

# Crystal Resonators

SMD Seam 3.2×2.5×0.7mm 7U Series

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## SPECIFICATION

PN: KSE-7U32000MAZ143ZA3

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### FEATURE

- Reliable seam sealed ceramic package.
- Wide operating temperature range.
- Superior performance and stringent reliability in harsh environment.
- Application: TPMS, ECM, ABS and sensor modules.
- Compact size.
- RoHS Compliant / Pb Free.

### ELECTRICAL SPECIFICATIONS (电气参数)

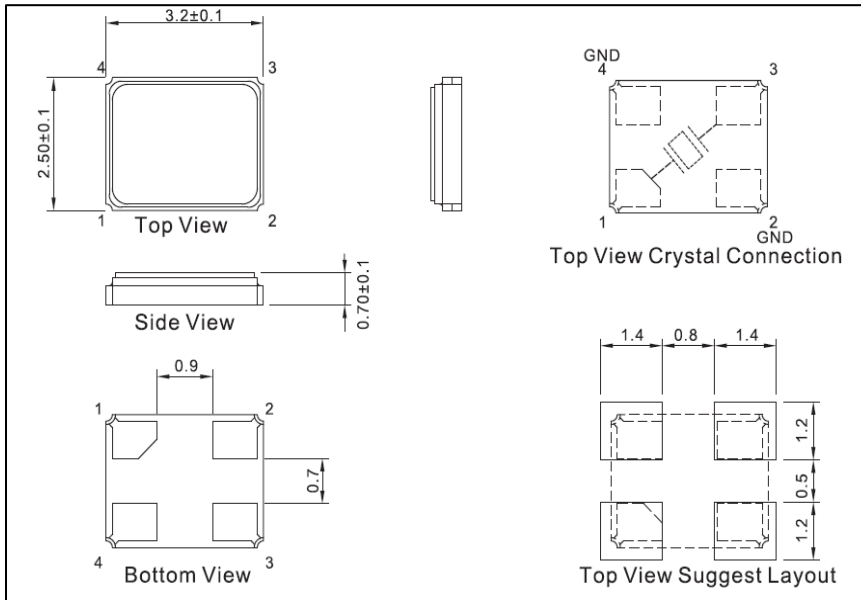
Output Frequency Range	32.000MHz
Mode	AT/Fundamental
Frequency Tolerance (at 25°C)	±10ppm
Frequency Stability Over Operating Temperature Characteristics	±30ppm
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-55°C to +125°C
Shunt Capacitance (C0)	3.0 PF Max
Driver Level (Typical)	100µW
Load Capacitance(CL)	10PF
Equivalent Series Resistance(ESR)	60Ω Max
Aging @25°C 1 <sup>st</sup> year (Max)	±3ppm/year

REMARK: SPECIFICATIONS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. PLEASE CONFIRM WITH OUR SALES ENGINEER.

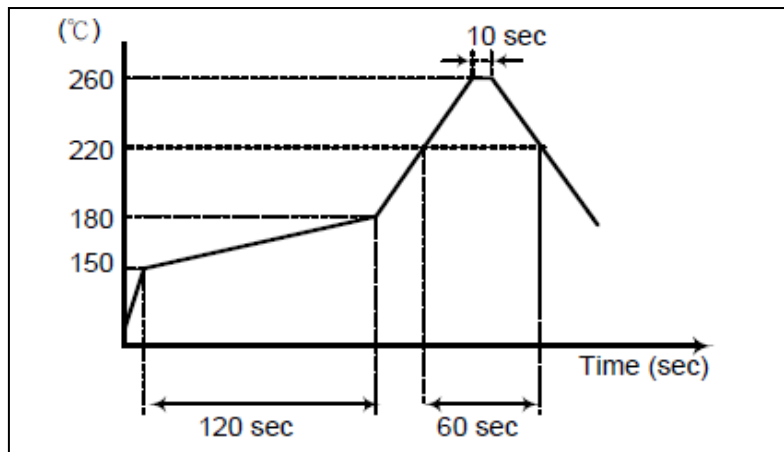
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### Dimension (尺寸) (Unit: mm)



### REFLOW CONDITION (回流焊)

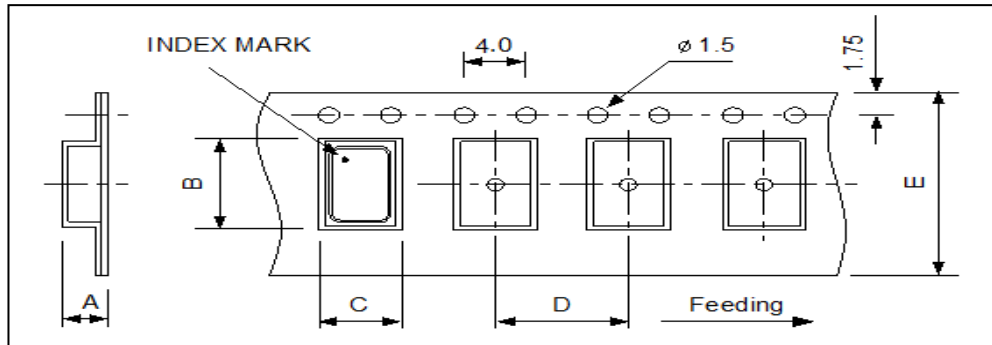


The reflow temperature profile may vary depending on the product model, specifications and frequency range. Refer to the individual product specifications for details

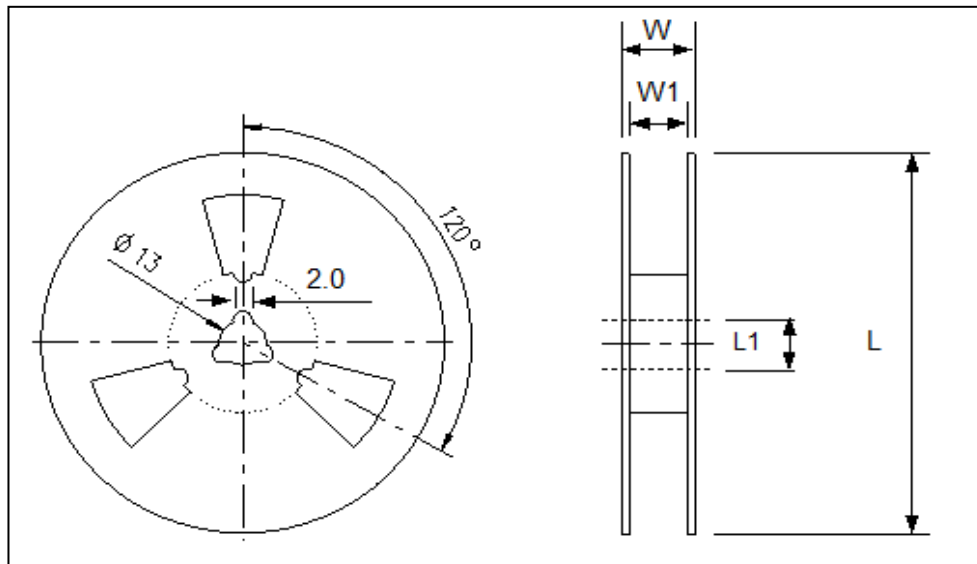
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### CARRIER TYPE (載帶)



### REEL (卷盘)



DIMENSIONS		A	B	C	D	E	L	L1	W	W1	pcs / Reel
	<b>7050</b>	2.15	7.9	5.4	8	16	180	13	21.5	17.5	1K
	<b>6035</b>	1.4	6.4	3.9	8	12	180	13	15.4	13	1K
	<b>5032</b>	1.46	5.5	3.6	8	12	180	13	15.4	13	1K
	<b>3225</b>	1.4	3.4	2.7	4	8	180	13	11.5	8	3K
	<b>2520</b>	1.15	2.8	2.25	4	8	180	13	10.5	8	3K
	<b>2016</b>	0.95	2.25	2.25	4	8	180	13	10.5	9	3K
	<b>1612</b>	0.8	2.0	1.85	4	8	180	13	10.5	9	3K
	<b>1210</b>	0.45	1.30	1.10	4	8	180	13	10.5	8	3K

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### RELIABILITY TEST SPECIFICATIONS (可靠性测试标准)

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	KSE-REL001、RC-328A	1.Solderability:235±5℃, 5±0.5S 2.Heat resistance:260±5℃,10±1S restoration of 1 hour	MIL-STD-883E Method 2003.7
2. HERMETICITY TEST	HELIOT-306S	FC-84 FLUOROCARBON,BUBBLE MACHINE	MIL-STD-883E Method 1014.10
3. VIBRATION TEST	HG-V4、S&A 250B	Enable Crystal(10g) from 10-55-10Hz,X、Y、Z horizontal,1 Minute vibration/time, 1time/ 2 hours.	MIL-STD-883E Method 2007.3
4. MECHANICAL SHOCK	HPC-200、S&A 250B	Enable Crystal 50G(490m/s <sup>2</sup> ) time=11 ms speed=3.4 m/s half sine wave oscillation	JIS C6701
5. DROP TEST	HARD BOARD.S&A250B	75CM HIGH,3 TIMES ON HARD BOARD	MIL-STD-202F Method 213B
6. HIGH&LOW TEMP STORAGE TEST(Static test)	H-PTH-80CK & HM101-3ABN, S&A 350B/250B	High temperature: 125℃±2℃,1000hr; Low temperature:-40℃±3℃,1000hrs	MIL-STD883C, METHOD 1011.8
7. TEMP &HUM CYCLING TEST	H-PTH-80CK CHAMBE, S&A 350B/250B	Temperature:-10℃±2℃~65℃±2℃,Humidity:93±3%,1 cycle need 24 hrs. 5cycles.	MIL-STD-883E Method 1005.8
8. HIGH TEM. & HUM. STORAGE TEST	H-PTH-80CK CHAMBE, S&A350B/250B	Temperature:40℃±2, Humidity:85+3,-2%,Store 96 hrs	JIS C6701
9.AGING TEST	H-PTH-80CK CHAMBE, S&A350B/250	Temperature:40℃±2, Humidity:85+3,-2%,Store 96 hrs	JIS C5023