

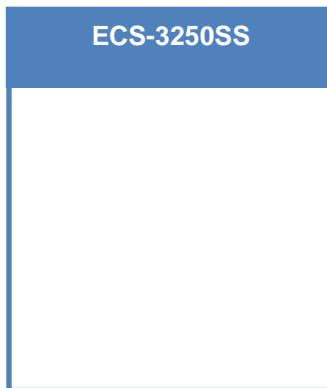
ECS-3250SS

Spread Spectrum Oscillator

ECS-3250SS Spread Spectrum EMI output SMD oscillators provide cost effective EMI reduction.

[Request a Sample](#)

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS



- Low EMI Output
- 5 x 3.2mm Footprint
- Wide Frequency Range
- PbFree/RoHS Compliant

Parameters	Conditions	ECS-3250SS (+3.3V)			Units
		MIN	TYP	MAX	
Frequency Range		10.000		168.000	MHz
Operating Temperature		-10		+70	°C
Storage Temperature		-40		+85	°C
Supply Voltage	VDD	+3.135	+3.3	+3.465	VDC
Frequency Stability	Referred to frequency avg			±50	PPM
Spread Spectrum Range Center Spread	Option A			±0.5	%
	Option B			±1	%
	Option C			±2	%
Input Current	10.000 ~ 28.000 MHz			13	mA
	28.100 ~ 168.000 MHz			15	mA
Output Symmetry	@50% VDD Level	40/60		60/40	%
Rise and Fall Times	10% VDD to 90% Level			5	ns
"0" Level	VOL			10% VDD	VDC
"1" Level	VOH	90% VDD			VDC
Output Load	CMOS			15	pF
Enable/Disable Delay Time				10	ns
Startup Time				10	ms
Aging (First Year)	@ +25°C ±3°C			±5	PPM
Jitter (Cycle to Cycle)	10.000 ~ 20.000 MHz			200	pS
	20.100 ~ 168.000 MHz			100	pS

Part Numbering Guide: Example ECS-3250SS-270-3B-TR

ECS	Series	Frequency Abbreviations	Voltage	Temperature	Packaging
ECS	3250SS	270 = 27.00 MHz	3 = 3.3V	A = ±0.5% B = ±1.0% C = ±2.0%	TR = Tape & Reel 1,000/Reel

Package Dimensions (mm)

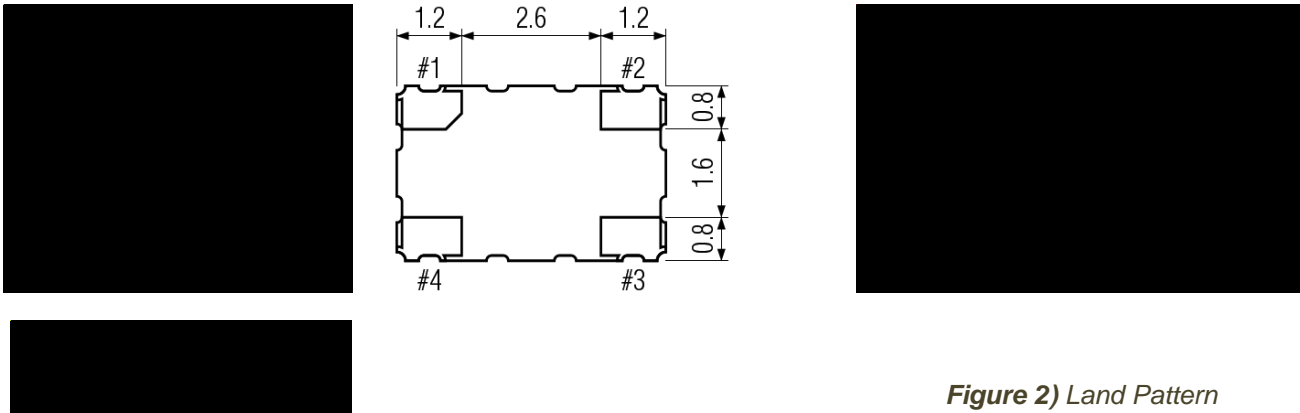


Figure 1) Top, Side, and Bottom views

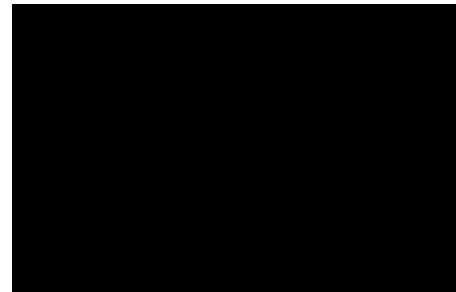


Figure 2) Land Pattern

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

Tri-State Control Voltage	
Pad 1	Pad 3
Open	Oscillation
VIH 90% VDD Min.	Oscillation
VIL 10% VDD Max.	High Impedance

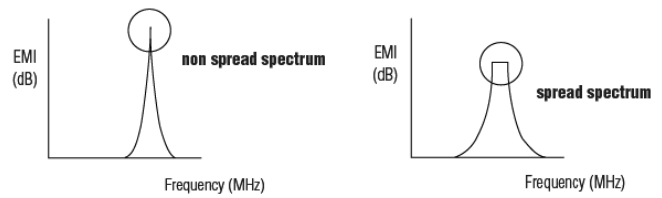
Note: Internal crystal oscillation to be halted (Pin #1=VIL)

Figure 3) Suggested Reflow Profile

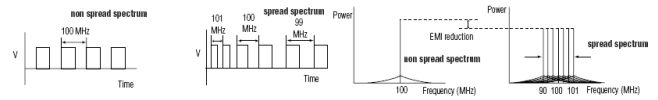
Test Circuit



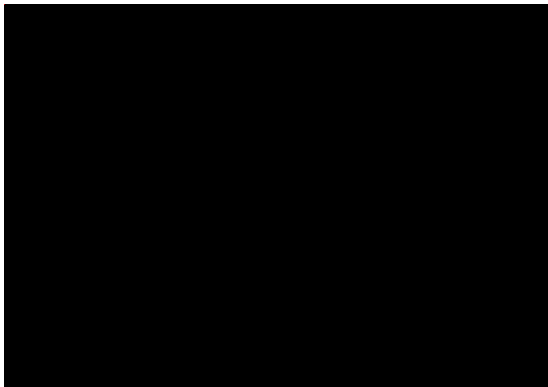
Spread Spectrum for EMI Reduction



±1% Center Spread at 100 MHz



Tape Dimensions (mm)



Package Data	
Item	Description
Lid	Metal
Base	Ceramic
Sealing	Seam
Terminal	Tungsten (Metalized)
RoHS	Compliant (PbFree)
Plating	Gold/Nickel (Surface)/(Under)

Figure 4) Pocket Tape Dimensions