Automotive & Industrial Grade 32.768kHz Ceramic Base SMD Crystal

ABS07AIG

3.2 x 1.5 x 0.9 mm
RoHS/RoHS II Compliant
MSL = N/A: Not Applicable

Features

- AEC-Q200 Qualified
- Automotive Grade 1: -40°C to +125°C
- TS16949 Production Line Certified
- PPAP Available Upon Request
- Hermetically Seam-sealed Ceramic Package
- RoHS/RoHS II Compliant and Pb free

Applications

- Infotainment Systems
- Keyless Entry & Startup
- GPS & Navigation
- Comfort control
- ADAS (Advanced Driver Assistance Systems)
- Vehicle to Vehicle Communication
- LiDAR (Light Detection and Ranging)
- In-vehicle Networking
- Powertrain & Drive Control
- Power Control & Conversion
- Industrial Control & Automation

Electrical Specifications

Parameters	Min.	Typ.	Max.	Units	Notes
Frequency		32.768		kHz	
Operation Mode		Flexural Mode (Tuning Fork)			
Operating Temperature	-40		+125	°C	Option “blank”; See options
Storage Temperature	-55		+125	°C	
Frequency Tolerance @ +25°C	-10		+10	ppm	Option “1”; See options
	-20		+20		Option “blank”; See options
Shift through standard RoHS reflow, (2) reflow cycles maximum	-2		+2	ppm	260°C peak maximum reflow temperature, relative to stand-alone set-tolerance frequency
Temperature Coefficient	-0.040	-0.036		ppm/T²	
Turn-over Temperature	+20	+25	+30	ºC	
Frequency stability over operating temperature, relative to in-circuit measured frequency post-reflow	-160		-100	ppm	Over -40°C to +85°C
	-250		-100		Over -40°C to +105°C
	-450		-100		Over -40°C to +125°C
Equivalent series resistance (R1)			45	kΩ	@ +25±3°C
			50		Over -40°C to +85°C
			60		Over -40°C to +105°C
			70		Over -40°C to +125°C
Shunt capacitance (C0)		1.1		pF	
Motional capacitance (C1)		4.7		fF	
Load capacitance (CL)		12.5		pF	Option “blank”; See options
Drive Level		0.1	0.5	µW	
Q value	10000	30000			
Aging	-3		+3	ppm	@25°C± 3°C First year
Insulation Resistance	500			MΩ	@100 Vdc

ABRACON LLC
5101 Hidden Creek Ln Spicewood TX 78669
Phone: 512-371-6159 | Fax: 512-351-8858
For terms and conditions of sales, please visit:
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REVISED: 09-30-19

ABRACON IS ISO9001-2015 CERTIFIED

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Reliability Test Conditions (in accordance with AEC-Q200 requirements)

Test Item	Test Conditions
Mechanical Shock	3000 Gs, Halfsine, 0.3ms in each direction (X, Y, Z)
Sinusoidal Vibration	20Gs Peak, 10-55Hz & 55-2000Hz, 1.5mm Amplitude, 4 hours each axis (X, Y, Z)

Options and Part Identification (left blank if standard)

ABS07AIG-32.768 kHz - ▢ - ▢ - ▢ - ▢

Load Capacitance
Blank: 12.5pF
9: 9pF
7: 7pF
6: 6pF
5: 5pF

Operating Temp.Range
Blank: -40 ~ +125°C
D: -40 ~ +85°C
J: -40°C to +105°C

Freq. Tolerance
Blank: ±20ppm
1: ±10ppm
4: ±30ppm

Packaging
Blank: Bulk
T: 3k pcs / reel

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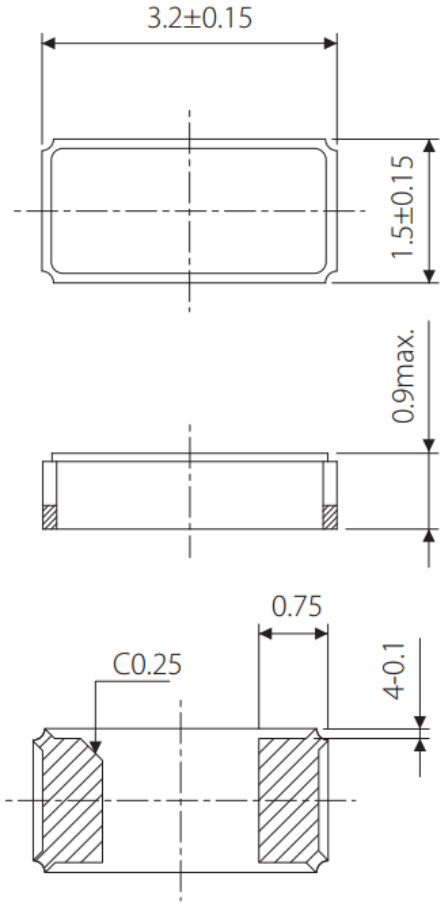
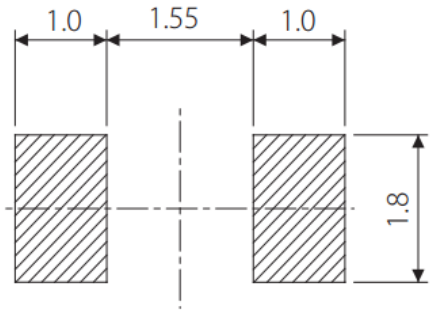
Mechanical Dimensions



Recommended Land Pattern



Dimensions: mm

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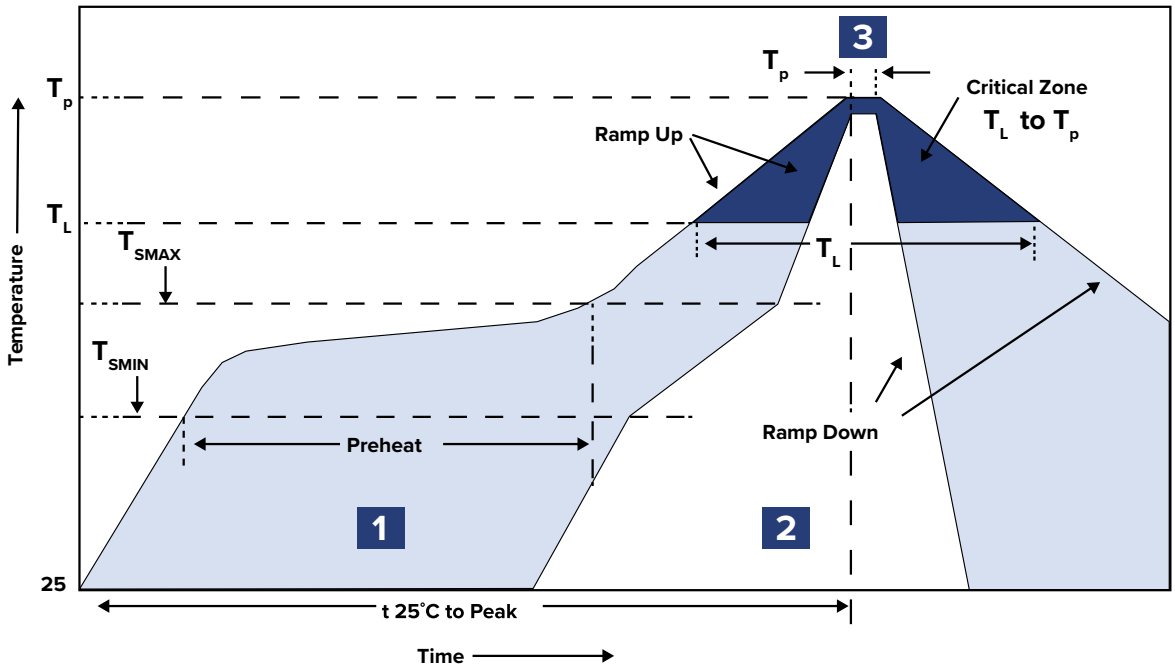
Reflow Profile



Zone	Description	Temperature	Time
1	Preheat / Soak	T_{SMIN} ~ T_{SMAX} 170°C ~ 190°C	60 - 120 sec.
2	Reflow	T_L 230°C	55 sec. MAX
3	Peak heat	T_P 260°C	10 sec. MAX

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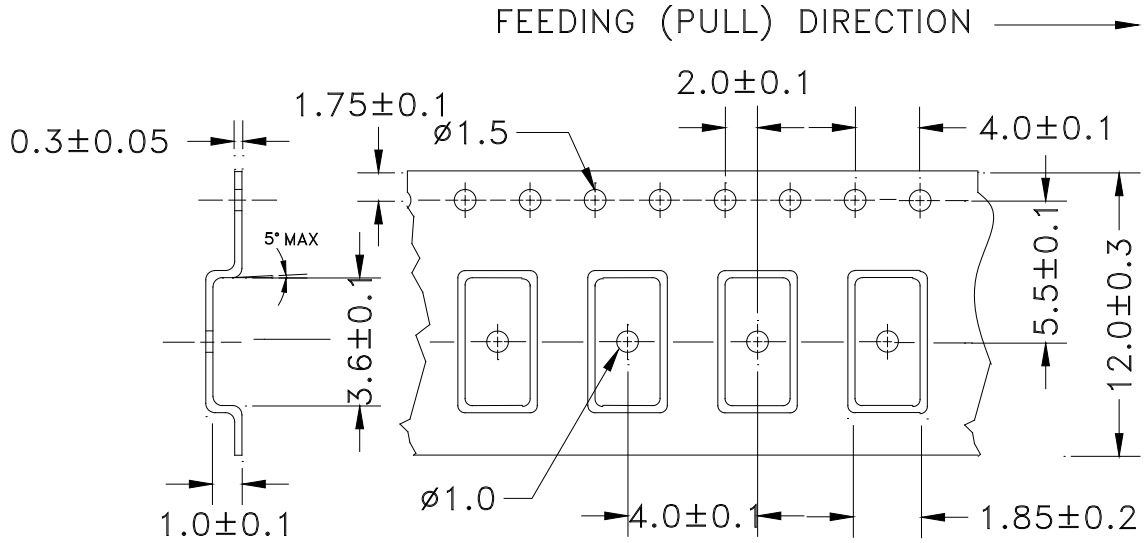
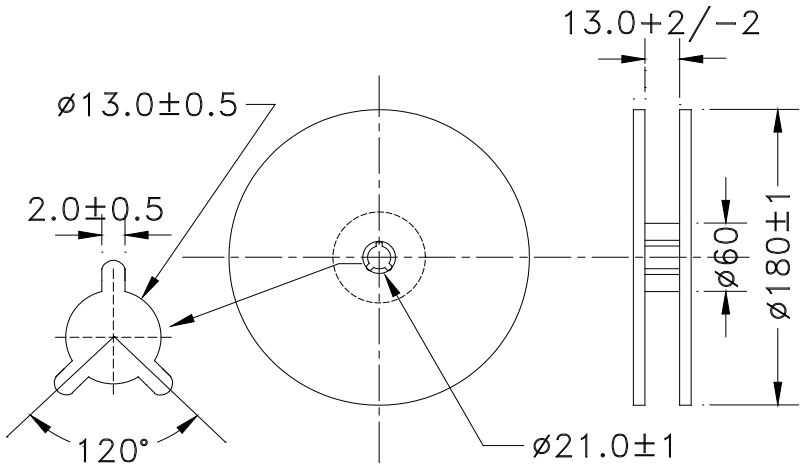
Packaging

T=Tape and reel (3,000pcs/reel)





Dimensions: mm

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Authorized Distributor

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