

A general overview of the market situation as well as lead times and prices



Analog

High-End: Pricing and lead times remain largely unchanged.

Commodities: Prices and lead times remain stable.



	Lead Time (wk)	Price
Switched Voltage Regs	↔ 10-26	\leftrightarrow



	Lead Time (wk)	Price
Data Converters	↔ 6-36	\leftrightarrow
Interface	↔ 6-20	\leftrightarrow
Op Amps High End	↔ 6-22	\leftrightarrow
Switched Voltage Regs	↔ 6-28	\leftrightarrow

NSSH NBO

	Lead	d Time (wk)	Price
Op Amps Commodities	\leftrightarrow	12-16	\leftrightarrow
Op Amps High End	\leftrightarrow	12-16	\leftrightarrow
Switched Voltage Regs	\leftrightarrow	8-16	\leftrightarrow
Voltage Regulators	\leftrightarrow	8-16	\leftrightarrow



	Lead	d Time (wk)	Price
Interface	\leftrightarrow	13-24	\leftrightarrow
Op Amps High End	\leftrightarrow	16-28	\leftrightarrow

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	Lead Time (wk)	Price
Interface	↔ 10-26	\leftrightarrow
Op Amps Commodities	\leftrightarrow 10-20	\leftrightarrow
Op Amps High End	\leftrightarrow 12-22	\leftrightarrow
Switched Voltage Regs	\leftrightarrow 12-40	\leftrightarrow
Voltage Regulators	\leftrightarrow 12-32	\leftrightarrow

power integrations™

	Lead Time (wk)	Price
Switched Voltage Regs	↔ 8-20	\leftrightarrow



	Lead Time (wk)	Price
Data Converters	↔ 12-16	\leftrightarrow
Op Amps Commodities	↔ 12-16	\leftrightarrow
Switched Voltage Regs	↔ 12-16	\leftrightarrow
Voltage Regulators	↔ 12-16	\leftrightarrow



	Lead Time (wk)	Price
Data Converters	↔ 16-24	\leftrightarrow
Interface	↔ 14-20	\leftrightarrow
Op Amps Commodities	\leftrightarrow 10-20	\leftrightarrow
Op Amps High End	\leftrightarrow 12-30	\leftrightarrow
Switched Voltage Regs	\leftrightarrow 12-26	\leftrightarrow
Voltage Regulators	↔ 13-22	\leftrightarrow



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Discretes

According to the market environment, the lead times are low. It is recommended to place long-term orders as the production time (cycle time) is higher than the lead times indicate. Prices remain stable.

amu osram

	Lead Time (wk)	Price
Sensors	↔ 14-32	\leftrightarrow

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	Lead Time (wk)	Price
RF Devices	↔ 12-18	\leftrightarrow



	Lead Time (wk)	Price
Bi-polar Power	↔ 6-10	\leftrightarrow
IGBT	↔ 14-41	\leftrightarrow
Power MOSFETs	↔ 10-34	\leftrightarrow
Rectifiers	↔ 14-24	\leftrightarrow
RF Devices	\leftrightarrow 8-15	\leftrightarrow
Sensors	\leftrightarrow 10-30	\leftrightarrow
Small Signal	\leftrightarrow 8-18	\leftrightarrow
Thyristors	↔ 14-28	\leftrightarrow

nexperia

	Lead Time (wk)	Price
Bi-polar Power	↔ 10-14	\leftrightarrow
Power MOSFETs	↔ 10-22	\leftrightarrow
Rectifiers	↔ 8-14	\leftrightarrow
Small Signal	↔ 8-15	\leftrightarrow
TVS/Protection	↔ 8-14	\leftrightarrow
Zener Diodes	↔ 8-14	\leftrightarrow



	Lead Time (wk)	Price
RF Devices	↔ 12-20	\leftrightarrow
Sensors	↔ 18-46	\leftrightarrow

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	Lead Time (wk)	Price
Bi-polar Power	↔ 11-19	\leftrightarrow
IGBT	↔ 11-32	\leftrightarrow
Power MOSFETs	\leftrightarrow 10-25	\leftrightarrow
Rectifiers	↔ 10-21	\leftrightarrow
Small Signal*	↔ 10-24	\leftrightarrow
TVS/Protection*	↔ 9-16	\leftrightarrow
Zener Diodes*	↔ 8-16	\leftrightarrow



	Lead Time (wk)	Price
Bi-polar Power	↔ 14-18	\leftrightarrow
IGBT	\leftrightarrow 16-32	\leftrightarrow
Power MOSFETs	↔ 14-26	\leftrightarrow
Rectifiers	↔ 17-27	\leftrightarrow
Small Signal	↔ 16-25	\leftrightarrow
Thyristors	↔ 15-27	\leftrightarrow
TVS/Protection	↔ 15-25	\leftrightarrow



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Discretes

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	Lead Time (wk)	Price
Power MOSFETs	↔ 14-22	\leftrightarrow
Rectifiers	↔ 8-18	\leftrightarrow
Small Signal	↔ 12-18	\leftrightarrow
TVS/Protection	↔ 10-18	\leftrightarrow
Zener Diodes	↔ 12-18	\leftrightarrow

TOSHIBA

	Lead	Time (wk)	Price
Power MOSFETs	\leftrightarrow	18-24	\leftrightarrow



	Lead Time (wk)	Price
Power MOSFETs	↔ 10-31	\leftrightarrow
Rectifiers	\leftrightarrow 7-22	\leftrightarrow
Small Signal	↔ 8-18	\leftrightarrow
Thyristors	↔ 12-21	\leftrightarrow
TVS/Protection	\leftrightarrow 8-15	\leftrightarrow
Zener Diodes	\leftrightarrow 8-18	\leftrightarrow



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Memory

ALL PRICE TENDENCIES ARE INDICATED IN USD

Please provide long-term demand for all technologies. Forecast/Order backlog is key for planning demand properly. **General situation:** Price and lead time levels highly depend on supplier and product technology. Trend of increasing price levels and lead times for the latest technologies, very good availability on legacy technologies due to missing/reduced demand from industrial and automotive customers. Very price aggressive suppliers due to overstock.

DRAM: Pricing and lead times increasing - impact on LPDDR4/DDR4 and newer technologies like DDR5/LPDDR5 - Legacy DRAM remain to have very solid availability. Unplanned upsides on newer technologies difficult to supply. **NAND Flash:** Availability dependent on supplier. Increasing prices and lead times, especially on latest tech (SSDs) possible. Unplanned upsides difficult to supply.

NOR Flash: Prices and lead times flat - very good availability on legacy devices.

10-12

SRAM: Good availability - minor constraints on specific technologies.



	Lead Time (wk)	Price	
Serial NOR Flash	↔ 24-36	\leftrightarrow	
(infineon			

	Lead Time (wk)	Price
FRAM	↔ 8-10	\leftrightarrow
nvSRAM	\leftrightarrow 10	\leftrightarrow
Parallel NOR Flash	↔ 8-10	\leftrightarrow
Serial NOR Flash	↔ 8-14	\leftrightarrow
SRAM Asynch.	↔ 8-10	\leftrightarrow

ISSI	•

SRAM Synch.

	Lead Ti	me (wk)	Price
DDR/mobile DDR	\leftrightarrow	8-12	\leftrightarrow
DDR2/LPDDR2	\leftrightarrow	8-12	\leftrightarrow
DDR3/DDR3L	\leftrightarrow	8-12	\leftrightarrow
DDR4/LPDDR4	\leftrightarrow	6-16	\leftrightarrow
Managed NAND (eMMC, UFS)	\leftrightarrow	10-12	\leftrightarrow
NAND (SLC,MLC,TLC,3D)	\leftrightarrow	10-20	\leftrightarrow
Parallel NOR Flash	\leftrightarrow	12-16	\leftrightarrow
SDRAM/mobile SDRAM	\leftrightarrow	6-8	\leftrightarrow
Serial NOR Flash	\leftrightarrow	12-14	\leftrightarrow
SRAM Asynch.	\leftrightarrow	8-12	\leftrightarrow
SRAM Synch.	\leftrightarrow	8-12	\leftrightarrow

KIOXIA

	Lead Time (wk)	Price
Managed NAND (eMMC, UFS)	↔ 16-26	\leftrightarrow
NAND (SLC,MLC,TLC,3D)	↔ 16-52	\leftrightarrow
SSD	↔ 8-12	\leftrightarrow



	Lead Time (wk)	Price
EEprom	\leftrightarrow 5-52	\leftrightarrow
Eprom	↔ 5-52	\leftrightarrow
Serial NOR Flash	↔ 24-28	\leftrightarrow



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NOR Flash: Prices and lead times flat - very good availability on legacy devices.

SRAM: Good availability - minor constraints on specific technologies.

micron.

	Lead Tim	e (wk) Price
DDR/mobile DDR	\leftrightarrow 12	\leftrightarrow
DDR2/LPDDR2	\leftrightarrow 12	\leftrightarrow
DDR3/DDR3L	\leftrightarrow 12	\leftrightarrow
DDR4/LPDDR4	↑ 20	^
DDR5/LPDDR5	↑ 20	^
Managed NAND (eMMC, UFS)	\leftrightarrow 20	\leftrightarrow
microSD	↑ 20	1
NAND (SLC,MLC,TLC,3D)	\leftrightarrow 12	\leftrightarrow
Parallel NOR Flash	\leftrightarrow 12	\leftrightarrow
SDRAM/mobile SDRAM	\leftrightarrow 12	\leftrightarrow
Serial NOR Flash	\leftrightarrow 12	\leftrightarrow
SSD	↑ 20	^

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	Lead Time (wk)	Price
EEprom	↔ 7-21	\leftrightarrow
Serial NOR Flash	↔ 16-20	\leftrightarrow

RENESAS

	Lead Time (wk)	Price
EEprom	↔ 8-12	\leftrightarrow
FIFO	↔ 16-20	\leftrightarrow
SRAM Asynch.	↔ 20-24	\leftrightarrow
SRAM Multiport	↔ 16-20	\leftrightarrow
SRAM Synch.	\leftrightarrow 20-24	\leftrightarrow

SAMSUNG

	Lead Time (wk)	Price
DDR3/DDR3L	↔ 6-8	\leftrightarrow
DDR4/LPDDR4	↔ 6-8	\leftrightarrow
DDR5/LPDDR5	↔ 6-8	\leftrightarrow
Managed NAND (eMMC, UFS)	↔ 6-8	\leftrightarrow
SSD	↔ 6-8	↑



	Lead Time (wk)	Price
EEprom	↔ 8-14	\leftrightarrow
NVRAM	↔ 8-16	\leftrightarrow



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Opto

LEDs: Overall good supply situation. **Coupler:** Overall good supply situation.

Vishay: Lead time 4-16 weeks for majority of the Optocoupler portfolio.

Samsung: Official announcement of LED-business exit.

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	Lead Ti	me (wk)	Price
LEDs High Power	\leftrightarrow	8-14	\leftrightarrow
LEDs High Power General Lighting	\leftrightarrow	8-14	\leftrightarrow
LEDs Infrared	\leftrightarrow	8-14	\leftrightarrow
LEDs Low/Mid Power	\leftrightarrow	10-18	\leftrightarrow
LEDs Low/Mid Power General Lighting	\leftrightarrow	10-12	\leftrightarrow
LEDs Ultraviolet	\leftrightarrow	8-10	\leftrightarrow



	Lead Time (wk)		
LED Driver	\leftrightarrow 1	0-12 ↔	
LEDs High Power General Lighting	↔ 4	-6 ↔	
LEDs Low/Mid Power General Lighting	\leftrightarrow 6	-8 ↔	

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	Lead Time (wk)	Price
Coupler	↔ 8-36	\leftrightarrow
LEDs High Power	↔ 12-14	\leftrightarrow
LEDs Low/Mid Power	↔ 12-14	\leftrightarrow

EVERLIGHT

	Lead Time (wk)	Price
Coupler	\leftrightarrow 12-30	\leftrightarrow
LEDs High Power	↔ 12-14	\leftrightarrow
LEDs Infrared	↔ 6-24	\leftrightarrow
LEDs Low/Mid Power	↔ 12-14	\leftrightarrow
LEDs Ultraviolet	↔ 6-20	\leftrightarrow

inventronics

	Lead Time (wk)	Price
LED Driver	↔ 12-14	\leftrightarrow
LED Module	↔ 12-14	\leftrightarrow

LEDil®

	Lead Time (wk)	Price
LED Optic	↔ 6-8	\leftrightarrow

ELUMINUS

	Lead Tir	ne (wk)	Price
LEDs High Power	\leftrightarrow	6-10	\leftrightarrow
LEDs High Power General Lighting	\leftrightarrow	6-8	\leftrightarrow
LEDs Infrared	\leftrightarrow	6-12	\leftrightarrow
LEDs Low/Mid Power General Lighting	\leftrightarrow	6-8	\leftrightarrow
LEDs Ultraviolet	\leftrightarrow	6-8	\leftrightarrow



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Opto

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	Lead Time (wk)	Price
Coupler	↔ 6-26	\leftrightarrow

RENESAS

	Lead Time (wk)	Price
Coupler	↔ 18-20	\leftrightarrow

SAMSUNG

Lead Time (wk)		Price	
LEDs High Power	\leftrightarrow	8-10	\leftrightarrow
LEDs High Power General Lighting	\leftrightarrow	8-10	\leftrightarrow
LEDs Low/Mid Power	\leftrightarrow	8-10	\leftrightarrow
LEDs Low/Mid Power General Lighting	\leftrightarrow	8-10	\leftrightarrow
LEDs Module	\leftrightarrow	12-16	\leftrightarrow

TOSHIBA

	Lead Time (wk)	Price
Coupler	↔ 12-40	\leftrightarrow



	Lead Time (wk)	Price
Coupler	↔ 4-46	\leftrightarrow
LEDs High Power	\leftrightarrow 12-14	\leftrightarrow
LEDs Infrared	↔ 6-24	\leftrightarrow
LEDs Low/Mid Power	↔ 12-14	\leftrightarrow
LEDs Ultraviolet	↔ 6-20	\leftrightarrow



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MCU & DSP

SPRESSIF

	Lead Time (wk)	Price
32 Bit	↔ 8-12	\leftrightarrow



	Lead Time (wk)	Price
8 Bit	↔ 16-26	\leftrightarrow
16 Bit	\leftrightarrow 16-20	\leftrightarrow
32 Bit	↔ 16-26	\leftrightarrow

intel.

	Lead Time (wk)	Price
32 Bit	↔ 4-5	\leftrightarrow
64 Bit	↔ 4-5	\leftrightarrow
x86 DSP	↔ 4-5	\leftrightarrow



	Lead Time (wk)	Price
8 Bit AVR	↑ 4-10	↑
8 Bit PIC	↑ 4-10	↑
16 Bit	↑↑ 6-14	↑
32 Bit	↑ 4-12	\leftrightarrow



	Lead 1	Γime (wk)	Price
8 Bit	↑	16-20	↑
16 Bit	↑	16-20	↑
32 Bit	↑	16-20	↑
i.MX	↑	16-20	↑
DSP	1	16-20	↑

RENESAS

	Lead Time (wk) Price
MCUs 8 Bit	↑ 16-20	↑
MCUs 16 Bit	↑ 16-20	↑
MCUs 32 Bit	↑ 16-20	↑
MCUs 64 Bit	↑ 16-20	↑



	Lead Time (wk)	Price
8 Bit	↑ 12-16	\leftrightarrow
16 Bit	↔ 12-16	\leftrightarrow
32 Bit	↔ 12-18	\leftrightarrow



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Program. Logic







	Lead Time (wk)	Price
Program. Logic	↔ 4-12	\leftrightarrow



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Logic

Prices and lead times remain unchanged with no adjustments expected.

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	Lead Time (wk)	Price
Standard Logic	↔ 8-12	\leftrightarrow

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	Lead Time (wk)	Price
Standard Logic	↔ 8-20	\leftrightarrow

SGMICRO

	Lead Time (wh	() Price
Standard Logic	↔ 14-16	\leftrightarrow

TOSHIBA

	Lead	Time (wk)	Price
Standard Logic	\leftrightarrow	14-18	\leftrightarrow