

MEMS ASTM SERIES IDEAL FOR MCUs & FPGAs

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

Low Power (<5mA) for system clocks

LVC MOS

Applications: FPGA, MCU, CPLD, CPU, system clock, memory, IoT, Industrial IoT, lighting



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

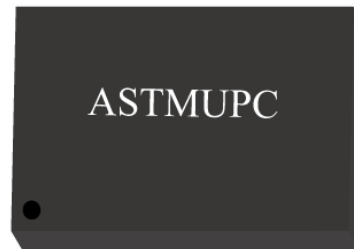
LP Series	HT Series	Package Size (mm)
ASTMLP A	ASTMHT A	2.0 x 1.6 x 0.75
ASTMLP D	ASTMHT D	2.5 x 2.0 x 0.75
ASTMLP E	ASTMHT E	3.2 x 2.5 x 0.75
ASTMLP FL	ASTMHT FL	5.0 x 3.2 x 0.75
ASTMLP V	ASTMHT V	7.0 x 5.0 x 0.90

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
LVC MOS up to 220MHz
Applications: high speed SERDES, FPGA, PCI Express, HPC, industrial computers, high reliability, cloud computing, communications and networking

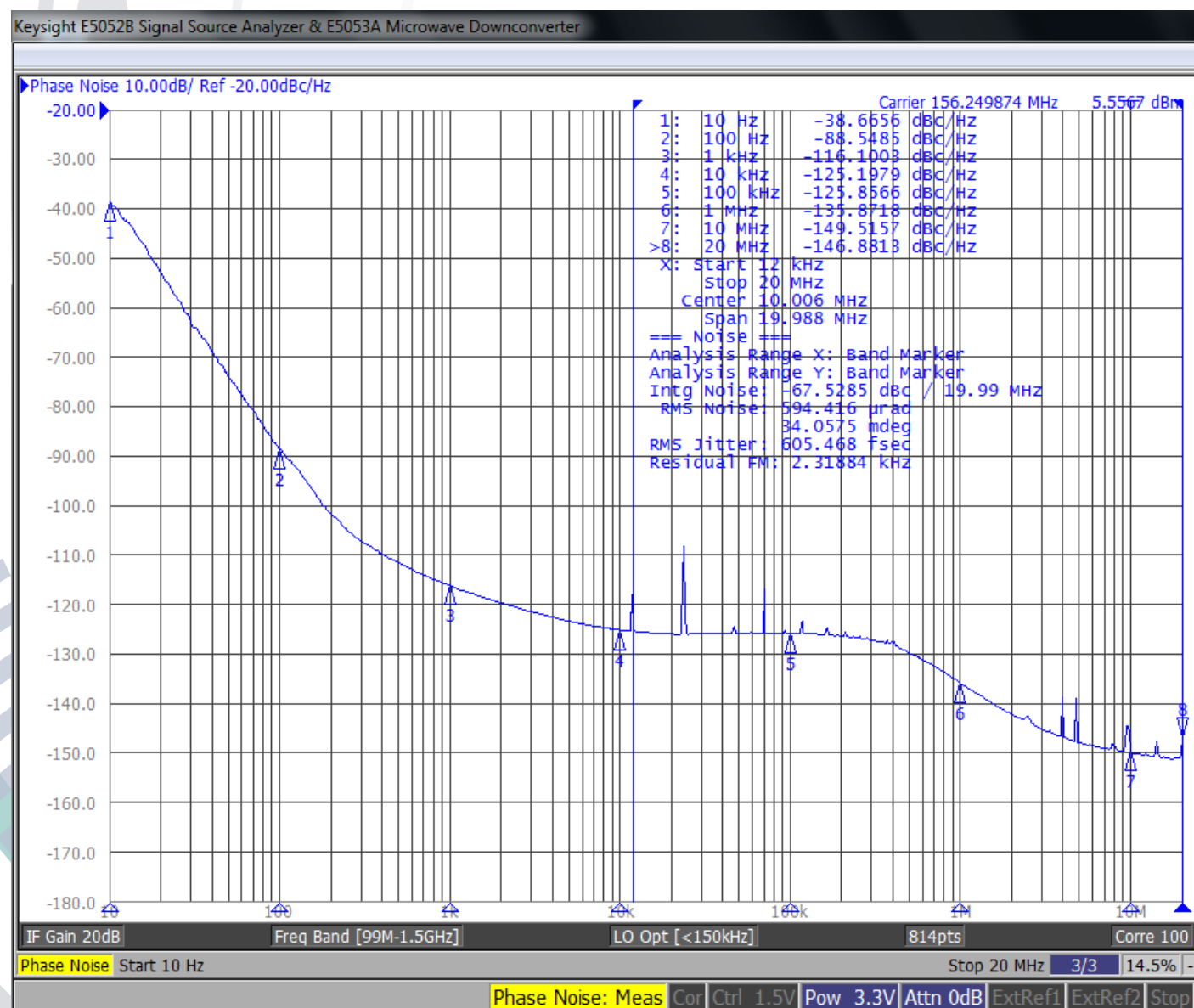


Ultra performance (UP) LVC MOS and ultra performance differential series.

Footprint (mm)	Series	Output Logic Type
2.5 x 2.0 x 0.75	ASTMUPC D	LVC MOS
	ASTMUPC E	LVC MOS
3.2 x 2.5 x 0.75	ASTMUPL D E	LVDS
	ASTMUPL P E	LVPECL
5.0 x 3.2 x 0.75	ASTMUPC FL	LVC MOS
	ASTMUPL D FL	LVDS
	ASTMUPL P FL	LVPECL
7.0 x 5.0 x 0.90	ASTMLUPC V	LVC MOS
	ASTMUPL D V	LVDS
	ASTMUPL P V	LVPECL

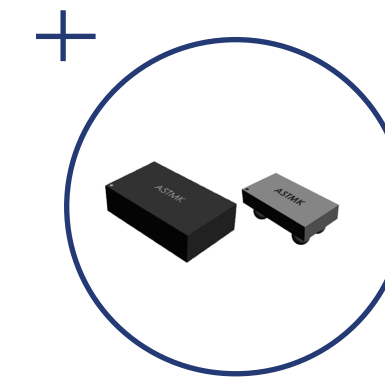
ASTMUP TYPICAL PHASE NOISE PLOT

0.6ps rms PHASE JITTER



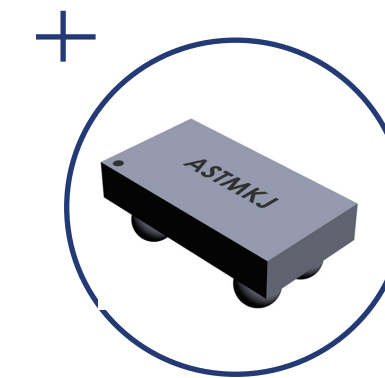
watch-MEMS®

32.768kHz OSCILLATORS



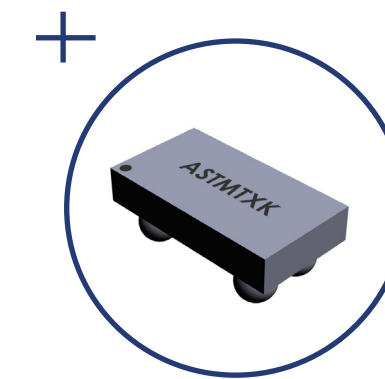
ASTMK - SMALLEST SIZE

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
ASDM B	2.5 x 2.0	0.85	1.0 to 150	1.8~3.3	LVC MOS	-40°C to +105°C
ASDM D	2.5 x 2.0	0.85	2.3 to 170	2.25~3.6	LVC MOS	-55°C to +125°C
ASDM P	2.5 x 2.0	0.85	10 to 460	2.25~3.6	LVC MOS, LVDS, LVPECL, HC SL	-55°C to +125°C
ASEM B	3.2 x 2.5	0.85	1.0 to 150	1.8~3.3	LVC MOS	-40°C to +105°C
ASEM CC	3.2 x 2.5	0.85	10 to 170	2.25~3.6	LVC MOS	-55°C to +125°C
ASEM P	3.2 x 2.5	0.85	10 to 460	2.25~3.6	LVC MOS, LVDS, LVPECL, HC SL	-55°C to +125°C
ASFL M	5.0 x 3.2	0.85	1.0 to 150	1.8~3.3	LVC MOS	-40°C to +105°C
ASVM B	7.0 x 5.0	0.85	1.0 to 150	1.8~3.3	LVC MOS	-40°C to +105°C
ASVM P	7.0 x 5.0	0.85	10 to 460	2.25~3.6	LVC MOS, LVDS, LVPECL, HC SL	-55°C to +125°C