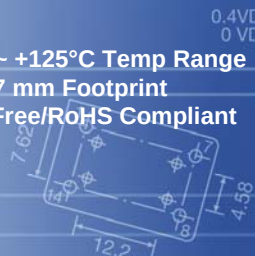


- ▶ -55 ~ +125°C Temp Range
- ▶ 5 x 7 mm Footprint
- ▶ Pb Free/RoHS Compliant



ECS-3951M/3953M-AU

SMD CLOCK OSCILLATOR

ECS-3951M-AU (5.0V) and ECS-3953M-AU (3.3V) Automotive Grade (-55 to +125°C) miniature SMD oscillators. Ideal for today's high temperature range applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PARAMETERS	CONDITIONS	ECS-3951M-AU (+5V)			ECS-3953M-AU (+3.3V)			UNITS
		MIN	TYP	MAX	MIN	TYP	MAX	
Frequency Range		1.000		106.25	1.000		200.000	MHz
Operating Temperature	Standard	-55		+125	-55		+125	°C
Storage Temperature		-55		+125	-55		+125	°C
Supply Voltage	VDD	+4.5	+5.0	+5.5	+2.97	+3.3	+3.63	VDC
Frequency Stability *	Option A			± 100			± 100	ppm
Input Current	1.000 to 34.999 MHz			25			16	mA
	35.000 to 60.000 MHz			50			25	mA
	60.001 to 99.999 MHz			60			40	mA
	100.000 to 106.250 MHz			80			50	mA
	106.251 to 200.000 MHz						50	mA
Output Symmetry	@ 50% VDD level			40/60			40/60	%
Rise and Fall Times	1.000 to 60.000 MHz			10			10	ns
	60.001 to 99.999 MHz			5			5	ns
	100.000 to 200.000 MHz			2.5			2.5	ns
"0" level	VOL			10% VDD			10% VDD	VDC
"1" level	VOH	90% VDD			90% VDD			VDC
Output Load	HCMOS			30			15	pF
Startup time				10			10	ms
Disable delay time				100			100	ns
Period Jitter	pk-pk			100			100	ps
Period Jitter	One Sigma			25			25	ps
Aging	at +25°C			± 5			± 5	ppm

* Note: Inclusive of 25°C tolerance, operating temperature, input voltage change, load change.

DIMENSIONS (mm)

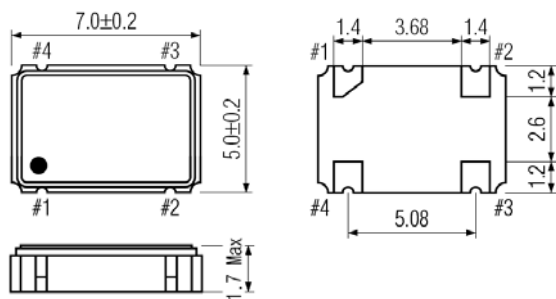


Figure 1) Top, Side and Bottom views

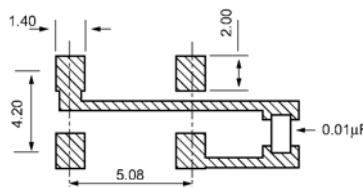


Figure 2) Suggested Land Pattern

Pin Connections

Pin #1	Tri-State
Pin #2	Ground
Pin #3	Output
Pin #4	VDD

Tri-State Control Voltage

Pad 1	Pad 3
Open	Oscillation
VIH 70% VDD Min	Oscillation
VIL 30% VDD Max	No Oscillation

Note: Internal crystal oscillation to be halted (Pin #1=VIL)

PART NUMBERING GUIDE: Example ECS-3953M-200-AU

ECS	Series	Frequency Abbreviation	Stability	Temperature
	3951M = +5.0V 3953M = +3.3V	200 = 20.000 MHz See Frequency Abbreviations	A = ± 100 ppm	U = -55 ~ +125°C

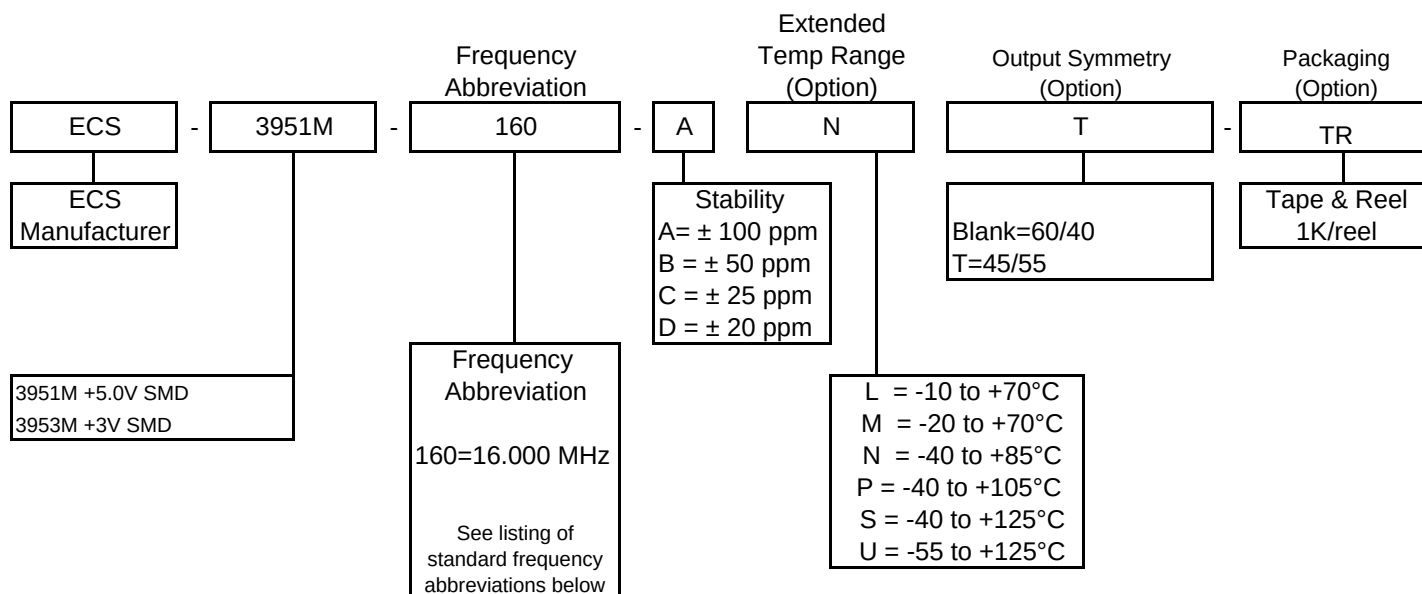


ECS-3951M/ECS-3953M

Part Numbering Guide

Sample Standard P/N: ECS-3951M-160

Sample Custom P/N: ECS-3951M-160-ANT-TR



Standard Frequency Abbreviations

Frequency	Frequency Abbreviation
1.8432 MHz	-018
3.579545 MHz	-035
3.6864 MHz	-036
4.000 MHz	-040
4.9152 MHz	-049
6.000 MHz	-060
7.3728 MHz	-073
8.000 MHz	-080
9.8304 MHz	-098.3
10.000 MHz	-100
12.000 MHz	-120
13.000 MHz	-130
14.31818 MHz	-143
14.7456 MHz	-147.4
16.000 MHz	-160
16.384 MHz	-163

Frequency	Frequency Abbreviation
19.6608 MHz	-196.6
20.000 MHz	-200
24.000 MHz	-240
25.000 MHz	-250
27.000 MHz	-270
30.000 MHz	-300
32.000 MHz	-320
33.333 MHz	-333.3
40.000 MHz	-400
50.000 MHz	-500
66.000 MHz	-660
66.666 MHz	-666
80.000 MHz	-800
100.000 MHz	-1000
106.250 MHz	-1062
125.000 MHz	-1250