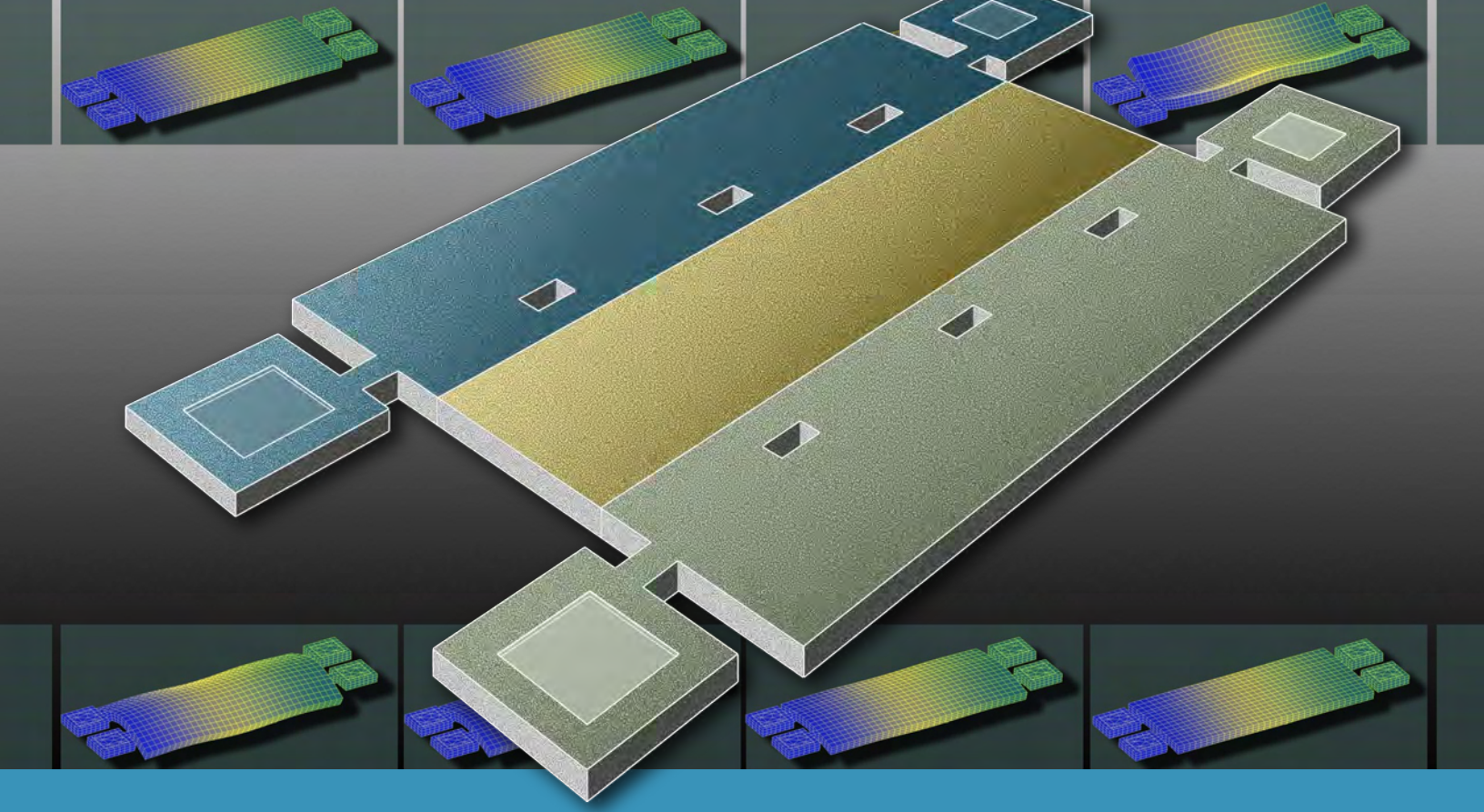

Low Power High Performance Discera MEMS Oscillators

Discera MEMS Oscillators Deliver

- **High Frequency Stability** (Up to 10 ppm across temp)
- **Low Random Jitter** (As low as 0.5 psec RMS)
- **Highest Reliability** (1 FITS vs. 20 FITS for Quartz)
- **Wide Operating Range** (Up to 125 °C and 50,000 G)
- **Shorter Lead time** (95% in less than 2 weeks)
- **Smaller Size** (2520 and Dual Output)
- **Lower Cost** (CMOS Manufacturing)

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Low-Power DSC1001 / 10XX Series

The DSC1001 & DSC10XX CMOS oscillators enable mobile, video, wireless, and consumer equipment manufacturers to deliver small, low-power products without sacrificing performance by delivering high stability over wide temperature range of -40 to 85 °C. Offered in industry standard sizes with short lead-times, these low-power oscillators are ideal drop-in replacements for 4-pin CMOS quartz oscillators in cost-sensitive applications.

DSC1001/10XX: Low Power Family

The DSC1001 offers low cycle-to-cycle jitter with wide supply range of 1.8 to 3.3 V while consuming 5 mA of current at 40 MHz. DSC10XX offer 5 distinct supply ranges with low supply current of 3 mA at 40 MHz. Both oscillator families can be factory programmed to any output frequency ranging from 1 to 150 MHz in 100 Hz resolution. Customer programmable DSC80XX versions are available for immediate test & verification.

Part	Freq Range (MHz)	Stability (ppm)	Cycle-to-Cycle Jitter (psec)	VDD (V)	IDD (mA)	Package
DSC1001	1 – 150	±10, 25, 50	50	1.7 – 3.6	5	2.5 x 2.0 3.2 x 2.5 5.0 x 3.2 5.0 x 7.0
DSC1018		±25, 50	100	1.65 – 1.95	3	
DSC1025				2.3 – 2.7		
DSC1028				2.6 – 3.0		
DSC1030				2.7 – 3.3		
DSC1033				3.0 – 3.6		

Low-Jitter DSC11XX / 20XX Series

The DSC11XX & DSC20XX family of high performance oscillators utilizes proven silicon MEMS technology to provide sub pico-second RMS jitter with high stability over a wide temperature range. Discera's MEMs oscillators significantly enhance reliability and accelerate product development, while meeting stringent clock performance criteria for a variety of communications, storage, and networking applications.

DSC11XX: Low-Jitter Precision Family

DSC11XX is a family of single-output fixed-frequency high performance oscillators offered in industry standard sizes of 3.2x2.5, 5x3.2, and 7x5 mm. Operating from a supply of 2.5 to 3.3 V, DSC11XX is a "drop-in" replacement for 4-pin and 6-pin quartz oscillators. Customer programmable DSC81XX version are also available for immediate test and verification.

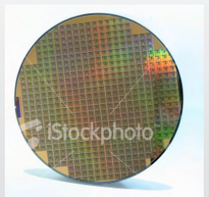
Part	Output Format	Freq Range (MHz)	Stability (ppm)	IDD (mA)	Phase Jitter (ps RMS) 200kHz-20MHz		
					25 < Fout < 75 MHz	75 < Fout < 125 MHz	125 < Fout < max MHz
DSC11X1	CMOS	10 – 170	±15, 25, 50	31	< 0.8	< 0.5	< 0.5
DSC11X2	LVPECL	10 – 425		51	< 0.8	< 0.5	< 0.4
DSC11X3	LVDS	10 – 425		29	< 1.5	< 1	< 0.5
DSC11X4	HCSL	10 – 425		40	< 0.8	< 0.5	< 0.4

DSC20XX: Low-Jitter Configurable Family

DSC20XX devices offers the same high performance of the DSC11XX family with unique pin-selectable functionality such as CMOS drive levels and user-defined output frequencies. DSC20XX is offered in 14-pin 3.2x2.5 plastic package with single and dual output variations.

Part No.	Output Formats	Freq Range (MHz)	IDD (mA)	Pin-Selectable User-Defined Device Configurations
DSC2010	1 x CMOS	10 – 170	31	2-bit freq, 3-bit CMOS output drive
DSC2011	2 x CMOS	10 – 170	42	3-bit freq combination
DSC2020	1 x LVPECL	10 – 425	51	2-bit freq control
DSC2021	1 x LVPECL 1 x CMOS	10 – 425 10 – 170	61	3-bit freq combination 3-bit CMOS output drive
DSC2022	2 x LVPECL	10 – 425	82	3-bit freq combination
DSC2033	2 x LVDS	10 – 425	38	3-bit freq combination
DSC2044	2 x HCSL	10 – 425	60	3-bit freq combination

Discera MEMS Advantage over Quartz

Discera MEMS	Quartz
	
Semiconductor Manufacturing	Individually Grown

Higher Operational Reliability

- Reliable at up to 50,000 G Mechanical Shock and 70G of Vibration
- MEMS resonators can operate from -40 to 125 °C

Higher Yield and Supply Reliability

- Crystals must be individually grown and milled to exact dimensions, then encapsulated in high vacuums
- MEMS benefit from high volume CMOS manufacturing and reliability

Shorter Lead-Times: Less than 3 weeks

Smaller Footprint

- Small MEMS resonators can fit in small 2520 size
- Multiple oscillators can be integrated in one device

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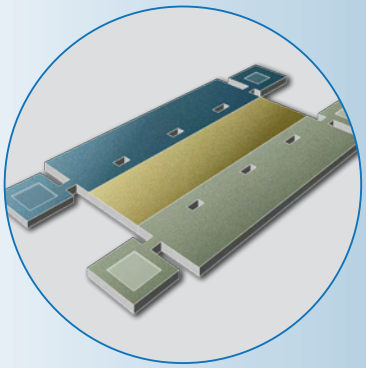
TIMEFLASH Frequency Programming Kit

Reduce the time and risk of new product development with a low cost Time Flash Programming Kit.

This simple Windows-based USB kit allows you to custom program and verify any DSC8XXX programmable oscillator for any frequency with up to four decimal point resolution. CMOS, LVPECL, LVDS, and HCSL options are supported in all standard sizes, ppm and temperature ranges with the same performance as fixed frequency parts.

Long oscillator lead times are gone forever when you have programmable parts available. Blank programmable oscillators and socket adapter boards are available separately.



Discera Core Resonator Technology

Discera manufactures the world's smallest, most reliable production MEMS resonators and have been advancing the state-of-the-art since 2001. Our products cover the most important timing markets, from low cost, low power consumer electronics solutions to high precision femtosecond products for carrier-grade high speed communications.

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Founded in Silicon Valley to commercialize pioneering work at the University of California at Berkeley and the University of Michigan at Ann Arbor, Discera is the acknowledged leader in CMOS-based MEMS timing technology. The company has 28 patents in MEMS core and implementation technologies, and was presented with the prestigious Wall Street Journal Innovation Award. Discera's products serve as the heartbeat to a wide variety of computing, consumer electronics, industrial, and military applications.

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