

QUARTZ CRYSTAL UNIT

Seam Sealed Ceramic 3.2*2.5mm Surface Mount Package



Approved by:

Checked by:

Issued by:

SPECIFICATION

P/N: KSE-7U16000M9Z143ZA3

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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

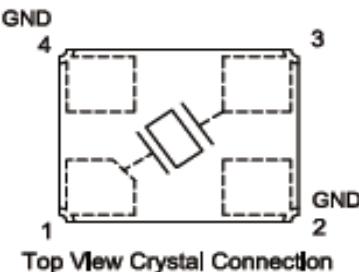
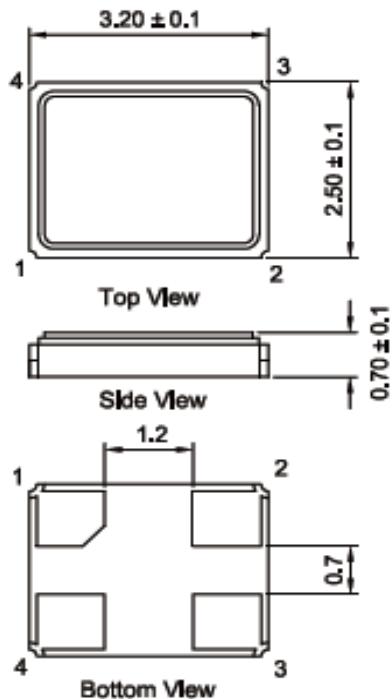
Output Frequency Range	16.000 MHz
Mode	AT/Fundamental
Frequency Tolerance (at 25°C)	±10ppm
Frequency Stability Over Operating Temperature Characteristics	±30ppm
Operating Temperature Range	-40 °C to +85 °C
Storage Temperature Range	-40 °C to +85 °C
Shunt Capacitance (C0)	5.0 pF Max
Driver Level (Typical)	100µW
Load Capacitance(CL)	9pF
Equivalent Series Resistance(ESR)	60Ω Max

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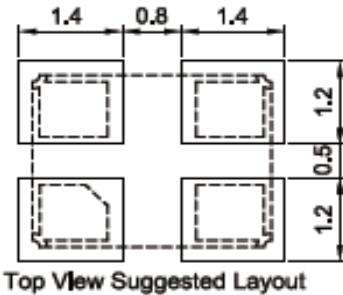
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DIMENSION

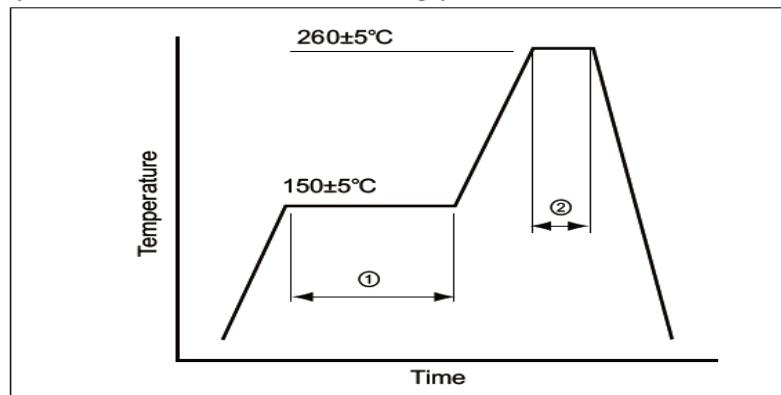


Top View Crystal Connection



Top View Suggested Layout

REFLOW CONDITION



①	Preheat	150±5°C	120sec.
②	Peak	260°C	10sec. max.

Total time 200sec. max. Solder melting point: 185°C

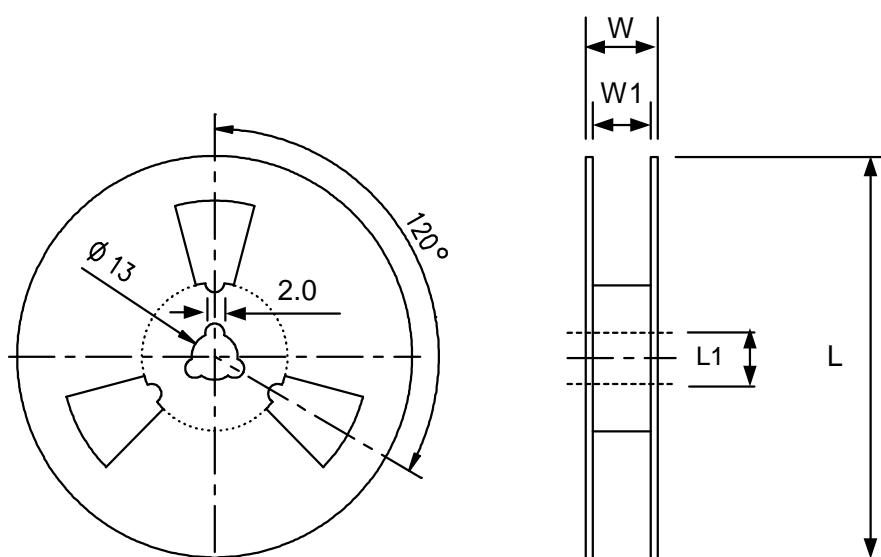
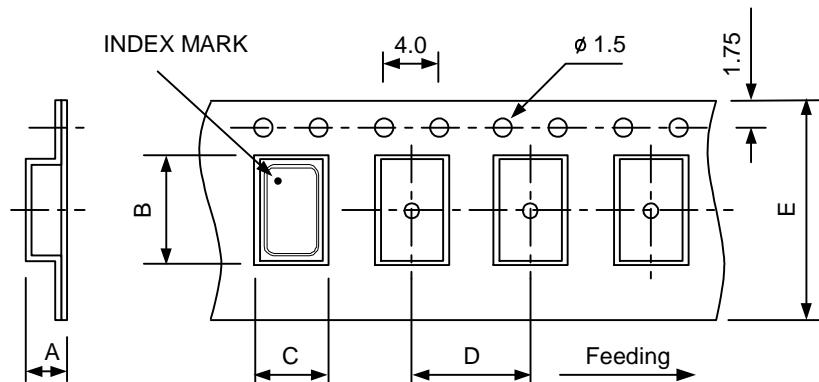
The reflow temperature profile may vary depending on the product model, specifications and frequency range. Refer to the individual product specifications for details.

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PACKING



DIMENSIONS		A	B	C	D	E	L	L1	W	W1	pcs / Reel
	7050	2.15	7.9	5.4	8	16	180	13	21.5	17.5	1K
	6035	1.4	6.4	3.9	8	12	180	13	15.4	13	1K
	5032	1.46	5.5	3.6	8	12	180	13	15.4	13	1K
	3225	1.4	3.4	2.7	4	8	180	13	11.5	8	3K
	2520	1.15	2.8	2.25	4	8	180	13	10.5	8	3K
	2016	0.95	2.25	1.85	4	8	180	13	10.5	9	3K
	1612	0.8	1.85	1.45	4	8	180	13	10.5	9	3K

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RELIABILITY TEST SPECIFICATION

Test item	Equipment	Condition	Specification
1.SOLDERABILITY TEST	TBAEI ESPEC(K-1425-14D)	Welding can be temperature: 260 ± 5 °C, 5's(125 °C, 120 SEC preheating Anti-welding temperature: 260 ± 5 °C, soaking time: 10 seconds	MIL-STD-883E Method 2003.7
2. HERMETICITY TEST	Helium leak detectors	1. Small leak: 4.5 KGF/CM2 2hours1 * 10-9-9 PA.M3/SEC crude leak: 4.5KGF/CM2 2hours1.5 * 10-5 PA.M3/SEC	MIL-STD-883E Method 1014.10
3. VIBRATION TEST	Sweep vibration test machines (IMV CO. (VS-300-2)), S & A250B	1 Crystal on 10-2000 Hz, X, Y, Z water level, each 20-minute vibration, a test every four hours, then the sample used to test 250 b	MIL-STD-883E Method 2007.3
4. MECHANICAL SHOCK	TOOL	A high degree of crystal from 150 CM to 150 g of three months from the direction of impact XYZ3 work hard wooden board	JIS C6701
5.MECHANICAL IMPACT TEST	TOOL	c1000G, 0.5Msec, 3, from the X, Y, Z three-day direction of hard wood boards, then the sample used to test 250 B	MIL-STD-202F Method 213B
6. DROP TEST	Fell hard wood equipment, S & A 250B	Crystal 75 cm in height, falling three times in the hard wooden board	JIS C6701
7. SALT SPRAY	H-SST-60、RC-328A	5% NaCl (sodium carbonate), 35 ± 2 °C temperature of the box, 48 hours, PH value: 6.5 to 7.2	
8. HIGH&LOW TEMP STORAGE TEST	TABEL ESPEC(MC-810), S&A 350B/250B	High temperature: 125 ± 2 °C, 500 hours; low temperature: -40 ± 3 °C, 500hours	MIL-STD-883E Method 1005.8
9. TEMP& HUM CYCLING TEST	TABEI ESPEC (TPC-211) S&A350B/250B	Temperature: $121 + / - 3$ °C RH100% 2BAI, 240hours	JIS C6701
10. HIGH TEM. & HUM. STORAGE TEST	TBAEL ESPEC (PH-3F), S&A350B/250B	Temperature: 40 ± 2 °C, Humidity: 85 +3, -2%, storage 96 hours	JIS C5023
11.AGING TEST	PRA(2360)	Temperature: 85 ± 2 °C, 1000hours	JIS C6701