

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



# **Analog**

High-End: Lead times declining

**Commodities:** Recovered lead times in general, no big price movements expected. Some price alignments are expected though due to increased market competition.

#### In General:

Extended reschedule and cancellation windows set on NCNR:

• onsemi rolling 60 days towards distribution



	Lead Time (wk)	Price
Switched Voltage Regs	↓ 13-28	$\leftrightarrow$



	Lead Time (wk	) Price
Data Converters	↓ 6-32	$\leftrightarrow$
Interface	↓ 6-28	$\leftrightarrow$
Op Amps High End	↓ 6-39	$\leftrightarrow$
Switched Voltage Regs	↓ 6-39	$\leftrightarrow$



	Lead Ti	ime (wk)	Price
Interface	$\downarrow$	13-28	$\leftrightarrow$
Op Amps High End	$\downarrow$	18-36	$\leftrightarrow$

### onsemi

	Lead Time (wk)	Price
Interface	↓ 16-29	$\leftrightarrow$
Op Amps Commodities	↓ 8-22	$\leftrightarrow$
Op Amps High End	↓ 10-26	$\leftrightarrow$
Switched Voltage Regs	↓ 10-42	$\leftrightarrow$
Voltage Regulators	↓ 10-45	$\leftrightarrow$

# Power integrations

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

#### **SGMICRO**

	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	↓ 23-29	$\leftrightarrow$
Interface	<b>↓ 22-30</b>	$\leftrightarrow$
Op Amps Commodities	<b>↓ 12-32</b>	$\leftrightarrow$
Op Amps High End	<b>↓ 14-39</b>	$\leftrightarrow$
Switched Voltage Regs	<b>↓ 14-30</b>	$\leftrightarrow$
Voltage Regulators	↓ 13-34	$\leftrightarrow$



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## **Discretes**

The lead times for most devices normalized. In general, there are no big price movements but some price alignments are expected due to increased market competition. **onsemi** has a general NCNR window for rolling 180 days but for a wide range of Commodities the reschedule and cancellation window is reduced to 60 days (please see information in the pdf document).

### amu osram

	Lead Time (wk)	Price
Sensors	↔ 12-26	$\leftrightarrow$

### **<b>№** BROADCOM<sup>®</sup>

	Lead Time (wk)	Price
RF Devices	↔ 14-18	$\leftrightarrow$



	Lead Time (wk)	Price
Bi-polar Power	↔ 6-8	$\leftrightarrow$
IGBT	$\leftrightarrow$ 12-50	$\leftrightarrow$
Power MOSFETs	↔ 11-50	$\leftrightarrow$
Rectifiers	<b>↓ 12-38</b>	$\leftrightarrow$
RF Devices	↔ 6-12	$\leftrightarrow$
Sensors	↔ 12-45	$\leftrightarrow$
Small Signal	$\leftrightarrow$ 6-24	$\leftrightarrow$
Thyristors	↔ 8-40	$\leftrightarrow$

## nexperia

	Lead Time (wk)	Price
Bi-polar Power	↔ 6-16	$\leftrightarrow$
Power MOSFETs	↔ 8-20	$\leftrightarrow$
Rectifiers	↔ 6-12	$\leftrightarrow$
Small Signal	↔ 6-16	$\leftrightarrow$
TVS/Protection	↔ 6-12	$\leftrightarrow$
Zener Diodes	↔ 6-23	$\leftrightarrow$



	Lead Time (wk)	Price
RF Devices	↔ 10-14	$\leftrightarrow$
Sensors	↔ 15-39	$\leftrightarrow$

### onsemi

	Lead Ti	ime (wk)	Price
Bi-polar Power *	$\leftrightarrow$	8-18	$\leftrightarrow$
IGBT	$\leftrightarrow$	10-38	$\leftrightarrow$
Power MOSFETs	$\downarrow$	8-38	$\leftrightarrow$
Rectifiers	$\downarrow$	8-27	$\leftrightarrow$
Small Signal *	$\downarrow$	8-23	$\leftrightarrow$
TVS/Protection *	$\downarrow$	8-20	$\leftrightarrow$
Zener Diodes *	$\leftrightarrow$	8-20	$\leftrightarrow$

<sup>&</sup>lt;sup>x</sup> 60 days re-schedule and cancellation window



	Lead	Time (wk)	Price
Bi-polar Power	$\leftrightarrow$	14-16	$\leftrightarrow$
IGBT	$\leftrightarrow$	14-50	$\leftrightarrow$
Power MOSFETs	$\downarrow$	12-50	$\leftrightarrow$
Rectifiers	$\downarrow$	12-39	$\leftrightarrow$
Small Signal	$\leftrightarrow$	14-25	$\leftrightarrow$
Thyristors	$\downarrow$	10-29	$\leftrightarrow$
TVS/Protection	$\downarrow$	10-25	$\leftrightarrow$



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	Lead Time (wk)	Price
Power MOSFETs	↔ 12-22	$\leftrightarrow$
Rectifiers	↔ 6-18	$\leftrightarrow$
Small Signal	$\leftrightarrow$ 12-18	$\leftrightarrow$
TVS/Protection	↔ 8-16	$\leftrightarrow$
Zener Diodes	↔ 8-18	$\leftrightarrow$

#### **TOSHIBA**

	Lead Time (wk)		Price
Power MOSFETs	$\leftrightarrow$	14-36	$\leftrightarrow$



	Lead Time (	wk) Price
Power MOSFETs	↓ 8-50	$\leftrightarrow$
Rectifiers	↓ 8-30	$\leftrightarrow$
Small Signal	↓ 8-22	$\leftrightarrow$
Thyristors	↔ 15-20	$\leftrightarrow$
TVS/Protection	↓ 8-20	$\leftrightarrow$
Zener Diodes	↔ 8-28	$\leftrightarrow$



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## **Memory**

ALL PRICE TENDENCIES ARE INDICATED IN USD

Please provide long-term demand on 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. Robust trend for increasing price levels and lead times on latest technologies, first impact on legacy technologies.

DRAM: Pricing and lead times increasing - impact on LPDDR4/DDR4 and newer technologies

like DDR5/LPDDR5 - Legacy DRAM expected to follow short-term.

NAND Flash: Availability dependent on supplier. Increasing prices and lead times.

NOR Flash: Increasing prices and lead times.

**SRAM:** Supply constraints on specific technologies & suppliers.



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



	Lead Time (wk)	Price
FRAM	↔ 8-13	$\leftrightarrow$
nvSRAM	$\leftrightarrow$ 13-30	$\leftrightarrow$
Parallel NOR Flash	↔ 8-22	$\leftrightarrow$
Serial NOR Flash	↔ 8-14	$\leftrightarrow$
SRAM Asynch.	↔ 8-30	$\leftrightarrow$
SRAM Synch.	↔ 12-14	$\leftrightarrow$



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

## KIOXIA

	Lead Ti	me (wk)	Price
Managed NAND (eMMC, UFS)	<b>↑</b>	16-20	<b>↑</b>
NAND (SLC,MLC,TLC,3D)	<b>↑</b>	16-52	<b>↑</b>
SSD	$\leftrightarrow$	8-16	<b>↑</b>



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DRAM: Pricing and lead times increasing - impact on LPDDR4/DDR4 and newer technologies like

DDR5/LPDDR5 - Legacy DRAM expected to follow short-term.

**NAND Flash:** Availability dependent on supplier. Increasing prices and lead times.

NOR Flash: Increasing prices and lead times.

**SRAM:** Supply constraints on specific technologies & suppliers.



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



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#### onsemi

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

## RENESAS

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

### **SAMSUNG**

	Lead	Time (wk)	Price
DDR3/DDR3L	$\leftrightarrow$	6-8	<b>↑</b>
DDR4/LPDDR4	$\leftrightarrow$	6-8	<b>↑</b>
DDR5/LPDDR5	<b>↑</b>	8-10	<b>↑</b>
Managed NAND (eMMC, UFS)	$\leftrightarrow$	8-10	<b>↑</b>
SSD	$\leftrightarrow$	8-10	<b>↑</b>



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



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## **Opto**

LEDs:

Overall good supply situation.

ams OSRAM:

Allocation on OSLON Compact PL Gen2.

#### Coupler:

Lead times are partially decreasing.

Toshiba:

Allocation on TLP18\*, TLP29\*

### amu osram

	Lead Ti	me (wk)	Price
LEDs High Power <sup>x1</sup>	$\leftrightarrow$	10-14	$\leftrightarrow$
LEDs High Power General Lighting	$\leftrightarrow$	10-14	$\leftrightarrow$
LEDs Infrared	$\leftrightarrow$	12-38	$\leftrightarrow$
LEDs Low/Mid Power	$\leftrightarrow$	10-28	$\leftrightarrow$
LEDs Low/Mid Power General Lighting	$\leftrightarrow$	10-12	$\leftrightarrow$
LEDs Ultraviolet	$\leftrightarrow$	6-8	$\leftrightarrow$

x¹ Alllocation OSLON Compact PL Gen2 (KW CELNM2.TK, KW2 CFLNM2.TK, KW3 CGLNM2.TK, KY CELNM2.FY)



	Lead Tir	ne (wk)	Price
LED Driver	$\leftrightarrow$	10-12	$\leftrightarrow$
LEDs High Power General Lighting	$\leftrightarrow$	4-6	$\leftrightarrow$
LEDs Low/Mid Power General Lighting	$\leftrightarrow$	6-8	$\leftrightarrow$

#### **®** BROADCOM

	Lead Tir	me (wk)	Price
Coupler	$\leftrightarrow$	12-36	$\leftrightarrow$
LEDs High Power	$\leftrightarrow$	12-14	$\leftrightarrow$
LEDs Low/Mid Power	$\leftrightarrow$	12-14	$\leftrightarrow$

#### **EVERLIGHT**

	Lead Time (wk)	Price
Coupler	↔ 18-30	$\leftrightarrow$
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 Ti	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	$\leftrightarrow$

#### onsemi

	Lead Time (wk)	Price
Coupler	↔ 12-24	$\leftrightarrow$



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# **Opto**

LEDs:

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## RENESAS

	Lead Time (wk)	Price
Coupler	↔ 12-30	$\leftrightarrow$

### **SAMSUNG**

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

#### **TOSHIBA**

	Lead Time (wk)	Price
Coupler x1	↔ 12-52	$\leftrightarrow$

x1 Product families TLP18\*, TLP29\* on allocation

#### Coupler:

Lead times are partially decreasing.

Toshiba:

Allocation on TLP18\*, TLP29\*



	Lead Time (wk)	Price
Coupler	↔ 12-48	$\leftrightarrow$
LEDs High Power	↔ 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

Microcontroller lead times are decreasing. **ST** still on allocation for several families. **Microchip**: Lead times on 32bit and on old technologies stay on high level, for the others we see rapid improvements. Please check with your customers if they still want to go on with PSP. **ST** changed the NCNR rules: NCNR until end of CY23 - no general NCNR for 2024.

## **SEPRESSIF**

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



	Lead Time (wk)	Price
8 Bit	↔ 16-36	$\leftrightarrow$
16 Bit	↔ 16-36	$\leftrightarrow$
32 Bit	↔ 12-34	$\leftrightarrow$



	Lead Time (wk)	Price
8 Bit AVR	<b>↓</b> ↓ 7-20	$\leftrightarrow$
8 Bit PIC	<b>↓</b> 4-12	$\leftrightarrow$
16 Bit	<b>↓</b> ↓ 5-13	$\leftrightarrow$
32 Bit	<b>↑</b> 8-36	$\leftrightarrow$



	Lead Time (wk)	Price
8 Bit	<b>↓ 22-36</b>	$\leftrightarrow$
16 Bit	<b>↓ 22-36</b>	$\leftrightarrow$
32 Bit	<b>↓ 22-36</b>	$\leftrightarrow$
i.MX	<b>↓ 22-36</b>	$\leftrightarrow$
DSP	↓ 22-36	$\leftrightarrow$

## RENESAS

	Lead Time (wk)	Price
MCUs	↓ 12-24	$\leftrightarrow$



	Lead Time (wk)	Price
8 Bit	↓ 52	$\downarrow$
16 Bit	↔ 16-20	$\downarrow$
32 Bit	↔ 16-20	$\downarrow$



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# Program. Logic



	Lead Time (wk)	Price
Program. Logic	↔ 4-36	$\leftrightarrow$

## **AMD**

	Lead Time (wk)	Price
Program. Logic	<b>↓</b> ↓ 23-39	$\leftrightarrow$



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## Logic

The lead times have reached a normal level again and there are no significant price fluctuations. Some price adjustments are expected due to increased market competition.

onsemi reduced the NCNR window to 60 days.

## nexperia

	Lead Time (wk)	Price
Standard Logic	↔ 6-12	$\leftrightarrow$

### onsemi

	Lead Time (wk)	Price
Standard Logic	↓ 8-22	$\leftrightarrow$

### **SGMICRO**

	Lead	Time (wk)	Price
Standard Logic	$\leftrightarrow$	14-16	$\leftrightarrow$

#### **TOSHIBA**

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

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