



ASEAIG



3.20 x 2.50 x 1.20mm
RoHS/RoHS II Compliant
MSL = N/A: Not Applicable

Features

- Miniature size and low profile
- AEC-Q200 qualified
- Seam sealed ceramic package assures high precision and reliability.
- Extended temperature -40°C to +125°C for automotive/ industrial applications
- Suitable for RoHS reflow profile

Applications

- Automotive electronics
- Industrial electronics

Electrical Specifications

Parameters		Minimum	Typical	Maximum	Units	Notes
Frequency Range		1.75		60	MHz	
Operating Temperature		-40		+125	°C	STD (See options)
Storage Temperature		-55		+125	°C	
Overall Frequency Stability		-100		+100	ppm	See options
Supply Voltage (Vdd)		+3.135	+3.3	+3.465	V	Standard
		+2.85	+3.0	+3.15		Option "1"
		+2.375	+2.5	+2.625		Option "2"
		+1.71	+1.8	+1.89		Option "3"
Supply Current (I _{dd}) Into 15pF load	Vdd = 3.3V		2.5	7	mA	1.75 ~ 20 MHz
			4.4	13		20.1 ~ 40.0 MHz
			6.5	19		40.01 ~ 60.0 MHz
	Vdd = 3.0V		2.5	7		1.75 ~ 20 MHz
			4.4	13		20.1 ~ 40.0 MHz
			6.5	19		40.01 ~ 60.0 MHz
	Vdd = 2.5V		2	8		1.75 ~ 20 MHz
			3	8		20.1 ~ 40.0 MHz
			5	15		40.01 ~ 60.0 MHz
	Vdd = 1.8V		1	4		1.75 ~ 20 MHz
			2	4		20.1 ~ 40.0 MHz
			3	6		40.01 ~ 60.0 MHz
Symmetry @ 1/2V _{dd}		40	50	60	%	See options
Rise and Fall Time (Tr/Tf)	Vdd = 3.3V		2.5	4.0	ns	
	Vdd = 3.0V		2.5	4.0		
	Vdd = 2.5V		3	5		
	Vdd = 1.8V		3	6		
Output Load				15	pF	CMOS
Output Voltage (VOH)		0.9* Vdd			V	
Output Voltage (VOL)				0.1* Vdd	V	
Start-up Time	Vdd = 3.3V		1	2.0	ms	
	Vdd = 3.0V		1	2.0		
	Vdd = 2.5V		0.6	3.0		
	Vdd = 1.8V		3	5		

Automotive and Industrial Grade CMOS SMD Crystal Oscillator

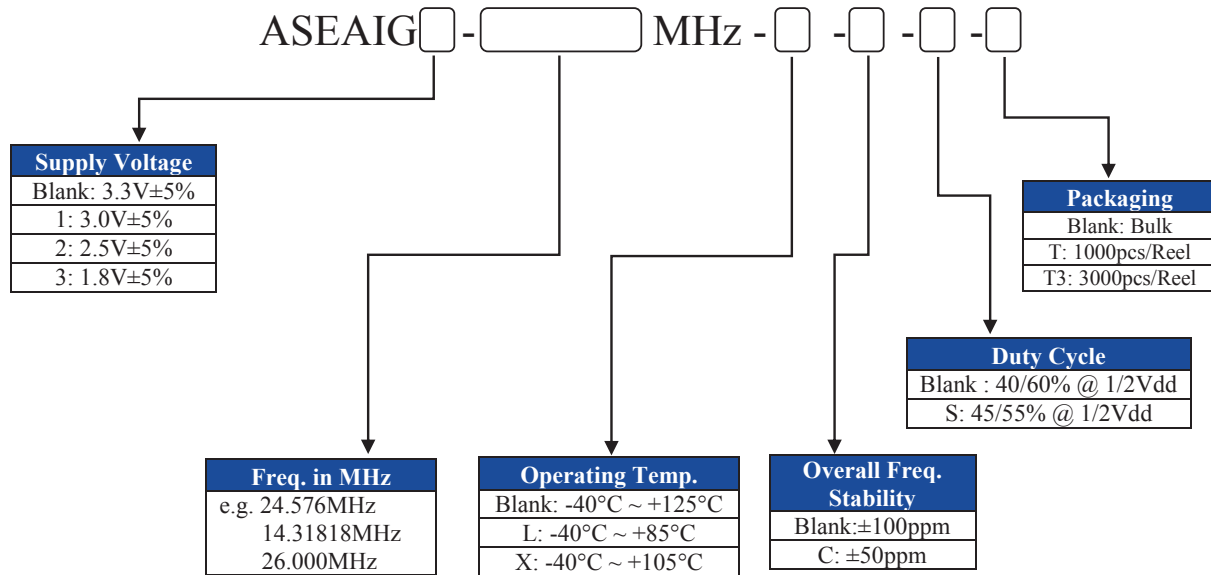


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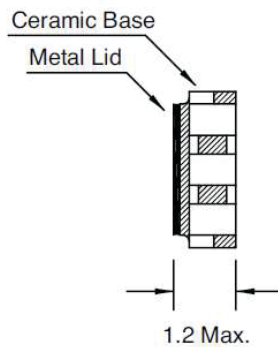
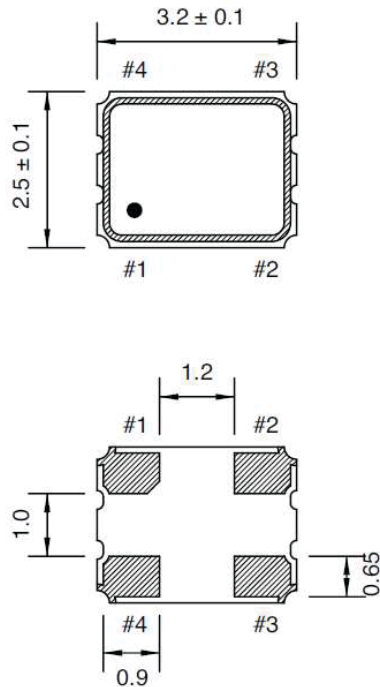


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Part Identification



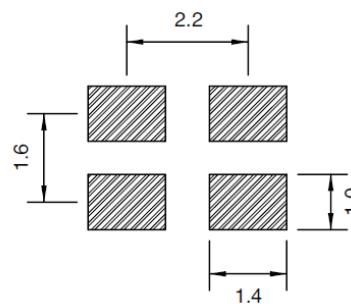
Outline Dimensions



PIN #	Name
1	Tri-state
2	GND
3	Output
4	Vdd

Note: Recommend using an approximately 0.01uF bypass capacitor between PIN 2 and PIN 4

Recommend Land Pattern



Dimensions: mm

Automotive and Industrial Grade CMOS SMD Crystal Oscillator



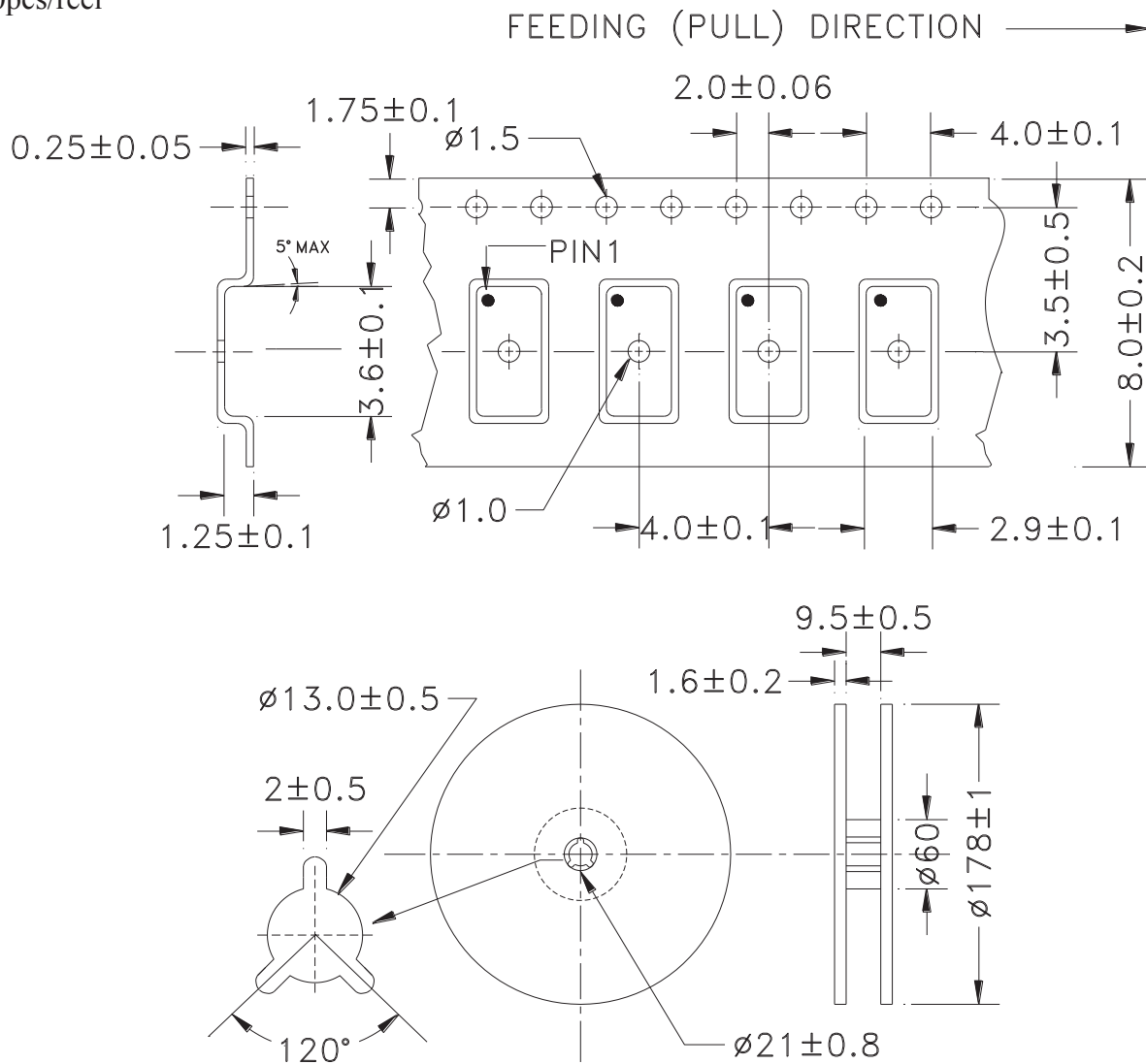
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Packaging

T: 1000pcs/reel
T3: 3000pcs/reel



Dimensions: mm

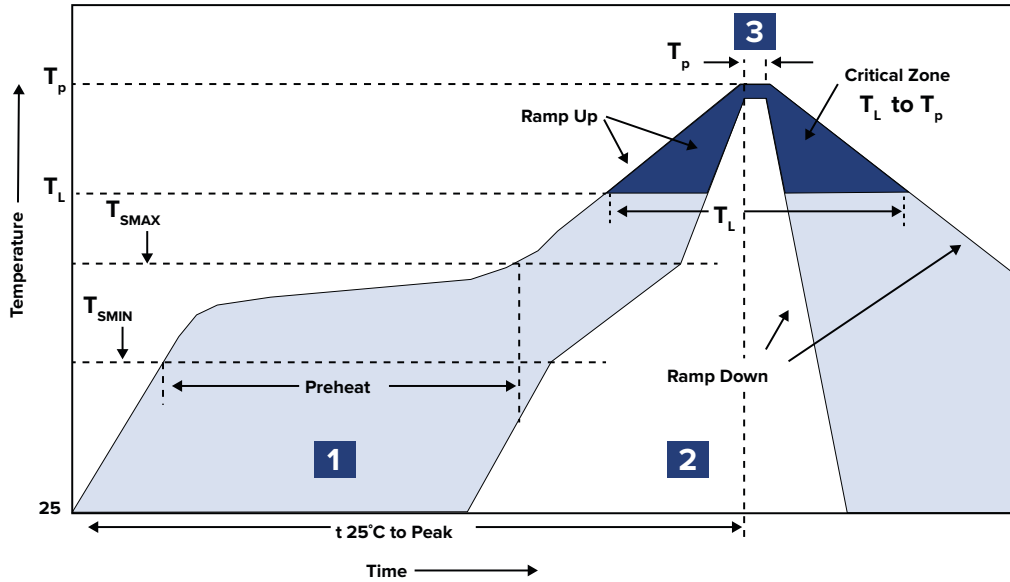


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Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	$T_{SMIN} \sim T_{SMAX}$ 150°C ~ 180°C	60 ~ 120 sec.
2	Reflow	T_L 230°C	30 ~ 40 sec.
3	Peak heat	T_P 260°C±5°C	5 sec. MAX

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