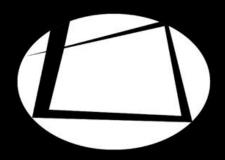
Rebound Electronics



Market Insight Q4/2020

General Market Insight 2 **Broker Market Insight** 2 6 Analog Batteries 8 Connectivity 9 Discrete 11 Electromechanical 15 High-End 18 Interconnect 19 Opto/Lighting 21 23 Memory 25 **Passives**





General Market Insight

- Silicon Wafer Shipments Up Over 1Q'20 and Year-Ago Volumes
- World Public Cloud Services Market to grow 6.3% in 2020 to \$257.9 billion, up from \$242.7 billion in 2019
- Automotive business ramping up post lock down heating up demand
- Worldwide Tablet Shipments Recorded Solid Growth in Q2 2020

Broker Market Insight

- General increased level of activity through Q3. Forecast increase in Q4.
- Forecast tightening of supply moving into Q1 and possible allocation Q2.
 Dependent on external factors
- Trend for quick turn builds with immediate stock coverage required
- Renewed interest in PPV/ CR/ Reverse Engineering against brands such as TI, ADI, Onsemi, IFX, where route of supply is restricted, LT extended, Price increasing (3Peak / Godford)





STMicroelectronics

- F2 F3 F4 F5 F7 H7 L10 L1 L4 L5 G0 G4 G6 WB WL 16-22 weeks expected to push out further
- EOL of SMA6JTVS in products in SMB package
- Continued worsening LT on STM32F0 & F1 series
- STM8- 12-14 weeks not expected to push further
- STM32MP- 16-20 weeks not expected to push further
- MOSFETS moving to 20 weeks +



Infineon

MOSFETS moving to 20 weeks +

nexperia

Nexperia

MOSFETS moving to 20 weeks +



NXP

• Order books full for Q1. Taking bookings only for Q2. Expect volatility/ capacity constraints



On Semiconductor

• Order books full for Q1. Taking bookings only for Q2. Expect volatility/ capacity constraints



Renesas

• General LT increases across all commodities



ANALOG		ANALOG	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
	٢	- Amplifiers & Comparators	\rightarrow	\rightarrow	12-18
	dard	Analog Interface	→	\rightarrow	12-18
	Standard	Power Management	→	\rightarrow	12-18
	L	Converters	→	\rightarrow	12-18

MPU/MCU		PRICING TREND LEAD TIME TREND		LEAD TIME (WEEKS)	
MPU			\rightarrow	\rightarrow	18+
	ſ	8 Bit & Lower	→	→	18+
	70		→	→	18+
2 32 Bit & Higher		→	↑	18+	
DSP			\rightarrow	\rightarrow	18+

PROGRAMMABLE LOGIC	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
	→	→	18+

STANDARD LOGIC	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Timing Products	→	→	18+
Interface	\rightarrow	\rightarrow	18+
Connectivity	\rightarrow	\rightarrow	18+
Standard Logic	→	↑	12-18

POWER	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
FET	\rightarrow	\rightarrow	18+
IGBT	\rightarrow	\rightarrow	18+
Rectifier	\rightarrow	\rightarrow	12-18
Other Power	\rightarrow	\rightarrow	12-18



MEMORY	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Flash	\rightarrow	\rightarrow	12-18
еММС	\rightarrow	\rightarrow	18+
EEPROM	\rightarrow	\rightarrow	4-10
DRAM	\rightarrow	\rightarrow	12-18
SRAM	\rightarrow	\rightarrow	12-18
Solid State Drives	\	→	18+

SENSORS	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
	\rightarrow	\rightarrow	18+

ОРТО	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
LEDs (Low Power)	→	V	4-10
LEDs (Mid Power)	→	V	4-10
LEDs (High Power)	→	V	4-10
Couplers	→	→	18+
Fibre-Optic	→	→	12-18
Infrared	→	→	12-18
Other Opto	→	→	12-18

DISCRETE	PRICING TREND	LEAD TIME TREND	LEAD TIME (WEEKS)
Small Signal	\rightarrow	\rightarrow	12-18
RF	→	\rightarrow	12-18



\leftrightarrow	Stable		
7	Increasing		
Ľ	Decreasing		
SMA	Selective Market Adjustment		
EOL	End-of-Life		

click on a category below:

Analog	High- End		
Batteries	Interconnect		
Connectivity	Opto / Lighting		
Discrete	Memory		
Electromechanical	Passives		

Analog

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
AMS	Analog	18-54+	\leftrightarrow	\leftrightarrow	
возсн	Sensors	16-18	\leftrightarrow	\leftrightarrow	
	Multi- Source Analog/Power	14-16	7	\leftrightarrow	
DIODES	Switching Regulators	14-16	7	\leftrightarrow	
	Timings	10-12	\leftrightarrow	\leftrightarrow	
FTDI Chip	Interface	16-18	\leftrightarrow	\leftrightarrow	
	Sensors	10-42	\leftrightarrow	\leftrightarrow	
Infineon	Switching Regulators	28+	7	\leftrightarrow	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	24-26	\leftrightarrow	\leftrightarrow	
	Signal Chain Amplifiers	8-10	\leftrightarrow	\leftrightarrow	
Maxim Integrated	Interface	8-10	\leftrightarrow	\leftrightarrow	
	Sensors	8-10	\leftrightarrow	7	
Maxlinear	Interface	12-14	\leftrightarrow	\leftrightarrow	
Melexis	Sensors	18-54	7	\leftrightarrow	
	Signal Chain (Amplifiers and Data Converters	10-12	\leftrightarrow	\leftrightarrow	
Microchip	Timing	10-12	\leftrightarrow	\leftrightarrow	
	Switching Regulators	16-18	7	\leftrightarrow	
MPS	Switching Regulators	10-14	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
	Sensors	18-34	7	\leftrightarrow	
NXP	Interface	12-14	\leftrightarrow	\leftrightarrow	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	22+	\leftrightarrow	\leftrightarrow	
Omron	Sensors	14-16	\leftrightarrow	\leftrightarrow	
	Sensors	20-26	\leftrightarrow	\leftrightarrow	
	Signal Chain (Amplifiers and Data Converters)	10-12	\leftrightarrow	\leftrightarrow	
ON Semiconductor	Timing	10-12	\leftrightarrow	\leftrightarrow	
	Multi- Source Analog/Power	16	71	\leftrightarrow	
	Switching Regulators	16	7	\leftrightarrow	
Panasonic	Sensors	16-20	7	\leftrightarrow	
ЗРЕАК	Signal Chain (Amplifiers and Data Converters)	6-8	7	\leftrightarrow	
	Signal Chain (Amplifiers and Data Converters)	18-24	71	\leftrightarrow	
Renesas	Timing	22	71	\leftrightarrow	
	Switching Regulators	18-22	71	\leftrightarrow	
ROHM	Sensors	14-26	\leftrightarrow	\leftrightarrow	
ROHIVI	Switching Regulators	10-18	\leftrightarrow	\leftrightarrow	
	Sensors	16-26	\leftrightarrow	\leftrightarrow	
	Signal Chain (Amplifiers and Data Converters	16-18	\leftrightarrow	\leftrightarrow	
ST Microelectronics	Multi- Source Analog/Power	12-22	71	\leftrightarrow	
	Switching Regulators	12-28	71	\leftrightarrow	
	Analog and Power for Automotive (CAN/LIN/Smart FET)	24-26	\leftrightarrow	\leftrightarrow	
TE Sensor Solutions	Sensors	18-32	7	\leftrightarrow	
Vishay	Sensors	16-22	\leftrightarrow	\leftrightarrow	



Batteries

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
	Alkaline	10-12	\leftrightarrow	\leftrightarrow	
Energizer	Lithium Metal	10-12	\leftrightarrow	\leftrightarrow	
	Silver Oxide	10-12	\leftrightarrow	\leftrightarrow	
	Alkaline	10-12	\leftrightarrow	\leftrightarrow	
	Lithium Metal	12-14	\leftrightarrow	\leftrightarrow	
GP Batteries	Lithium Ion	12-14	\leftrightarrow	\leftrightarrow	
or batteries	Nickle Metal Hydride	12-14	\leftrightarrow	\leftrightarrow	
	Lead Acid	10-12	\leftrightarrow	\leftrightarrow	
	Carbon Zinc	10-12	\leftrightarrow	\leftrightarrow	
	Alkaline	12-14	\leftrightarrow	\leftrightarrow	
	Lithium Metal	16-18	\leftrightarrow	\leftrightarrow	
Panasonic	Nickle Metal Hydride	10-12	\leftrightarrow	\leftrightarrow	
	Lead Acid	14-16	\leftrightarrow	7	
	Carbon Zinc	10-12	\leftrightarrow	\leftrightarrow	
	Lithium Metal	14-16	\leftrightarrow	\leftrightarrow	
Renata Batteries	Nickle Metal Hydride	12-14	\leftrightarrow	\leftrightarrow	
	Silver Oxide	10-12	\leftrightarrow	\leftrightarrow	
	Carbon Zinc	10-12	\leftrightarrow	\leftrightarrow	
	Alkaline	12-14	\leftrightarrow	\leftrightarrow	
VARTA	Lithium Metal	20-26	\leftrightarrow	7	
	Lithium Ion	34-40	7	\leftrightarrow	
	Nickle Metal Hydride	12-14	\leftrightarrow	\leftrightarrow	



Connectivity

MANUFACTURER	PRODUCT	LEAD TIME (WEEKS)	TREND	PRICING	COMMENTS
AMS	RFID	30-32	7	\leftrightarrow	
AVX	Antennas	10-12	\leftrightarrow	\leftrightarrow	
	802.15.4/Zigbee Modules	16-18	\leftrightarrow	\leftrightarrow	
CEL	Small Signal, Schottky Diodes, PIN Diodes, Bipolar Transistors, FETs/PHEMTs, Amplifiers, Mixers & Modulators, VCOs, SS Bipolar Transistors, Wideband Transistors	20-22	\leftrightarrow	\leftrightarrow	
Cypress	Bluetooth Modules	12-14	\leftrightarrow	\leftrightarrow	
Laind Commandivite	Wi-Fi Modules	18-22	7	7	
Laird Connectivity	Antennas	18-22	7	7	
	Cellular Modules	8-12	\leftrightarrow	\leftrightarrow	
Linx Technologies	Antennas	8-10	\leftrightarrow	\leftrightarrow	
	Transceivers/Receivers	8-10	\leftrightarrow	\leftrightarrow	
Malavia	Transceivers/Receivers	18	\leftrightarrow	\leftrightarrow	
Melexis	RFID	16-18	\leftrightarrow	\leftrightarrow	
	Wi-Fi Modules	20-22	\leftrightarrow	\leftrightarrow	
Microchip	Bluetooth Modules	20-22	\leftrightarrow	\leftrightarrow	
	Transceivers/Receivers	16-18	\leftrightarrow	\leftrightarrow	
Musete	Wi-Fi Modules	24-28	\leftrightarrow	\leftrightarrow	
Murata	Bluetooth Modules	24-28	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Multi-Protocol/Chip Solutions	14-16	\leftrightarrow	\leftrightarrow	
ALIVO	Transceivers/Receivers	10-12	\leftrightarrow	\leftrightarrow	
NXP	RFID	12-14	\leftrightarrow	\leftrightarrow	
	High Power IC's	20	\leftrightarrow	\leftrightarrow	
ON Semiconductor	Bluetooth Modules	18-32	\leftrightarrow	\leftrightarrow	
Panasonic	Bluetooth Modules	18-20	\leftrightarrow	\leftrightarrow	
Panasonic	RFID	16-18	\leftrightarrow	\leftrightarrow	
Pulse Electronics	Antennas	10-12	\leftrightarrow	\leftrightarrow	
Sierra Wireless	Multi-Protocol/Chip Solutions	20-22	7	\leftrightarrow	
Sierra Wireless	Cellular Modules	20-22	\leftrightarrow	\leftrightarrow	
Silex Technology	Wi-Fi Modules	16-18	\leftrightarrow	\leftrightarrow	
ST Microelectronics	Bluetooth Modules	14-18	\leftrightarrow	\leftrightarrow	
31 WILLOUIECTIONICS	RFID	10-12	\leftrightarrow	\leftrightarrow	
Taoglas	Antennas	10-12	\leftrightarrow	\leftrightarrow	
	Bluetooth Modules	12-14	\leftrightarrow	\leftrightarrow	
U-Blox	Cellular Modules	12-14	\leftrightarrow	\leftrightarrow	
	GPS	12-14	\leftrightarrow	\leftrightarrow	



Discrete

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Silicon Carbide Diode (650V - 1700V)	10-12	\leftrightarrow	Ľ	
Alpha Power Solutions	Silicon Carbide MOSFETs (650V - 1200V)	10-12	\leftrightarrow	Ľ	
AVX	Varistors	14-18	\leftrightarrow	\leftrightarrow	
CEL	Optocoupler Components	22	\leftrightarrow	\leftrightarrow	
	Low Voltage MOSFETS	20-24	7	\leftrightarrow	
	TVS Diodes	12-14	\leftrightarrow	\leftrightarrow	
	Bridge Rectifiers	12-16	\leftrightarrow	\leftrightarrow	
	Schottky Diodes	12-22	\leftrightarrow	\leftrightarrow	
	Rectifiers	12-16	\leftrightarrow	\leftrightarrow	
	Switching Diodes	12-18	\leftrightarrow	SMA	
Diodes Inc.	Small Signal MOSFETS	16-24	\leftrightarrow	\leftrightarrow	
	Zener Diodes	12-22	\leftrightarrow	\leftrightarrow	
	Bipolar Transistors	12-22	\leftrightarrow	\leftrightarrow	
	Digital Transistors	12-22	\leftrightarrow	\leftrightarrow	
	General Purpose Transistors	12-22	\leftrightarrow	\leftrightarrow	
	Logic	14-18	\leftrightarrow	\leftrightarrow	
	ESD	14-16	\leftrightarrow	\leftrightarrow	
EATON	Fuses	12-16	\leftrightarrow	\leftrightarrow	
	Clips and Holders	14-18	\leftrightarrow	\leftrightarrow	
Everlight	Optocoupler Components	20-24	\leftrightarrow	\leftrightarrow	
	Low Voltage MOSFETS	14-18	\leftrightarrow	SMA	
	High Voltage MOSFETS	18-28	7	\leftrightarrow	
	IGBTs	16-22	\leftrightarrow	\leftrightarrow	
	Bridge Rectifiers	12-16	\leftrightarrow	\leftrightarrow	
	Schottky Diodes	14-18	\leftrightarrow	\leftrightarrow	
Fairchild (ON Semiconductor)	Rectifiers	12-14	\leftrightarrow	\leftrightarrow	
	Switching Diodes	12-22	\leftrightarrow	\leftrightarrow	
	Small Signal MOSFETS	12-22	\leftrightarrow	\leftrightarrow	
	Zener Diodes	20-24	\leftrightarrow	\leftrightarrow	
	Bipolar Transistors	12-22	\leftrightarrow	\leftrightarrow	
	Optocoupler Components	12-16	\leftrightarrow	\leftrightarrow	
Goford Semiconductor	Low-Medium Voltage MOSFETS	4-6	\leftrightarrow	\leftrightarrow	
	High Voltage MOSFETS	4-6	\leftrightarrow	\leftrightarrow	
Hollyfuse	Fuses	14-16	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Low Voltage MOSFETS	18-32	\leftrightarrow	SMA	
	High Voltage MOSFETS	20-22	\leftrightarrow	SMA	
	IGBTs	20-22	Ľ	\leftrightarrow	
Infineon	Wide Bandgap MOSFETs	16-18	Ľ	SMA	
	Digital Transistors	10-14	\leftrightarrow	\leftrightarrow	
	General Purpose Transistors	12-20	\leftrightarrow	\leftrightarrow	
	Mil-Aero Transistors	22-38	7	7	
Isocom Components	Optocoupler Components	4	\leftrightarrow	\leftrightarrow	
	High Voltage MOSFETS	28-32	\leftrightarrow	\leftrightarrow	
IXYS	IGBTs	28-32	\leftrightarrow	\leftrightarrow	
	Thyristors/Triacs	32	Ľ	\leftrightarrow	
Keystone	Clips and Holders	10-12	\leftrightarrow	\leftrightarrow	
Lite-On	Optocoupler Components	12-16	\leftrightarrow	\leftrightarrow	
	ESD	14-18	\leftrightarrow	\leftrightarrow	
	Diode Arrays	14-16	\leftrightarrow	\leftrightarrow	
	Varistors	14-18	\leftrightarrow	7	
	Wide Bandgap MOSFETs	16-18	\leftrightarrow	\leftrightarrow	
Littelfuse	Fuses	16-28	\leftrightarrow	7	
Littenuse	PTC Fuses	12-14	\leftrightarrow	\leftrightarrow	
	Clips and Holders	12-22	\leftrightarrow	7	
	Thyristors/Triacs	12-16	\leftrightarrow	\leftrightarrow	
	TVS Diodes	14-20	\leftrightarrow	\leftrightarrow	
	Sensors	20	7	7	
	Schottky Diodes	10-16	\leftrightarrow	SMA	
Micro Commercial Components	Switching Diodes	10-16	\leftrightarrow	SMA	
Time o Commercial Components	Zener Diodes	10-16	\leftrightarrow	SMA	
	General Purpose Transistors	10-16	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	High Voltage MOSFETS	22-24	\leftrightarrow	\leftrightarrow	•
l	IGBTs	20-22	\leftrightarrow	\leftrightarrow	
Microsemi	Mil-Aero Diodes	32-52	7	SMA	
	Mil-Aero Transistors	32-62	7	7	
	Low Voltage MOSFETS	12-14	Ľ	\leftrightarrow	
	ESD	8-16	7	SMA	
	Schottky Diodes	6-12	\leftrightarrow	SMA	
	Switching Diodes	6-12	\leftrightarrow	SMA	
	Small Signal MOSFETS	6-14	\leftrightarrow	\leftrightarrow	
Nexperia	Zener Diodes	6-12	\leftrightarrow	SMA	
	Bipolar Transistors	8-12	\leftrightarrow	SMA	
	Digital Transistors	6-12	\leftrightarrow	SMA	
	General Purpose Transistors	6-12	\leftrightarrow	SMA	
	Logic	6-8	\leftrightarrow	\leftrightarrow	
	Low Voltage MOSFETS	10-18	Ľ	SMA	
	ESD	10-22	\leftrightarrow	\leftrightarrow	
	Wide Bandgap Mosfets	14-16	Ľ	SMA	
	Schottky Diodes	10-18	\leftrightarrow	SMA	
	Rectifiers	14-22	7	\leftrightarrow	
	Switching Diodes	10-18	\leftrightarrow	SMA	
ON Semiconductor	Small Signal MOSFETS	12-22	\leftrightarrow	SMA	
	Zener Diodes	10-18	\leftrightarrow	SMA	
	Bipolar Transistors	10-18	\leftrightarrow	SMA	
	Digital Transistors	10-18	\leftrightarrow	SMA	
	General Purpose Transistors	10-14	\leftrightarrow	SMA	
	General Turpose Hansistors	10 14	• • • • • • • • • • • • • • • • • • • •	SIVIA	
	Logic	14-18	\leftrightarrow	\leftrightarrow	
ProTek Devices	Diode Arrays	14-18	\leftrightarrow	\leftrightarrow	
Renesas	Optocoupler Components	24-32	7	\leftrightarrow	
	High Voltage MOSFETS	18-22	Ľ	\leftrightarrow	
	Wide Bandgap MOSFETs	18-20	\leftrightarrow	\leftrightarrow	
конм	Schottky Diodes	14-24	\leftrightarrow	\leftrightarrow	
The state of the s	Switching Diodes	12-22	\leftrightarrow	\leftrightarrow	
	Digital Transistors	14-22	\leftrightarrow	\leftrightarrow	
	General Purpose Transistors	14-22	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Fuses	14-16	\leftrightarrow	\leftrightarrow	
Schurter	Clips and Holders	14-18	7	\leftrightarrow	
Ct	Diode Arrays	10-14	\leftrightarrow	\leftrightarrow	
Semtech	Mil-Aero Diodes	22-32	7	\leftrightarrow	
	Low Voltage MOSFETS	16-28	71	\leftrightarrow	
	High Voltage MOSFETS	14-20	Ľ	SMA	
	IGBTs	16-20	7	SMA	
	ESD	16-22	\leftrightarrow	\leftrightarrow	
	Wide Bandgap MOSFETs	28-32	\leftrightarrow	\leftrightarrow	
ST Microelectronics	Thyristors/Triacs	18-22	\leftrightarrow	\leftrightarrow	
	TVS Diodes	16-18	\leftrightarrow	\leftrightarrow	
	Rectifiers	12-18	\leftrightarrow	\leftrightarrow	
	Bipolar Transistors	12-22	\leftrightarrow	\leftrightarrow	
	Low Voltage MOSFETS	14-16	\leftrightarrow	\leftrightarrow	
	ESD	14-16	\leftrightarrow	\leftrightarrow	
	Schottky Diodes	14-16	\leftrightarrow	\leftrightarrow	
	Rectifiers	14-16	\leftrightarrow	\leftrightarrow	
	Switching Diodes	14-16	\leftrightarrow	\leftrightarrow	
Taiwan Semiconductor	Small Signal MOSFETS	14-16	\leftrightarrow	\leftrightarrow	
	Zener Diodes	14-16	\leftrightarrow	\leftrightarrow	
	Bipolar Transistors	14-16	\leftrightarrow	\leftrightarrow	
	Digital Transistors	14-16	\leftrightarrow	\leftrightarrow	
	General Purpose Transistors	14-16	\leftrightarrow	\leftrightarrow	
	Logic	14-16	\leftrightarrow	\leftrightarrow	
TDK EPCOS	Varistors	20-24	\leftrightarrow	\leftrightarrow	
TE Connectivity	PTC Fuses	12-14	\leftrightarrow	71	
,	Low Voltage MOSFETS	14-18	\leftrightarrow	SMA	
	High Voltage MOSFETS	18-20	\leftrightarrow	SMA	
	TVS Diodes	18-20	\leftrightarrow	\leftrightarrow	
Vishay	Bridge Rectifiers	8-14	\leftrightarrow	\leftrightarrow	
,	Rectifiers	8-14	\leftrightarrow	\leftrightarrow	
	Zener Diodes	14-18	\leftrightarrow	\leftrightarrow	
	Optocoupler Components	22	7	\leftrightarrow	
	, ,	-			



Electromechanical

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
AVX	Timing	14-16	\leftrightarrow	\leftrightarrow	
Aavid	Fans	14-16	\leftrightarrow	\leftrightarrow	
Adviu	Heatsinks	14-16	\leftrightarrow	\leftrightarrow	
Abracon	Timing	14-32	7	\leftrightarrow	
ADDA	Fans	14-18	\leftrightarrow	7	
Alps Electric	Switches	14-26	7	\leftrightarrow	
American Zettler	Relays	14-28	\leftrightarrow	\leftrightarrow	
Bivar	Hardware	8-10	\leftrightarrow	\leftrightarrow	
С&К	Switches	14-22	\leftrightarrow	7	
Citizen Finedevice	Timing	14-22	7	\leftrightarrow	
COSEL	Power Supplies (AC/DC)	14-22	\leftrightarrow	\leftrightarrow	
	Power Supplies (DC/DC)	14-18	\leftrightarrow	\leftrightarrow	
стѕ	Switches	10-12	\leftrightarrow	\leftrightarrow	
	Timing	10-12	\leftrightarrow	\leftrightarrow	
	Power Supplies (AC/DC)	12-14	\leftrightarrow	\leftrightarrow	
CUI Inc	Power Supplies (DC/DC)	14-16	\leftrightarrow	\leftrightarrow	
	Heatsinks	12-14	\leftrightarrow	\leftrightarrow	
Delta	Fans	20-22	\leftrightarrow	\leftrightarrow	
Diodes Inc	Timing	10-12	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
E-Switch	Switches	12-14	Ľ	\leftrightarrow	
EPSON Electronics America	Timing	12-30	7	\leftrightarrow	
Fox	Timing	12-14	\leftrightarrow	7	
Grayhill	Switches	18-20	7	\leftrightarrow	
Неусо	Hardware	8-10	\leftrightarrow	\leftrightarrow	
Hongfa	Relays	18-34	\leftrightarrow	\leftrightarrow	
Infineon	Relays	20-24	\leftrightarrow	\leftrightarrow	
IXYS	Relays	10-16	\leftrightarrow	\leftrightarrow	
Keystone	Hardware	6-8	\leftrightarrow	\leftrightarrow	
Kyocera International	Timing	14-16	\leftrightarrow	\leftrightarrow	
Meanwell	Power Supplies (AC/DC)	12-14	Ľ	\leftrightarrow	
Mornsun	Power Supplies (AC/DC)	6	\leftrightarrow	\leftrightarrow	
Monsun	Power Supplies (DC/DC)	6	\leftrightarrow	\leftrightarrow	
Murata	Timing	10-12	\leftrightarrow	\leftrightarrow	
Murata Power Solutions	Power Supplies (AC/DC)	14-22	7	\leftrightarrow	
marata rower Jointons	Power Supplies (DC/DC)	14-16	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Myrra	Power Supplies (AC/DC)	14-16	\leftrightarrow	\leftrightarrow	
NKK Switches	Switches	12-20	\leftrightarrow	\leftrightarrow	
NMB	Fans	12-14	\leftrightarrow	71	
Ohmite	Fans	12-14	7	71	
Omron	Switches	14-16	\leftrightarrow	\leftrightarrow	
Panasonic	Relays	16-38	\leftrightarrow	\leftrightarrow	
ranasonic	Switches	12-14	\leftrightarrow	\leftrightarrow	
Qualtek	Fans	16-18	\leftrightarrow	\leftrightarrow	
Ralton	Timing	12-18	\leftrightarrow	\leftrightarrow	
RECOM	Power Supplies (AC/DC)	14-20	\leftrightarrow	\leftrightarrow	
I LECOM	Power Supplies (DC/DC)	14-20	\leftrightarrow	\leftrightarrow	
Schneider Electric	Relays	16-18	\leftrightarrow	\leftrightarrow	
Song Chuan	Relays	26-28	\leftrightarrow	\leftrightarrow	
SUNON	Fans	18-20	\leftrightarrow	\leftrightarrow	
TE Sensor Solutions	Relays	14-16	\leftrightarrow	\leftrightarrow	
TE Sensor Solutions	Switches	12-14	\leftrightarrow	\leftrightarrow	
Vicor	Power Supplies (AC/DC)	22-24	\leftrightarrow	\leftrightarrow	
	Power Supplies (DC/DC)	22-24	\leftrightarrow	\leftrightarrow	



High-End

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Compulab	SOM	18	\leftrightarrow	\leftrightarrow	
	8 bit MCU	18-26	\leftrightarrow	\leftrightarrow	
	32 bit MCU	18-26	7	\leftrightarrow	
Cypress	USB	16-22	71	7	
	Automotive	22-26	\leftrightarrow	\leftrightarrow	
DKE	E-paper Display	8-10	\leftrightarrow	\leftrightarrow	
Formerica	Fibre Optic Transceivers	10-14	71	\leftrightarrow	
Infineon	Automotive	34	\leftrightarrow	\leftrightarrow	
Lattice Semiconductor	FPGA	14-16	7	7	
	8 bit MCU	14-18	71	7	
	32 bit MCU	18-28	71	\leftrightarrow	
Microchip	PHY/ Ethernet	20	\leftrightarrow	7	
	USB	10-12	\leftrightarrow	7	
	32 bit MPU	14	\leftrightarrow	\leftrightarrow	
	FPGA	14-18	71	\leftrightarrow	
Microsemi	PHY/ Ethernet	10-12	\leftrightarrow	7	
	8 bit MCU	14-16	Ľ	\leftrightarrow	
	32 bit MCU	14-16	Ľ	\leftrightarrow	
NXP	Automotive	18-20	\leftrightarrow	\leftrightarrow	
	32 bit MPU	20	\leftrightarrow	\leftrightarrow	
	Network Processors	18-28	7	\leftrightarrow	
Raystar	LCDs	7-8	\leftrightarrow	\leftrightarrow	
	8 bit MCU	22	\leftrightarrow	\leftrightarrow	
	32 bit MCU	22	\leftrightarrow	\leftrightarrow	
Renesas	Automotive	32	\leftrightarrow	\leftrightarrow	
	32 bit MPU	26	\leftrightarrow	\leftrightarrow	
Renesas Synergy	32 bit MCU	14-16	\leftrightarrow	SMA	
Sharp	LCDs	22-26	\leftrightarrow	7	
	8 bit MCU	16-18	7	\leftrightarrow	
ST Microelectronics	32 bit MCU	22-26	7	\leftrightarrow	
31 WHEI DETECTIONICS	Automotive	52	\leftrightarrow	\leftrightarrow	
	32 bit MPU	20	\leftrightarrow	\leftrightarrow	
Zilog	8 bit MCU	24-28	7	\leftrightarrow	



Interconnect

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Adam Tech	D-Sub Connectors	14-16	\leftrightarrow	\leftrightarrow	
Adam Tecn	PCB Connectors	14-16	\leftrightarrow	\leftrightarrow	
Altech Corp.	Terminal Blocks & Crimps	8-10	\leftrightarrow	\leftrightarrow	
	D-Sub Connectors	10-12	\leftrightarrow	\leftrightarrow	
Amphenol ICC	Data & Telecom	10-12	\leftrightarrow	\leftrightarrow	
Amphenorice	PCB Connectors	10-12	\leftrightarrow	\leftrightarrow	
	FFC/FPC	10-12	\leftrightarrow	\leftrightarrow	
Amphenol Sine System	Circular Connectors	14	\leftrightarrow	\leftrightarrow	
AVX	Lighting Connectors	12-14	7	\leftrightarrow	
Connfly	PCB Connectors	14-16	\leftrightarrow	\leftrightarrow	
Degson	Terminal Blocks & Crimps	14	\leftrightarrow	\leftrightarrow	
EDAC	PCB Connectors	12-16	\leftrightarrow	\leftrightarrow	
Greenconn Technology	PCB Connectors	3-4	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
HALO Electronics	Data & Telecom	18-20	\leftrightarrow	\leftrightarrow	
HARTING	PCB Connectors	10-12	\leftrightarrow	\leftrightarrow	
	PCB Connectors	10-14	\leftrightarrow	\leftrightarrow	
Hirose Electric	RF Connectors	14-16	\leftrightarrow	\leftrightarrow	
	FFC/FPC	12-14	\leftrightarrow	\leftrightarrow	
JST	PCB Connectors	18-28	\leftrightarrow	\leftrightarrow	
Mil-Max	PCB Connectors	6-8	\leftrightarrow	\leftrightarrow	
IVIII-IVIAX	IC Sockets	6-8	\leftrightarrow	\leftrightarrow	
Omron	PCB Connectors	14-16	\leftrightarrow	\leftrightarrow	
Sullins	PCB Connectors	8-10	\leftrightarrow	\leftrightarrow	
	Automotive Connectors	18-22	7	\leftrightarrow	
	Circular Connectors	42	71	\leftrightarrow	
	Relays	54+	\leftrightarrow	\leftrightarrow	
	D-Sub Connectors	10-12	71	\leftrightarrow	
TE Connectivity	Data & Telecom	10-12	71	\leftrightarrow	
TE connectivity	PCB Connectors	10-12	71	\leftrightarrow	
	RF Connectors	14-16	71	\leftrightarrow	
	IC Sockets	8-10	\leftrightarrow	\leftrightarrow	
	Terminal Blocks & Crimps	16-18	71	\leftrightarrow	
	Lighting Connectors	10-12	\leftrightarrow	\leftrightarrow	
WAGO	Terminal Blocks & Crimps	10-12	71	\leftrightarrow	
WAGO	Lighting Connectors	10-12	7	\leftrightarrow	
WECO	Terminal Blocks & Crimps	10-12	\leftrightarrow	\leftrightarrow	



Opto/Lighting

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Bridgelux	Chip On Board (CoB)	8-10	\leftrightarrow	\leftrightarrow	
Dialight	Indication LEDs	12-18	7	\leftrightarrow	
	Automotive LEDs (AEC-Q101 Certified)	10-12	\leftrightarrow	\leftrightarrow	
Freedight	Infrared Components/ LED	10-12	\leftrightarrow	\leftrightarrow	
Everlight	Indication LEDs	10-12	7	\leftrightarrow	
	UV LEDs	10-12	\leftrightarrow	\leftrightarrow	
Excellence Optoelectronics Inc.	Automotive LEDs (AEC-Q101 Certified)	8-10	\leftrightarrow	\leftrightarrow	
General Luminaire	Standard Light Engines (Level 2 Boards)	10-12	\leftrightarrow	\leftrightarrow	
Inolux	Indication LEDs	8-10	\leftrightarrow	\leftrightarrow	
Min abuight	LED Displays	14-16	\leftrightarrow	7	
Kingbright	Indication LEDs	14	\leftrightarrow	\leftrightarrow	
	Infrared Components/ LED	8-10	\leftrightarrow	\leftrightarrow	
Lite-On	LED Displays	10-12	\leftrightarrow	\leftrightarrow	
	Indication LEDs	10-12	\leftrightarrow	\leftrightarrow	
	LED Displays	14	\leftrightarrow	\leftrightarrow	
Lumex	Indication LEDs	10-16	\leftrightarrow	\leftrightarrow	
	Illumination High Power LEDs (White)	12-14	7	7	
	Illumination High Power LEDs (Colors)	12-14	7	7	
	Illumination High Power LEDs (White & Colors)	10-12	\leftrightarrow	\leftrightarrow	
l	Automotive LEDs (AEC-Q101 Certified)	16-18	7	7	
Lumileds	Chip On Board (CoB)	12-14	7	7	
	Standard Light Engines (Level 2 Boards)	14-16	7	7	
	Infrared Components/ LED	10-12	\leftrightarrow	\leftrightarrow	
	UV LEDs	10-12	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Illumination High Power LEDs (White)	8-10	\leftrightarrow	\leftrightarrow	
Miskin	Illumination High Power LEDs (Colors)	10-12	\leftrightarrow	\leftrightarrow	
Nichia	Illumination High Power LEDs (White & Colors)	8-10	\leftrightarrow	\leftrightarrow	
	Chip On Board (CoB)	8-10	\leftrightarrow	\leftrightarrow	
Davida.	OLEDs	7-8	7	7	
Raystar	TFT Displays	7-8	7	7	
20114	Infrared Components/ LED	8-10	\leftrightarrow	\leftrightarrow	
ROHM	Indication LEDs	12-14	\leftrightarrow	\leftrightarrow	
	Illumination High Power LEDs (White)	10-12	\leftrightarrow	\leftrightarrow	
Samuel ED	Illumination High Power LEDs (White & Colors)	8-10	\leftrightarrow	\leftrightarrow	
Samsung LED	Chip On Board (CoB)	8-10	\leftrightarrow	\leftrightarrow	
	Standard Light Engines (Level 2 Boards)	12-14	\leftrightarrow	\leftrightarrow	
	Illumination High Power LEDs (White)	10-12	\leftrightarrow	\leftrightarrow	
Seoul Semiconductor	Illumination High Power LEDs (White & Colors)	8-10	\leftrightarrow	\leftrightarrow	
Seoul Semiconductor	Chip On Board (CoB)	8-10	\leftrightarrow	\leftrightarrow	
	Standard Light Engines (Level 2 Boards)	12-14	\leftrightarrow	\leftrightarrow	
Seoul Viosys	UV LEDs	10-12	7	\leftrightarrow	
Stanley Electric	LED Displays	14	\leftrightarrow	\leftrightarrow	
Stainey Liettric	Indication LEDs	12-14	\leftrightarrow	\leftrightarrow	
SunLed	LED Displays	10-12	\leftrightarrow	\leftrightarrow	
Team Source	TFT Displays	7-8	\leftrightarrow	\leftrightarrow	
TT Electronics- Optek Technology	Infrared Components/ LED	10-12	7	\leftrightarrow	
vcc	Indication LEDs	14	\leftrightarrow	\leftrightarrow	
	Infrared Components/ LED	10-22	\leftrightarrow	\leftrightarrow	
Vishay	Indication LEDs	10-32	\leftrightarrow	\leftrightarrow	
	UV LEDs	8-10	\leftrightarrow	\leftrightarrow	



Memory

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	Memory Modules	8-10	\leftrightarrow	\leftrightarrow	
ADATA	Memory Cards	8-10	\leftrightarrow	\leftrightarrow	
	Solid State Drives (SSD)	8-10	\leftrightarrow	\leftrightarrow	
Adama Tankanlarian	NOR Flash	6-14	\leftrightarrow	\leftrightarrow	
Adesto Technologies	DATA Flash	10-14	\leftrightarrow	\leftrightarrow	
	PC (Commodity) DRAM	6-10	\leftrightarrow	\leftrightarrow	
Alliance Memory	Mobile DRAM	10-12	\leftrightarrow	\leftrightarrow	
Amance Memory	SRAM	8-12	\leftrightarrow	\leftrightarrow	
	NOR Flash	8-10	\leftrightarrow	\leftrightarrow	
	SRAM	10-30	7	\leftrightarrow	
Cypress	NOR Flash	12-20	\leftrightarrow	\leftrightarrow	
	FRAM & NVSRAM	18-30	7	\leftrightarrow	
Everspin Technologies	MRAM	10-16	\leftrightarrow	\leftrightarrow	
	еММС	10-14	\leftrightarrow	\leftrightarrow	
Greenliant	Memory Cards	10-14	\leftrightarrow	\leftrightarrow	
	Solid State Drives (SSD)	12-14	\leftrightarrow	\leftrightarrow	
	PC (Commodity) DRAM	8-10	\leftrightarrow	\leftrightarrow	
	Mobile DRAM	8-10	\leftrightarrow	\leftrightarrow	
Kingston	Memory Modules	8-10	\leftrightarrow	\leftrightarrow	
Killgstoll	еММС	6-8	\leftrightarrow	SMA	
	Memory Cards	4-6	Ľ	SMA	
	Solid State Drives (SSD)	6-8	\leftrightarrow	\leftrightarrow	
	NOR Flash	14-18	\leftrightarrow	\leftrightarrow	
Macronix	SLC NAND Flash	10-12	\leftrightarrow	\leftrightarrow	
	еММС	8-10	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
	NOR Flash	10-18	\leftrightarrow	\leftrightarrow	
Microchip	EEPROM	10-22	7	\leftrightarrow	
	EPROM	8-14	\leftrightarrow	\leftrightarrow	
	PC (Commodity) DRAM	12-16	\leftrightarrow	\leftrightarrow	
Micron	Memory Modules	16-18	\leftrightarrow	\leftrightarrow	
Wilcidii	еММС	14-16	\leftrightarrow	\leftrightarrow	
	Solid State Drives (SSD)	16-18	\leftrightarrow	\leftrightarrow	
ON Semiconductor	EEPROM	10-22	\leftrightarrow	\leftrightarrow	
Panasonic	Memory Cards	14-28	\leftrightarrow	\leftrightarrow	
Renesas	SRAM	20-22	\leftrightarrow	\leftrightarrow	
конм	FRAM & NVSRAM	18-20	\leftrightarrow	\leftrightarrow	
	PC (Commodity) DRAM	12-16	\leftrightarrow	\leftrightarrow	
Samsung	Memory Modules	16-18	\leftrightarrow	\leftrightarrow	
3	еММС	14-16	\leftrightarrow	\leftrightarrow	
	Solid State Drives (SSD)	16-18	\leftrightarrow	\leftrightarrow	
SkyHigh Memory	SLC NAND Flash	8-10	\leftrightarrow	\leftrightarrow	
,	еММС	8-10	\leftrightarrow	\leftrightarrow	
STMicroelectronics	EEPROM	16-28	7	\leftrightarrow	



Passives

MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
API Delevan	Inductors	22-50	\leftrightarrow	\leftrightarrow	
	Capacitors- Supercapacitors	16-18	\leftrightarrow	\leftrightarrow	
	Capacitors- Tantalum Molded	32-34	Ľ	\leftrightarrow	
	Capacitors- Tantalum Conformals	54+	\leftrightarrow	\leftrightarrow	
	Capacitors- Polymer Tantalum	16-18	\leftrightarrow	\leftrightarrow	
AVX	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	14-16	\leftrightarrow	\leftrightarrow	
	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	16-18	\leftrightarrow	\leftrightarrow	
	Leaded Capacitors- Ceramic	22-30	\leftrightarrow	\leftrightarrow	
	Specialty Capacitors	24-32	\leftrightarrow	\leftrightarrow	
	Filters- Common Mode Choke	5-7	7	\leftrightarrow	
	High Frequency Transformer	8-9	7	\leftrightarrow	
Coilmaster Electronics	Inductors	6-8	7	\leftrightarrow	
	LAN Magnetics Transformer	7-9	7	\leftrightarrow	
стѕ	Resistor Networks	12-16	\leftrightarrow	\leftrightarrow	
	Capacitors- Supercapacitors	12-16	\leftrightarrow	\leftrightarrow	
Eaton	Inductors	16-18	\leftrightarrow	\leftrightarrow	
ELNA	Capacitors- Supercapacitors	22-32	Ľ	\leftrightarrow	
Faratronic	Capacitors- Film	14-16	\leftrightarrow	\leftrightarrow	
HALO Electronics	Inductors	16-20	\leftrightarrow	\leftrightarrow	
	Filters	14-20	\leftrightarrow	\leftrightarrow	
	Inductors	14-24	7	7	
	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	12-14	\leftrightarrow	\leftrightarrow	
Murata	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	16-18	\leftrightarrow	\leftrightarrow	
	Leaded Capacitors- Ceramic	20-22	\leftrightarrow	\leftrightarrow	
	Specialty Capacitors	14-16	\leftrightarrow	\leftrightarrow	
	Electrolytic	20-22	7	\leftrightarrow	
	Filters	10-14	\leftrightarrow	7	
	Inductors	16-20	\leftrightarrow	\leftrightarrow	
AUG 6	Fixed Resistors	16-18	\leftrightarrow	\leftrightarrow	
NIC Components	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	18-20	Ľ	\leftrightarrow	
	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	18-20	Ľ	\leftrightarrow	
	Leaded Capacitors- Ceramic	28-30	7	7	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
Nichicon	Electrolytic	22-26	71	\leftrightarrow	
Nippon Chemi-Con	Electrolytic	18-26	\leftrightarrow	\leftrightarrow	
	Electrolytic	20-26	7	\leftrightarrow	
	Capacitors- Polymer Tantalum	16-18	7	\leftrightarrow	
Panasonic	Inductors	22-24	\leftrightarrow	\leftrightarrow	
	Fixed Resistors	12-14	\leftrightarrow	\leftrightarrow	
	Resistor Networks	20-22	\leftrightarrow	7	
Pancon Corp Paktron	Capactors- Film	12-14	\leftrightarrow	71	
Royal Ohm	Resistor Networks	12-14	\leftrightarrow	\leftrightarrow	
Samwha Electric	Electrolytic	14-16	\leftrightarrow	\leftrightarrow	
	Fixed Resistors	42-44	7	71	
Samsung Electro-Mechanics	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	18-20	71	7	
	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	18-20	7	7	
Stackploe Electronics	Fixed Resistors	20-22	7	\leftrightarrow	
Sumida	Inductors	18-26	\leftrightarrow	\leftrightarrow	
	Filters	28-42	7	7	
	Inductors	14-24	\leftrightarrow	71	
TDK	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	22-26	\leftrightarrow	\leftrightarrow	
	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	22-24	\leftrightarrow	\leftrightarrow	
TOK EDCOS	Capacitors- Film	24-26	7	\leftrightarrow	
TDK EPCOS	Filters	16-28	\leftrightarrow	\leftrightarrow	



MANUFACTURER	PRODUCT	LEAD TIME (WKS)	TREND	PRICING	COMMENTS
TT Electronics- BI Technologies	Trimmers & Pots	10-22	\leftrightarrow	\leftrightarrow	
TT Electronics- IRC	Fixed Resistors	22-32	71	\leftrightarrow	
United Chemi-Con	Electrolytic	20-22	71	\leftrightarrow	
No.	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	20-22	\leftrightarrow	7	
Viking	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	22-24	\leftrightarrow	7	
	Trimmers & Pots	12-16	\leftrightarrow	\leftrightarrow	
	Capacitors- Film	14-18	\leftrightarrow	\leftrightarrow	
	Capacitors- Supercapacitors	16-18	\leftrightarrow	\leftrightarrow	
	Capacitors- Tantalum Molded	24-26	\leftrightarrow	\leftrightarrow	
	Capacitors- Tantalum Conformals	16-18	\leftrightarrow	\leftrightarrow	
Vishay	Capacitors- Polymer Tantalum	22-24	\leftrightarrow	\leftrightarrow	
	Inductors	14-22	Ľ	\leftrightarrow	
	Fixed Resistors	22-24	\leftrightarrow	\leftrightarrow	
	Surface Mount General Capacitors- Ceramic (Less than 1 $$ uf)	20-22	\leftrightarrow	\leftrightarrow	
	Leaded Capacitors- Ceramic	14-18	\leftrightarrow	\leftrightarrow	
	Specialty Capacitors	12-14	\leftrightarrow	\leftrightarrow	
Walin Taskualam Cam	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	20-22	\leftrightarrow	\leftrightarrow	
Walsin Technology Corp.	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	20-22	\leftrightarrow	\leftrightarrow	
WIMA	Capacitors- Film	14-16	\leftrightarrow	\leftrightarrow	
Wurth Elektronik	Inductors	18-24	\leftrightarrow	7	
	Fixed Resistors	20-22	Ľ	\leftrightarrow	
	Resistor Networks	20-22	Ľ	\leftrightarrow	
Yageo	Surface Mount General Capacitors- Ceramic (Less than 1 uf)	20-22	Ľ	\leftrightarrow	
	Surface Mount General Capacitors- Ceramic (Greater than 1 uf)	20-22	Ľ	\leftrightarrow	

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