CERAMIC BASE SMD QUARTZ CRYSTAL

ABM11-0022-T3

2.0 x 1.6 x 0.55 mm
RoHS/RoHS II Compliant
MSL Level = N/A

Features

- Reference design for Silabs EFR32 Wireless Gecko Series 2
- Operating Temp Range: -40 ~ +95°C
- Frequency Tolerance @ +25°C: ±8ppm
- Frequency Stability over the Operating Temp. Range (ref. to +25°C): ±13ppm

Applications

- Internet of Things (IoT)
- Medical Devices
- Industrial Control & Automation
- Wireless collar
- Glucose Monitor
- LED Lighting

Key Standard Electrical Specifications

Parameters	Minimum	Typical	Maximum	Units	Notes
Frequency		39.000		MHz	
Operation Mode		Fundamental			
Operating Temperature	-40		+95	ºC	
Storage Temperature	-40		+95	ºC	
Frequency Tolerance @+25°C	-8		+8	ppm	
Frequency Stability over the Operating Temperature (ref. to 25°C)	-13		+13	ppm	
Equivalent series resistance (R1)			35	Ω	
Shunt capacitance (C0)			3.0	pF	
Load capacitance (CL)		10		pF	
Drive Level		10	100	µW	
Aging	-2		+2	ppm	@25°C±3°C First year
Insulation Resistance	500			M Ω	@ 100Vdc ± 15V

Options and Part Identification

ABM11-0022-☐

Packaging
Blank: Bulk
T3: 3000pcs/reel

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5101 Hidden Creek Ln Spicewood TX 78669
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REVISED: 03-13-24

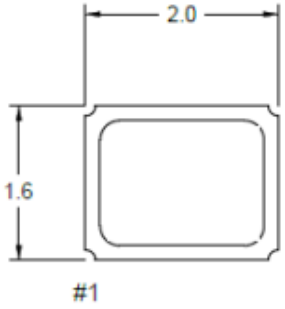
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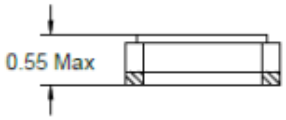
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Mechanical Dimensions

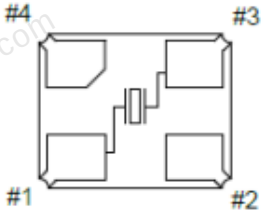


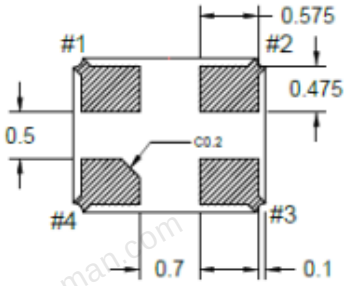
Top View



Side View

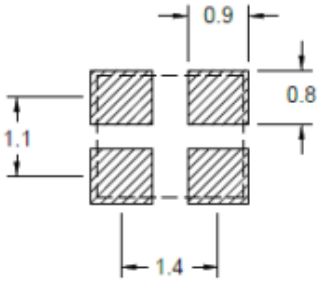
Top View





Bottom View

Recommended Land Pattern



Dimensions: mm

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Reflow Profile [JEDEC J-STD-020]

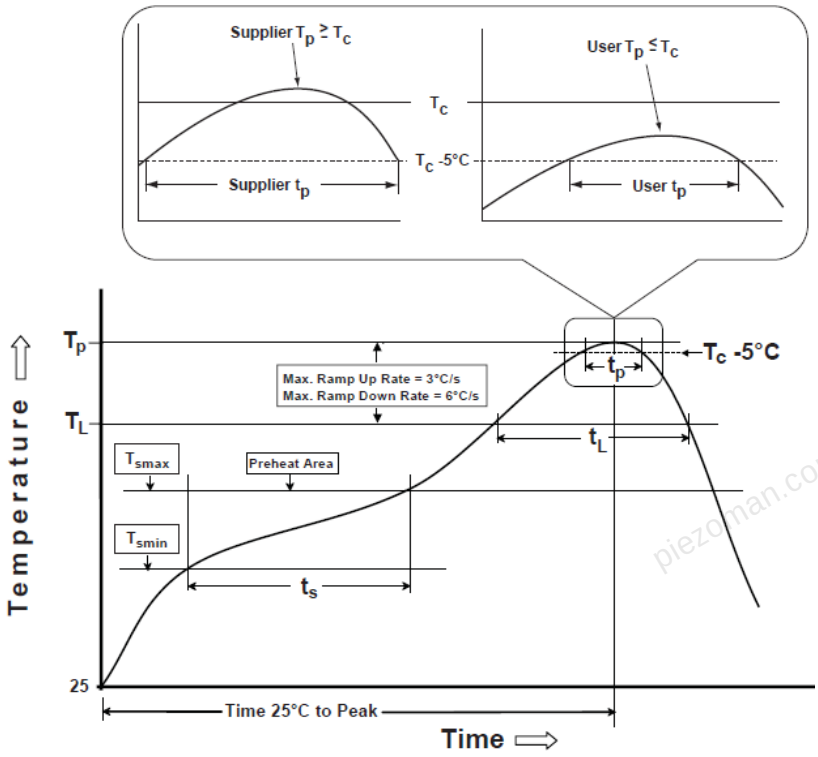


Table 1

SnPb Eutectic Process Classification Temperatures (T_c)		
Package Thickness	Volume mm³ <350	Volume mm³ ≥350
<2.5 mm	235 °C	220 °C
≥2.5 mm	220 °C	220 °C

Table 2

Pb-Free Process Classification Temperatures (T_c)			
Package Thickness	Volume mm³ <350	Volume mm³ 350-2000	Volume mm³ >2000
<1.6 mm	260 °C	260 °C	260 °C
1.6 mm - 2.5 mm	260 °C	250 °C	245 °C
>2.5 mm	250 °C	245 °C	245 °C

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat / soak		
Temperature minimum (T_{smin})	100°C	150°C
Temperature maximum (T_{smax})	150°C	200°C
Time (T_{smin} to T_{smax}) (t_s)	60 - 120 sec.	60 - 120 sec.
Average ramp-up rate (T_{smax} to T_P)	3°C/sec. max	3°C/sec. max
Liquidous temperature (T_L)	183°C	217°C
Time at liquidous (t_L)	60 - 150 sec.	60 - 150 sec.
Peak package body temperature (T_P)*	**see Table 1**	**see Table 2**
Time (t_p)** within 5°C of the specified classification temperature (T_C)	20 sec.	30 sec.
Ramp-down rate (T_p to T_{smax})	6°C/sec. max	6°C/sec. max
Time 25°C to peak temperature	6 min. max	8 min. max
Reflow cycles	2 max	2 max

*Tolerance for peak profile temperature (T_P) is defined as a supplier minimum and a user maximum.

**Tolerance for time at peak profile temperature (t_p) is defined as supplier minimum and a user maximum.

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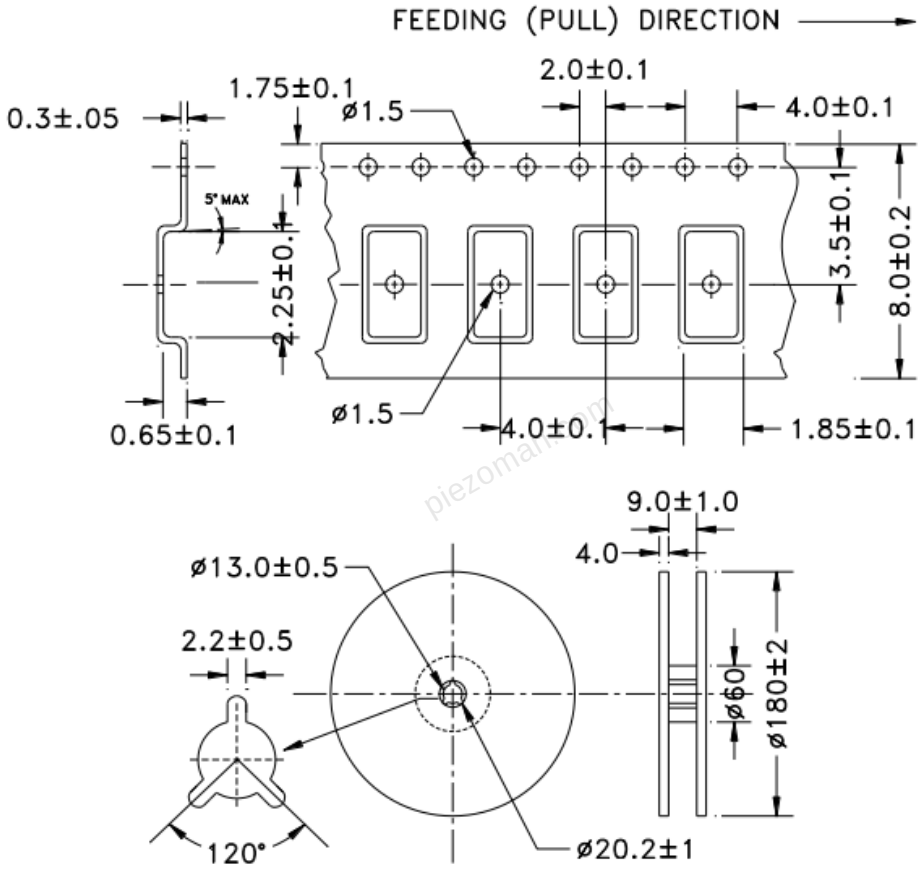
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MSL Level = N/A

Packaging

T3: Tape and reel (3,000pcs/reel)



Dimensions: mm

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