

INDUSTRY LEADING REAL TIME CLOCK AND 32KHZ SOLUTIONS

THE HEARTBEAT OF THE IoT™

Almost all devices require time keeping in the form of a real time clock (RTC). Abracon supplies all forms of solutions including the smallest 32.768kHz oscillator (watch-MEMS®), the lowest power standalone RTC (ABx8x5) or highest accuracy temperature compensated watchMEMS and TCXO solutions. Additionally, ESR optimized 32kHz quartz crystals (ABS07-120/ABS06-107) enable the next generation of energy saving MCU's with more robust and reliable quartz timing solutions. To learn more see Abracon's ultimate guide to real time clocks & 32kHz solutions: www.abracon.com/support/32kHz-ultimate-solutions.pdf

ABRACON SUPPORTS APPLICATIONS REQUIRING LOW POWER, SMALL SIZE, HIGH ACCURACY.

ACCURACY

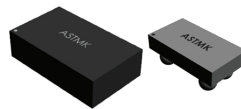
Smart meters
Industrial sensors
Test and measurement
High temperature and automotive
Health monitoring
Machine-to-Machine (M2M)



AB-RTCMC-32.768kHz-B5ZE-S3

SIZE SENSITIVE

Wearables
IoT
Wireless connectivity



ASTMK
ASTMTXK

LOW POWER

Wearables
IoT
Smart meters
RF telemetry
Industrial sensors



ABx8x5

IoT OPTIMIZED LOW ESR CRYSTALS FOR ENERGY SAVING MCUs.



ABS06-107-32.768kHz
2.0 x 1.2 x 0.6mm



ABS07-120-32.768kHz
3.2 x 1.5 x 0.9mm

LONG TERM TIME KEEPING ERROR VS. PPM STABILITY

Ever wonder what ppm stability is needed to meet long term time keeping requirements? From appliances to wearables to IoT devices to industrial applications, this table shows you where your clock accuracy needs to be.

TYPE	TIME KEEPING DRIFT		ERROR / DAY	ERROR/ MONTH	ERROR/YEAR	
	PPM	PERCENT	SECONDS	SECONDS	SECONDS	HOURS
Quartz or MEMS TCXO	5	0.0005	.43	13	160	0.04
	10	0.001	0.86	26	320	0.09
	20	0.002	1.7	53	630	0.20
Uncompensated Quartz Xtal	50	0.005	4.3	130	1600	0.40
	100	0.01	8.6	260	3200	0.9
	1000	0.1	86	2600	32000	9
Internal MCU Oscillator	10000	1	860	26000	320000	90