

## MEMS ASTM SERIES IDEAL FOR MCUs & FPGAs

Low Power (LP), High Temperature (HT), and Ultra Performance (UP)

Low Power (<5mA) for system clocks  
LVCMOS  
Applications: FPGA, MCU, CPLD,  
CPU, system clock, memory, IoT,  
Industrial IoT, lighting



Lower power (LP) and high temperature (HT) MEMS offerings

LP SERIES	HT SERIES	PACKAGE SIZE (mm)
ASTMLPA	ASTMHTA	2.0 x 1.6 x 0.75
ASTMLPD	ASTMHTD	2.5 x 2.0 x 0.75
ASTMLPE	ASTMHTE	3.2 x 2.5 x 0.75
ASTMLPFL	ASTMHTFL	5.0 x 3.2 x 0.75
ASTMLPV	ASTMHTV	7.0 x 5.0 x 0.90



High Temperature  
-40 to +105°C  
-40 to +125°C  
-55 to +125°C

Ultra Performance  
(0.6ps typ rms)

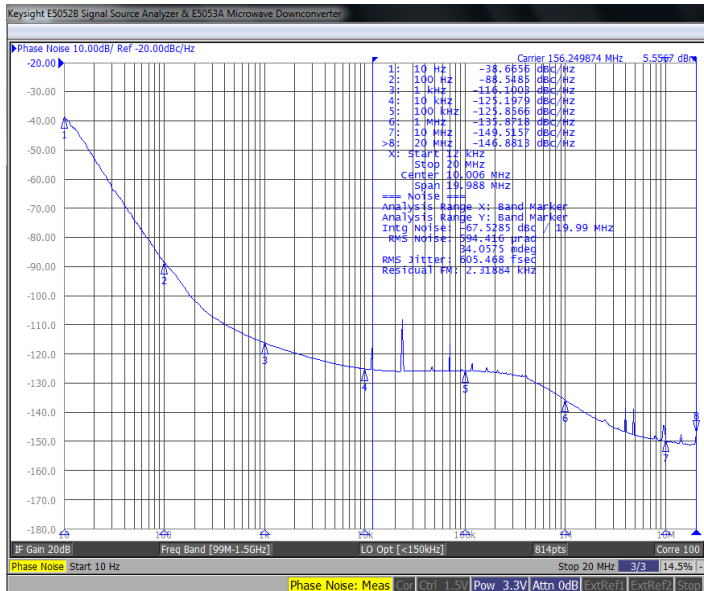
LVDS/LVPECL up to 625MHz  
LVCMOS up to 220MHz  
Applications: high speed SERDES,  
FPGA, PCI Express, HPC, industrial  
computers, high reliability, cloud  
computing, communications and  
networking



Ultra performance (UP) LVCMOS and ultra performance differential series.

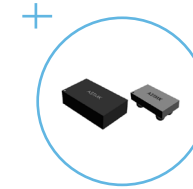
FOOTPRINT (mm)	SERIES	OUTPUT LOGIC TYPE
2.5 x 2.0 x 0.75	ASTMUPCD	LVCMOS
	ASTMUPCE	LVCMOS
3.2 x 2.5 x 0.75	ASTMUPLDE	LVDS
	ASTMUPLPE	LVPECL
	ASTMUPCFL	LVCMOS
5.0 x 3.2 x 0.75	ASTMUPLDFL	LVDS
	ASTMUPLPFL	LVPECL
7.0 x 5.0 x 0.90	ASTMLUPCV	LVCMOS
	ASTMUPLDV	LVDS
	ASTMUPLPV	LVPECL

## ASTMUP TYPICAL PHASE NOISE PLOT 0.6ps rms PHASE JITTER

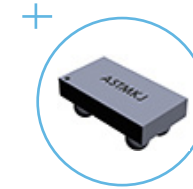


## watch-MEMS™

32.768kHz OSCILLATORS



**ASTMK - SMALLEST SIZE**  
Package size: 2.0 x 1.2mm or 1.54 x 0.84mm  
Height: 0.6mm  
Frequency range: 1.0Hz to 32.768kHz  
Temperature range: -40°C to +85°C



**ASTMKJ - SMALLEST SIZE**  
Package size: 1.54 x 0.84 mm  
Height: 0.6mm  
Frequency: 32.768kHz  
Temperature range: -40°C to +85°C



**ASTMTXK - SMALLEST & ±5PPM STABILITY**  
Package size: 1.54 x 0.84 mm  
Height: 0.6mm  
Frequency: 32.768kHz  
Temperature range: -40°C to +85°C

## MEMS ASDM/ASEM/ASFL/ASVM SERIES

MEMS oscillators with wide range of operating temperature and stability options including ±10, ±20 and ±25ppm.

SERIES	Package Size (mm)	HEIGHT (mm)	FREQUENCY RANGE (MHz)	VDD OPTIONS (V)	OUTPUT LOGIC TYPE	WIDEST AVAILABLE OPERATING TEMPERATURE RANGE
ASDMB	2.5 x 2.0	0.85	1.0 to 150	1.8~3.3	LVCMOS	-40°C to +105°C
ASDMDC	2.5 x 2.0	0.85	2.3 to 170	2.25~3.6	LVCMOS	-55°C to +125°C
ASDMP	2.5 x 2.0	0.85	10 to 460	2.25~3.6	LVCMOS, LVDS, LVPECL, HCSL	-55°C to +125°C
ASEMB	3.2 x 2.5	0.85	1.0 to 150	1.8~3.3	LVCMOS	-40°C to +105°C
ASEMCC	3.2 x 2.5	0.85	10 to 170	2.25~3.6	LVCMOS	-55°C to +125°C
ASEMP	3.2 x 2.5	0.85	10 to 460	2.25~3.6	LVCMOS, LVDS, LVPECL, HCSL	-55°C to +125°C
ASFLMB	5.0 x 3.2	0.85	1.0 to 150	1.8~3.3	LVCMOS	-40°C to +105°C
ASVMB	7.0 x 5.0	0.85	1.0 to 150	1.8~3.3	LVCMOS	-40°C to +105°C
ASVMP	7.0 x 5.0	0.85	10 to 460	2.25~3.6	LVCMOS, LVDS, LVPECL, HCSL	-55°C to +125°C