

# SILICON LABS Clock Generators, Clocks and RF ICs



Products may be RoHS compliant. Check mouser.com for RoHS status.

## CLOCK GENERATORS

### Features:

- Generates any frequency on any output 8kHz to 133MHz
- Exact clock synthesis: 0ppm error
- Similar frequency flexibility as 8 independent PLLs
- Glitchless switching between output frequencies
- Accepts crystal, clock or analog control voltage input
- <100ps period jitter for any configuration
- Integrated VCXO eliminates need for pullable crystal
- Excellent PSRR: no discrete filter components required
- User-definable control pins: Frequency select, output enable, spread spectrum enable, powerdown
- Spread spectrum clock generation
- 0.5% to -2.5% down, ±0.1% to ±1.5% center



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Package	Clock		Input Frequency	Output Frequency	RMS Phase Jitter	Price Each		
			Inputs	Outputs				1	25	100
634-SI5351A-A-GM	SI5351A-A-GM	QFN-20	1	8	25/27MHz	8KHz-125MHz	3.5ps rms	5.17	4.52	3.87
634-SI5351A-A-GU	SI5351A-A-GU	QSOP-24	1	8	25/27MHz	8KHz-125MHz	3.5ps rms	5.17	4.52	3.87
634-SI5351A-A-GT	SI5351A-A-GT	MSOP-10	1	3	25/27MHz	8KHz-125MHz	3.5ps rms	1.53	1.34	1.24

## Development Tools

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	Price Each
634-SI535X24QSOP-EVB	SI535x-24QSOP-EVB	Development Tool for SI5350/51 using QSOP-24 package	157.00
634-SI535X-20QFN-EVB	SI535x-20QFN-EVB	Development Tool for SI5350/51 using QFN-20 package	157.00
634-SI5XX-PROG-EVB	SI5xx-PROG-EVB	Evaluation kit contains the hardware and software needed for evaluation of the Any-Frequency I2C Programmable XO/VCXO	125.00

## PCI EXPRESS® CLOCK GENERATORS (PCIe)



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Package	Clock		Input Frequency	Output Frequency	RMS Phase Jitter	Price Each		
			Inputs	Outputs				1	25	100
634-SI52142A01A-GM	SI52142A01A-GM	QFN-24	1	2	25MHz	100MHz, 25MHz	1ps rms	1.77	1.56	1.54
634-SI52143-A01AGM	SI52143-A01AGM	QFN-24	1	5	200MHz	100MHz, 25MHz	1ps rms	3.44	2.97	2.64
634-SI52144A01A-GM	SI52144A01A-GM	QFN-24	1	4	25MHz	25MHz	1ps rms	3.15	2.92	2.70
634-SI52146A01A-GM	SI52146A01A-GM	QFN-32	1	6	25MHz	25MHz	1ps rms	5.50	5.10	3.77
634-SI52147A01A-GM	SI52147A01A-GM	QFN-48	1	9	25MHz	25MHz	1ps rms	8.00	6.12	4.50
634-SI53152A01A-GM	SI53152A01A-GM	QFN-24	1	3	25MHz	25MHz	1ps rms	3.10	2.39	1.69
634-SI53154A01A-GM	SI53154A01A-GM	QFN-24	1	4	25MHz	25MHz	1ps rms	11.00	6.21	5.75
634-SI53156A01A-GM	SI53156A01A-GM	QFN-32	1	6	25MHz	25MHz	1ps rms	3.28	3.04	2.82
634-SI53159A01A-GM	SI53159A01A-GM	QFN-48	1	9	25MHz	25MHz	1ps rms	5.50	5.10	3.77

## PCI Express® Development Tools

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	Price Each
634-SI53159-EVB	SI53159-EVB	Evaluation Board for SI52159 using QFN-48	175.00
634-SI53154-EVB	SI53154-EVB	Evaluation Board for SI52154 using QFN-24	125.00
634-SI52147-EVB	SI52147-EVB	Evaluation Board for SI52147 using QFN-48	175.00
634-SI52144-EVB	SI52144-EVB	Evaluation Board for SI52144 using QFN-24	125.00

## JITTER ATTENUATING CLOCKS

Silicon Labs' programmable any frequency precision clocks provide clock multiplication, jitter attenuation and clock distribution in high-performance timing applications requiring sub 1ps jitter performance. The devices accept multiple clock inputs ranging from 2kHz to 710MHz and generate multiple independent, synchronous clock outputs ranging from 2kHz to 945MHz and select frequencies to 1.4GHz.

### Features:

- Ultra-low jitter clock outputs with jitter generation as low as 290fs rms
- Integrated loop filter with selectable loop bandwidth
- Hitless switching between input clocks
- User-selectable output clock signal format (LVPECL, LVDS, CML, CMOS)
- On-chip voltage regulator for 1.8V, 2.5V or 3.3V ±10% operation
- In-system, flash-based programmable with small form factor MCU

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Package	Output Clock Frequency Range (MHz)	Control	Clock Inputs/Outputs	Input Freq. (MHz)	Output Freq. (MHz)	Jitter (12kHz-20MHz)	Price Each			
									1	25	100	1000
634-SI5317A-C-GM	SI5317A-C-GM	QFN-36	1-710	Pin	1/2	1 to 710	1 to 710	300fs ms (typ)	16.05	15.00	12.63	12.20
634-SI5317B-C-GM	SI5317B-C-GM	QFN-36	1-350	Pin	1/2	1 to 710	1 to 710	300fs ms (typ)	13.42	12.54	11.01	10.20
634-SI5317C-C-GM	SI5317C-C-GM	QFN-36	1-200	Pin	1/2	1 to 710	1 to 710	300fs ms (typ)	11.22	10.49	9.66	8.53
634-SI5317D-C-GM	SI5317D-C-GM	QFN-36	1-100	Pin	1/2	1 to 710	1 to 710	300fs ms (typ)	9.47	8.85	8.58	7.20

## Evaluation Kits

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	Price Each
634-SI5317-EVB	SI5317-EVB	Evaluation Board for SI5317 Series Jitter Attenuating Clocks	125.00

## 4-PLL PRECISION CLOCK MULTIPLIER/JITTER ATTENUATORS

The SI5374 is a highly-integrated, 4-PLL, jitter-attenuating precision clock multiplier for applications requiring sub 1ps jitter performance. Each of the DSPLL® clock multiplier engines accepts two input clocks ranging from 2kHz to 710MHz and generates two independent, synchronous output clocks ranging from 2kHz to 808MHz.

### Features:

- Ultra low jitter generation: 0.4ps rms phase jitter
- Any-frequency synthesis
- Meets G.8251/OC-192/GR-253-CORE jitter specifications
- Digitally programmable loop bandwidth provides application-specific noise filtering (4Hz to 8kHz)
- Hitless switching with integrated phase buildout
- Manual or automatic (revertive, non-revertive) input clock selection
- Synchronous and/or free-run operation
- On-chip voltage regulator with high PSRR



For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Package	Reference Inputs	Clock Outputs	Control	V <sub>DD</sub> (V)	Freq. (Max.) (MHz)		Output Format	Price Each			
							Inputs	Outputs		1	25	100	1000
634-SI5375B-A-GL	SI5375B-A-GL	BGA-80	4	4	I2C	1.8, 2.5	710	808	CMOS, LVDS, LVPECL, CML	70.17	65.57	54.00	53.33
634-SI5374B-A-GL	SI5374B-A-GL	BGA-80	8	8	I2C	1.8, 2.5	710	808	CMOS, LVDS, LVPECL, CML	91.22	85.24	70.20	69.33

## Evaluation Kits

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	Price Each
634-SI5374-EVB	SI5374-EVB	Evaluation Board for SI5374B Any Frequency Precision Clock Multiplier/Jitter Attenuators	375.00
634-SI5375-EVB	SI5375-EVB	Evaluation Board for SI5375B Any Frequency Precision Clock Multiplier/Jitter Attenuators	375.00

## RF SYNTHESIZERS

Silicon Laboratories' wireless solutions are the world's most integrated, robust, reliable and easiest to use wireless solutions available in the GSM/GPRS market today. By eliminating more discrete and requiring fewer external components than alternate solutions, Silicon Laboratories' products empower our customers to add value-rich features and speed time to market. Best of all, Silicon Laboratories' develops and designs these world-class products in proven, standard CMOS process technology. Generate high-frequency signals used in wireless communication devices.

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Package	Description	RF1 (MHz)	RF2 (MHz)	IF (MHz)	Setting Time (µs)	Input RF (MHz)	Price Each		
									1	25	100
634-SI4112-D-GM	SI4112-D-GM	MLP-28	General Purpose	n/a	n/a	62.5 to 1000	200	2 to 26	6.68	6.48	6.36
634-SI4112-D-GT	SI4112-D-GT	TSSOP-24	General Purpose	n/a	n/a	62.5 to 1000	200	2 to 26	6.68	6.48	6.36
634-SI4113-D-GM	SI4113-D-GM	MLP-28	General Purpose	900 to 2050	750 to 1500MHz	n/a	200	2 to 26	9.90	9.61	9.42
634-SI4113-D-GT	SI4113-D-GT	TSSOP-24	General Purpose	900 to 2050	750 to 1500MHz	n/a	200	2 to 26	9.90	9.61	9.42
634-SI4122-D-GT	SI4122-D-GT	MLP-28	General Purpose	n/a	750 to 1500MHz	62.5 to 1000	200	2 to 26	9.90	9.61	9.42
634-SI4123-D-GT	SI4123-D-GT	TSSOP-24	General Purpose	900 to 2050	n/a	62.5 to 1000	200	2 to 26	9.90	9.61	9.42
634-SI4123-D-GM	SI4123-D-GM	MLP-28	GSM/GPRS	900 to 1800	n/a	500 to 1000	140	2 to 26	9.90	9.61	9.42
634-SI4133-D-GM	SI4133-D-GM	MLP-28	General Purpose	900 to 2050	750 to 1500MHz	62.5 to 1000	200	2 to 26	12.35	11.99	11.76
634-SI4133-D-GT	SI4133-D-GT	TSSOP-24	General Purpose	900 to 2050	750 to 1500MHz	62.5 to 1000	200	2 to 26	12.35	11.99	11.76
634-SI4136-F-GM	SI4136-F-GM	MLP-28	802.11b,g and ISM Band	2300 to 2500	2025 to 2300MHz	62.5 to 1000	80	2 to 40	12.35	11.99	11.76
634-SI4136-F-GT	SI4136-F-GT	TSSOP-24	802.11b and ISM Band	2300 to 2500	2025 to 2300MHz	62.5 to 1000	80	2 to 50	12.35	11.99	11.76

## Evaluation Boards

For quantities greater than listed, call for quote.

MOUSER STOCK NO.	Silicon Labs Part No.	Description	RF1 (MHz)	RF2 (MHz)	IF (MHz)	Setting Time (µs)	Input RF (MHz)	Price Each
634-SI4126M-EVB	SI4126M-EVB	802.11b and ISM Band	n/a	2025 to 2300	62.5 to 1000	80	2 to 50	225.00
634-SI4133M-EVB	SI4133M-EVB	General Purpose	900 to 2050	750 to 1500	62.5 to 1000	200	2 to 26	225.00