stable –	
	FCI	18 - 24 weeks	Stable –	Stable –	Quarterly price file uploads
	Molex	17 - 26 weeks	Stable –	Stable –	New DBP
	Samtec	10 - 12 weeks	Stable –	Stable –	Lead times stable but still higher than normal. EMEA expecting price increase in future.
	TE Connectivity	14 - 18 weeks	Stable –	Stable –	New Price
High Speed Board to Board, High Speed I/O	Amphenol TCS	18 - 24 weeks	Stable –	Stable –	No significant change in current L/T
	FCI	18 - 22 weeks	Stable –	Stable –	Quarterly price file uploads
	Molex	18 - 23 weeks	Stable –	Stable –	New DBP
	Samtec	10 - 12 weeks	Stable –	Stable –	Lead times stable but still higher than normal.
	TE Connectivity	16 - 20 weeks	Stable –	Stable –	New Price
I/O, D-Sub,Power	FCI	12 - 20 weeks	Stable –	Stable –	Quarterly price file uploads
	ITT Cannon	20 - 28 weeks	Stable –	Stable –	Stable but still higher than normal. Cost increasing
	Molex	15 - 23 weeks	Stable –	Stable –	New DBP
	Samtec	10 - 12 weeks	Stable –	Stable –	Lead times stable but still higher than normal. EMEA expecting price increase.
PLCC, SIMM, DIMM	FCI	12 - 14 weeks	Stable –	Stable –	Quarterly price file uploads
	Molex	15 - 23 weeks	Stable –	Up ▲	New DBP
	TE Connectivity	13 - 15 weeks	Stable –	Stable –	New Price
Terminal Blocks, Circular Industrial, Ethernet	Amphenol	18 - 22 weeks	Stable –	Stable –	
	Molex	16 - 22 weeks	Stable –	Stable –	New DBP
	Phoenix	8 - 20 weeks	Up ▲	Stable –	Phoenix end of year 1 week shutdown + 1 week system upgrade in December.
	TE Connectivity	12 - 20 weeks	Stable –	Stable –	New Price
RF Connectors	Amphenol RF	14 - 20 weeks	Stable –	Stable –	
	Molex	16 - 22 weeks	Stable –	Stable –	New DBP
	TE Connectivity	14 - 18 weeks	Stable –	Stable –	New Price

PEMCO MARKET TRENDS

Military & Industrial Connector

Future Lead Times	Mix of Going Up, Stable, Going Down
Price	Going Up

Lead time stabilization continues despite reprioritization as Deutsch phases out several product lines. Prices will increase across all product spaces within the market. The average lead time for military and industrial connectors is 7-16 weeks.

Deutsch is de-emphasizing its Mil-DTL 38999 Srs 1 products through a significant price increase strategy. Utilize Amphenol and Corsair's products instead.

TE/Deutsch's mid to large shell size composite D38999 Series III qualified product family (/20, /24, and /26) remain on formal TE ship hold. All qualified Series III Hermetic receptacles (/21, /23, /25, and /27) stay on DLA-issued formal ship hold. Deutsch is de-emphasizing this series through a significant price increase strategy.

TE/Deutsch's Mil-DTL38999 Series 4 is on a marketing block. Size 16 is facing contact issues.

AIO is no longer in the Mil-DTL 26482 Srs 1 space.

AERO/Conesys Mil-DTL 26482 Srs 2 is available through AEP. Amphenol Aerospace is only offering Pick/Ship components with no V-add. Deutsch this series through a significant price increase strategy.

Amphenol Industrial is seeing low lead times on its Mil-DTL 5015 A&B due to having stock for building.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Mil-DTL 38999 Srs 1	Amphenol Aerospace	1 - 18 weeks	Stable –	Up ▲	
	Corsair	1 - 18 weeks	Stable –	Up ▲	
	Deutsch	0 - 0 weeks	Up ▲	Up ▲	Deutsch has de-emphasized this series through a significant price increase strategy. Utilize Amphenol and Corsair.
Mil-DTL 38999 Srs 2	Amphenol Aerospace	1 - 18 weeks	Stable –	Up ▲	
Mil-DTL 38999 Srs 3	Amphenol Aerospace	1 - 18 weeks	Stable –	Up ▲	
	Corsair	1 - 18 weeks	Stable –	Up ▲	
	Deutsch	0 - 0 weeks	Up ▲	Up ▲	TE/Deutsch mid to large shell size composite D38999 Series III qualified product family (/20, /24, and /26) on formal TE ship hold. All TE/Deutsch qualified Series III Hermetic receptacles (/21, /23, /25, &/27) on DLA issued formal ship hold. Deutsch de-emphasized this series through a significant price increase strategy.

PEMCO MARKET TRENDS

Military & Industrial Connector

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Mil-DTL 38999 Srs 4	Deutsch	18 - 24 weeks	Stable –	Up ▲	TE/Deutsch Series 4 on Marketing block. Size 16 contact issue.
	Glenair	2 - 5 weeks	Stable –	Up ▲	
High Density 38999	Amphenol Aerospace	18 - 22 weeks	Stable –	Up ▲	
	Glenair	2 - 5 weeks	Stable –	Up ▲	
	ITT Cannon	18 - 22 weeks	Stable –	Up ▲	
Mil-DTL 26482 Srs 1	Amphenol Industrial	0 - 0 weeks	Stable –	Up ▲	AIO is no longer in the space
	ITT Cannon	16 - 18 weeks	Stable –	Up ▲	
	Souriau	4 - 20 weeks	Stable –	Up ▲	
Mil-DTL 26482 Srs 2	Amphenol Aerospace	4 - 18 weeks	Stable –	Up ▲	Pick/Ship components only - no V-add
	AERO/Conesys	4 - 20 weeks	Stable –	Up ▲	Thru AEP
	Corsair	4 - 18 weeks			
	Deutsch	0 - 0 weeks	Up ▲	Up ▲	Deutsch has de-emphasized this series through a significant price increase strategy
Mil-DTL 5015 A&B	Amphenol Industrial	1 - 16 weeks	Stable –	Up ▲	Low L-times would be stock to build
	ITT Cannon	14 - 16 weeks	Up ▲	Up ▲	
Mil-DTL 5015 E, F, R	Amphenol Industrial	1 - 18 weeks	Stable –	Up ▲	
	ITT Cannon	14 - 16 weeks	Stable –	Up ▲	
Micros Mil-DTL 83513	Cinch	18 - 20 weeks	Stable –	Up ▲	
	Glenair	2 - 5 weeks	Stable –	Up ▲	
	ITT Cannon	20 - 24 weeks	Stable –	Up ▲	
	Amphenol CANADA	16 - 18 weeks	Stable –	Up ▲	
Mil-DTL-24308	Cinch	1 - 18 weeks	Up ▲	Up ▲	
	ITT Cannon	1 - 20 weeks	Down ▼	Up ▲	
	TE Connectivity	1 - 24 weeks	Down ▼	Up ▲	
Board Level - Ruggedized	Amphenol Aerospace	14 - 18 weeks	Stable –	Up ▲	
	Amphenol PCD	12 - 14 weeks	Up ▲	Up ▲	
	TE Connectivity	18 - 24 weeks	Stable –	Up ▲	

PEMCO MARKET TRENDS

Electro-Mechanical

Future Lead Times	Mix of Going Up and Stable (through March)
Price	Mostly Stable

Stabilization continues across the market, with some components still on allocation or facing EOL. Buyers should continue monitoring the market over the next quarter. The average lead time for electro-mechanical is 18-30 weeks.

Fujitsu's FTR-, VE-, FN-, and JS Power Relays series and Signal Relay series FTR-B4 are still on allocation. Omron has placed its G5 and G6 relays on allocation.

Omron's NA warehouse is adding six weeks to lead times for its Power Relays, Signal and Telecom Relays, Safety Relays, Automotive Relays, and Microswitch/ SNAP switch products.

Omron has announced their B3S series switches are on allocation.

PEW's HES Relay and TE Connectivity's RT & RZ Relays are on allocation in Europe.

Knitter-Switch's Pushbutton, Slide, and Tactile Switches are not franchised in North America.

Fischer's Heatsinks remain stable at 4 - 12 weeks but are not franchised in North America.

TE Connectivity's Alco Switches are in EOL.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Power Relays	Fujitsu	26 - 40 weeks	Stable –	Stable –	FTR-, VE-, FN- & JS series on allocation
	Omron	20 - 36 weeks	Stable –	Stable –	NA: Omron's new North American warehouse is adding 6 weeks to leadtimes. G5 & G6 relays on allocation
	PEW	25 - 60 weeks	Stable –	Stable –	HES Relay on allocation in Europe
	TE Connectivity	22 - 30 weeks	Stable –	Stable –	Allocation on RT & RZ Relays in Europe
Signal- & Telecom Relays	Fujitsu	30 - 60 weeks	Stable –	Stable –	Signal Relay series FTR-B4 on allocation
	Omron	18 - 28 weeks	Stable –	Up ▲	NA: Omron's new North American warehouse is adding 6 weeks to leadtimes
	PEW	18 - 36 weeks	Up ▲	Up ▲	
	TE Connectivity	26 - 40 weeks	Stable –	Stable –	

PEMCO MARKET TRENDS

Electro-Mechanical

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Solid State Relays (incl Reed- & IO Modules)	Crydom	14 - 30 weeks	Up ▲	Stable –	Not franchised in NA
	PEW	8 - 36 weeks	Stable –	Stable –	
	TE Connectivity	14 - 18 weeks	Stable –	Stable –	
Time Delay Relays (Industry Relays)	Littelfuse	16 - 20 weeks	Stable –	Stable –	
	TE Connectivity	22 - 24 weeks	Stable –	Stable –	
Safety Relays	Fujitsu	20 - 40 weeks	Up ▲	Stable –	
	Omron	20 - 36 weeks	Stable –	Stable –	NA: Omron's new North American warehouse is adding 6 weeks to leadtimes
	PEW	30 - 45 weeks	Up ▲	Stable –	
	TE Connectivity	20 - 30 weeks	Stable –	Stable –	
Automotive Relays	Omron	20 - 32 weeks	Stable –	Up ▲	NA: Omron's new North American warehouse is adding 6 weeks to leadtimes
	PEW	20 - 36 weeks	Up ▲	Stable –	
	TE Connectivity	20 - 30 weeks	Stable –	Stable –	
Pushbutton Switches	C&K	18 - 24 weeks	Stable –	Stable –	
	Honeywell	16 - 24 weeks	Stable –	Up ▲	
	Knitter-Switch	8 - 22 weeks	Up ▲	Stable –	Not franchised in NA
	NKK	14 - 22 weeks	Stable –	Stable –	
Slide Switches	C&K	18 - 24 weeks	Stable –	Stable –	
	Knitter-Switch	10 - 18 weeks	Up ▲	Stable –	Not franchised in NA
	NKK	14 - 22 weeks	Stable –	Stable –	
	TE Connectivity	10 - 18 weeks	Stable –	Stable –	EOL on Alco Switches
Tactile Switches	C&K	18 - 24 weeks	Stable –	Stable –	
	Knitter-Switch	12 - 20 weeks	Up ▲	Stable –	Not franchised in NA
	Omron	14 - 22 weeks	Stable –	Stable –	B3S on allocation

PEMCO MARKET TRENDS

Electro-Mechanical

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Microswitch / SNAP Switches	C&K	18 - 24 weeks	Stable –	Stable –	
	Honeywell	18 - 30 weeks	Stable –	Stable –	
	Omron	18 - 30 weeks	Stable –	Stable –	NA: Omron's new North American warehouse is adding 6 weeks to leadtimes. B3S series switches on allocation
Heatsinks	Aavid	18 - 20 weeks	Stable –	Stable –	
	Fischer	4 - 12 weeks	Stable –	Stable –	Not franchised in NA
Fans	EBM Papst	32 - 40 weeks	Stable –	Stable –	

PEMCO MARKET TRENDS

Power Products

Future Lead Times	Mostly Stable (through March)
Price	Mostly Going Up

Suppliers continue to face constrained components and transportation delays. As stabilization impacts suppliers unevenly, the market will see prices increase over the next few weeks. The average lead time for power products is 35-48 weeks.

Low Power Switches by Artesyn, Bel Power (Power One) TDK/Lambda, EOS Power, and Meanwell face constraints and transportation delays impacting lead times and deliveries.

Mid/High Power Switches and Rectifiers by Artesyn, Bel Power (Power One), TDK/Lambda, and ABB (GE Energy) continue to face constraints and transportation delays that impact lead times and deliveries.

Mid & High Power Integration products by Artesyn, Excelsys, and Bel Power (Power One) continue to face constraints and transportation delays that impact lead times and deliveries.

DC/DC & POLs products by ABB (GE Energy), Murata Power, Bel Power (Power One), Delta, Recom, TDK/Lambda, Traco Power, and VICOR continue to face constraints and transportation delays that impact lead times and deliveries.

External products by Artesyn and EOS Power continue to face constraints and transportation delays that impact lead times and deliveries.

Recom is going to increase prices by 6% on all Products Linecard.

PEMCO MARKET TRENDS

Power Products

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
Low Power Switchers	Artesyn	20 - 38 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Bel Power (Power One)	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	TDK/Lambda	24 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	EOS Power	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Meanwell	12 - 18 weeks	Stable –	Stable –	Constrained components and transportation delays continue to impact leadtimes and deliveries
Mid/High Power Switchers & Rectifiers	Artesyn	20 - 38 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Bel Power (Power One)	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	TDK/Lambda	24 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	ABB (GE Energy)	60 - 70 weeks	Up ▲	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
Mid & High Power Integration	Artesyn	20 - 38 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Excelsys	52 - 60 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Bel Power (Power One)	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
DC/DC & POLs	ABB (GE Energy)	60 - 70 weeks	Up ▲	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Murata Power	52 - 60 weeks	Up ▲	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Bel Power (Power One)	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Delta	32 - 50 weeks	Up ▲	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Recom	38 - 44 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	TDK/Lambda	24 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	Traco Power	30 - 36 weeks	Up ▲	Stable –	Constrained components and transportation delays continue to impact leadtimes and deliveries
	VICOR	52 - 60 weeks	Up ▲	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
External	Artesyn	20 - 38 weeks	Down ▼	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
	EOS Power	42 - 52 weeks	Stable –	Up ▲	Constrained components and transportation delays continue to impact leadtimes and deliveries
PSU Module	Moons	12 - 24 weeks	Up ▲	Up ▲	
	Recom	26 - 28 weeks	Up ▲	Up ▲	6% price increase on all Products Linecard

PEMCO MARKET TRENDS

Thermal Management

Future Lead Times	Stable (through March)
Price	Going Up

Transportation challenges and component shortages continue to impact most thermal management suppliers. There were lead time reductions over the last quarter, but the price is expected to increase over Q1 2024. The average lead time for thermal management is 29-41 weeks.

DC Fans and Blowers produced by ADDA, Delta, EBM, NMB, and Sanyo Denki are all facing component shortages and transportation challenges that will continue to impact lead times.

AC Fans and Blowers produced by EBM, NMB, and Sanyo Denki are facing component shortages and transportation challenges that will continue to impact lead times.

TECHNOLOGY	SUPPLIER	LEAD TIME		PRICE	COMMENTS
		CURRENT	FUTURE TREND (NEXT 3 MONTHS)	FUTURE TREND (NEXT 3 MONTHS)	
DC Fans and Blowers	ADDA	26 - 34 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	Delta	32 - 50 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	EBM	48 - 72 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	NMB	37 - 52 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	Sanyo Denki	24 - 28 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
AC Fans and Blowers	EBM	48 - 72 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	NMB	37 - 52 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
	Sanyo Denki	24 - 28 weeks	Stable –	Up ▲	Component shortages and transportation challenges continue to impact leadtimes
Heatsinks and Fansinks	AAVID	8 - 12 weeks	Stable –	Up ▲	
	ATS	8 - 12 weeks	Stable –	Up ▲	