

Cost and Performance Advantage Case Study:

MEMS vs. Crystal MultiVolt™ Oscillators



Technology	MEMS	Advantage	MultiVolt™	Advantage
Part Number/ Description	ASEMB-50.000MHz-LC-T ⁽¹⁾ 3.2 x 2.5mm, ±50ppm, -40°C ~ +85°C, 50MHz		ECS-3225MV-500-BN-TR ⁽³⁾ 3.2 x 2.5mm, ±50ppm, -40°C ~ +85°C, 50MHz	▲
	ASDMB-24.000MHz-LC-T ⁽²⁾ 2.5 x 2.0, ±50ppm, -40°C ~ +85°C, 50MHz		ECS-2520MV-240-BN-TR ⁽⁴⁾ 2.5 x 2.0mm, ±50ppm, -40°C ~ +85°C, 50MHz	▲
Vendor	Abracon		ECS Inc. International	
Manufacturing Technology	Silicon MEMS		Crystal / ASIC	
Operating Temp. Compensation	-40°C ~ +85°C		-40°C ~ +85°C	
Technical Comps	Operating Temp. Range	Blank: 0°C ~ +70°C E: -20°C ~ +70°C L: -40°C ~ +85°C X: -40°C ~ +105°C	M: -20°C ~ +70°C N: -40°C ~ +85°C See ECS-3225MVQ for AEC-Q200 & Extended Temperature to S: -40°C ~ +125°C	▲
	Current	16mA Max.	5mA Max.	▲
	Standby Current	15uA Max.	10uA Max.	▲
	Voltage Range	+1.8V to +3.3V	+1.62V to +3.63V	▲
	Jitter	5pS to 10pS (Max) Period Jitter (1.7pS) Phase Jitter 12KHz- 20MHz	1pS (Max) Phase Jitter 12KHz-20MHz	▲
	Rt/Ft	2-3nS (Max)	7nS (Max)	▲
	Aging	±5ppm / 1 st Year	Stability Inclusive of Aging	▲
	Output Load	15/25 or 40pF	15pF	▲
	Resistance to Shock	High Shock	N/A	▲
	Supply Base	Narrow	Wide	▲
Price Comparison*	1,000 - \$1.246 ⁽¹⁾ 1,000 - \$1.246 ⁽²⁾		1,000 - \$0.510 ⁽³⁾ 1,000 - \$0.577 ⁽⁴⁾	▲

*Price comparison completed 12th Aug 2020