Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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- -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)

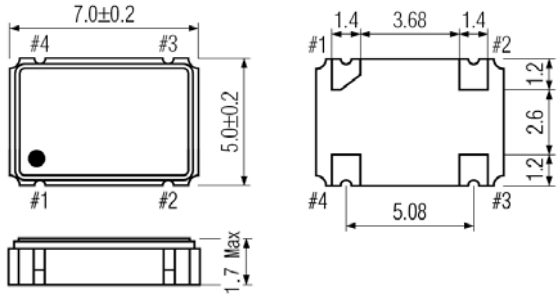

Figure 1) Top, Side and Bottom views

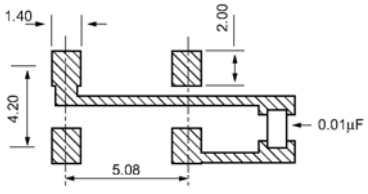

Figure 2) Suggested Land Pattern

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

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

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