

RSX-10

1.0 Specification References

Parameter	Description
a. Rakon part number	509344
b. Description	HDD10RSX-10 38.400 MHz
c. Document ID	RSX-10-194
d. Version	1.1



2.0 Absolute Maximum Rating ¹

Parameter	Min.	Max.	Unit
a. Storage temperature	-40	85	°C

3.0 Frequency Characteristics

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Nominal frequency		38.400		MHz	
b. Frequency stability			±20	ppm	Including Calibration, Reflow, Frequency verses Temperature and 5 years aging at 25°C
c. Calibration + Frequency stability verses temperature	-15		20	ppm	Referenced to nominal frequency at the specified load capacitance over the operating temperature range.
d. Reflow + Aging	-5		0	ppm	Two consecutive reflow as per attached profile after 24 hours recovery at 25°C. Frequency drift over 5 years at 25°C.
e. Temperature range	-30		85	°C	Operating temperature
f. Frequency perturbations			1	ppm	Peak-to-peak deviation from the frequency versus temperature curve fit 5th order. Minimum of 1 frequency reading every 3°C over operating temperature range
g. Long term stability			±1	ppm	Frequency drift over 1 year at 25°C

4.0 Electrical

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
a. Load capacitance (CL)		10		pF	Frequency is calibrated at room temperature
b. Drive level			50	µW	Operating specification
c. Equivalent series resistance (ESR)			40	Ω	
d. Insulation resistance (IR)	500			MΩ	100V ±15V at 25°C

5.0 Marking

Parameter	Test Condition / Description
a. Type	Engraved
b. Line 1	[R] = Rakon, [##M#] = Frequency in MHz (e.g.: 8M00 = 8MHz, 19M2 = 19.2MHz), [YM]=Date code
c. Line 2	[o] = Pin 1, [A_ _] = Internal code, [XXX] Lot code

¹ Operating beyond this limit may result in change or permanent damage to the device.

6.0 Environmental Specification

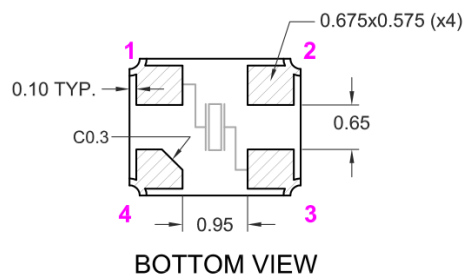
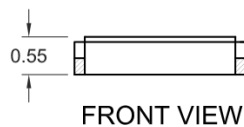
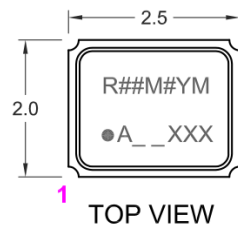
Parameter	Test Condition / Description
a. RoHS compliant	Yes
b. Shock	Dropped from a height of 180cm or more as a free fall object onto a hard wooden plate of 30mm or more in thickness (according to JIS-C0044)
c. Vibration	Frequency range: 10~2000HZ; Peak to peak amplitude: 1.52 mm; Peak acceleration: 5G; Sweep time: 20 minute/axis; Perpendicular total test time: 12hours (in accordance with MIL-STD-883F : 2007.3)
d. Moisture resistance	Temperature: 85°C ± 5°C; Humidity:85±5%; Time: for 1000±12 hours (according to MIL-STD-883F)
e. Low temperature exposure test	Temperature: -40°C ± 3°C; Time: for 1000±12 hours (according to JIS-C0020)
f. Thermal cycling	100 temperature cycles, where each cycle consists of a 15±3 minutes soak time at -55±3°C followed by a 15±3 minutes soak time at 125±3°C, with a 2~3 minute transition time between temperatures. Air to air transition. According to (according to MIL-STD-883F)

7.0 Manufacturing Information

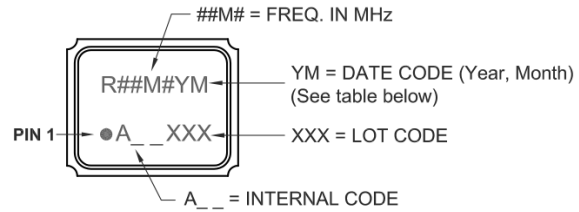
Parameter	Test Condition / Description
a. Washing	Able to withstand aqueous washing process
b. Reflow	Able to withstand reflow process
c. Packaging description	Tape and reel. Standard packing quantity is 3000 units per reel

8.0 Model Outline: RSX-10

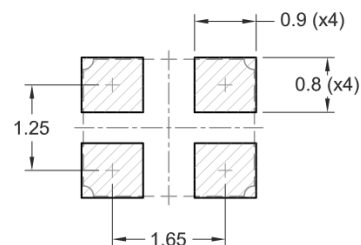
MODEL OUTLINE



MARKING



RECOMMENDED PAD LAYOUT - TOP VIEW



PIN CONNECTIONS

PIN	CONNECTIONS
1	CRYSTAL
2	GND
3	CRYSTAL
4	GND

Y - Year Code

Code	Year	Code	Year	Code	Year
A	2010	J	2019	S	2028
B	2011	K	2020	T	2029
C	2012	L	2021	U	2030
D	2013	M	2022	V	2031
E	2014	N	2023	W	2032
F	2015	O	2024	X	2033
G	2016	P	2025	Y	2034
H	2017	Q	2026	Z	2035
I	2018	R	2027		

M - Month Code

Code	Month	Code	Month
1	Jan	7	Jul
2	Feb	8	Aug
3	Mar	9	Sep
4	Apr	A	Oct
5	May	B	Nov
6	Jun	C	Dec

TITLE: RSX-10 MODEL (Package A)

RELATED DRAWINGS:

FILENAME: CAT1048

REVISION: A

DATE: 23-Feb-17

SCALE: 10 : 1

Millimetres

TOLERANCES:

XX =

X.X = ±0.1

X.XX = ±0.05

X.XXX =

X° =

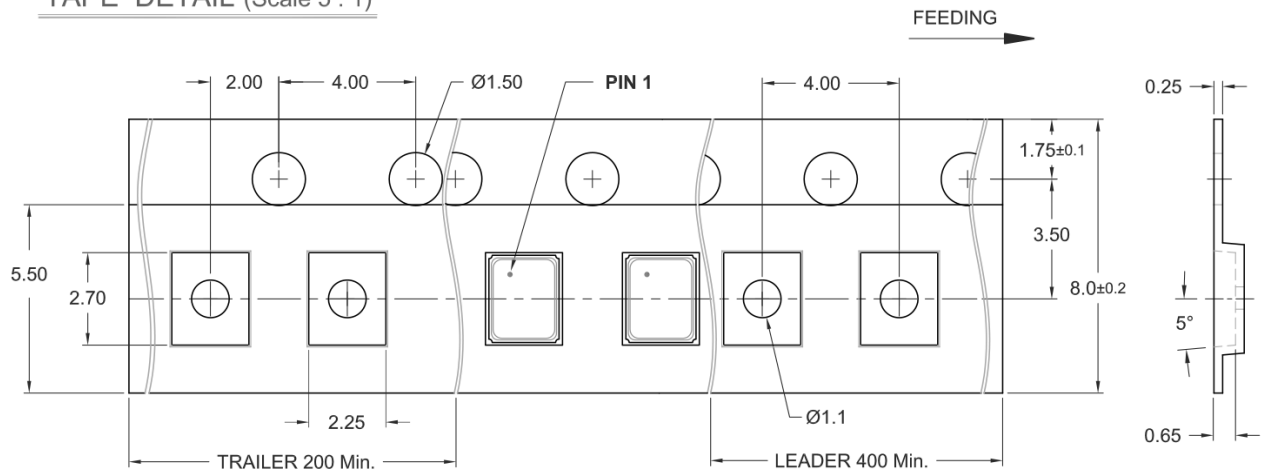
Hole =

rakon

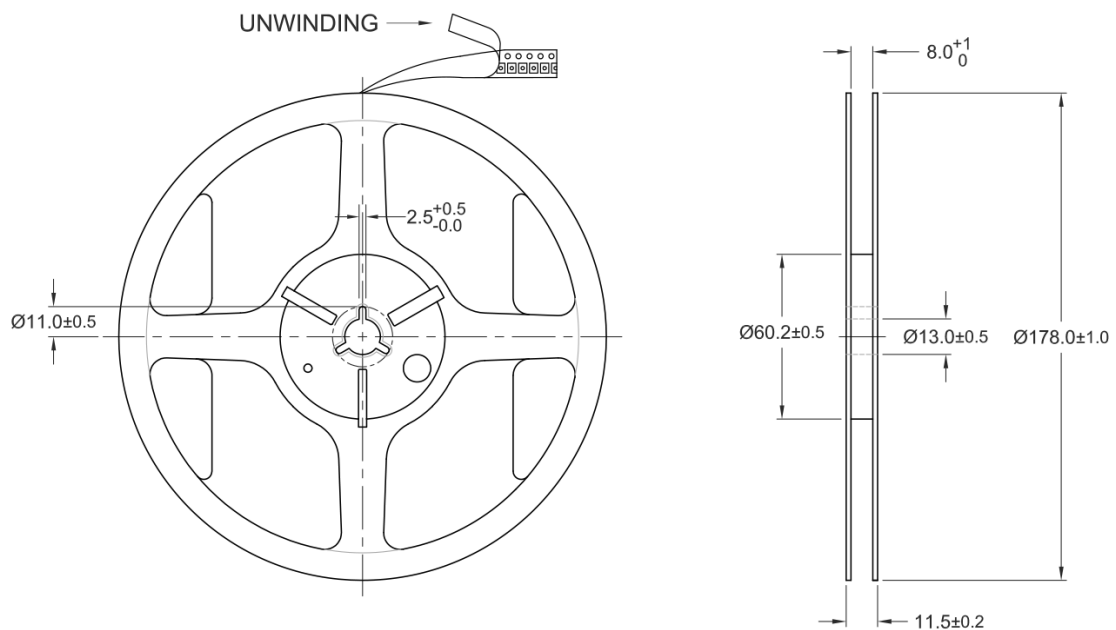
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9.0 Tape and Reel: RSX-10

TAPE DETAIL (Scale 5 : 1)



REEL DETAIL (Scale 1 : 2.5)



TITLE: RSX-10 TAPE & REEL (Package A)

RELATED DRAWINGS:

FILENAME: CAT1049

REVISION: A

DATE: 21-Feb-17

SCALE: 5 : 1

Millimetres

TOLERANCES:

XX =

X.X = ±0.1

X.XX = ±0.05

X.XXX =

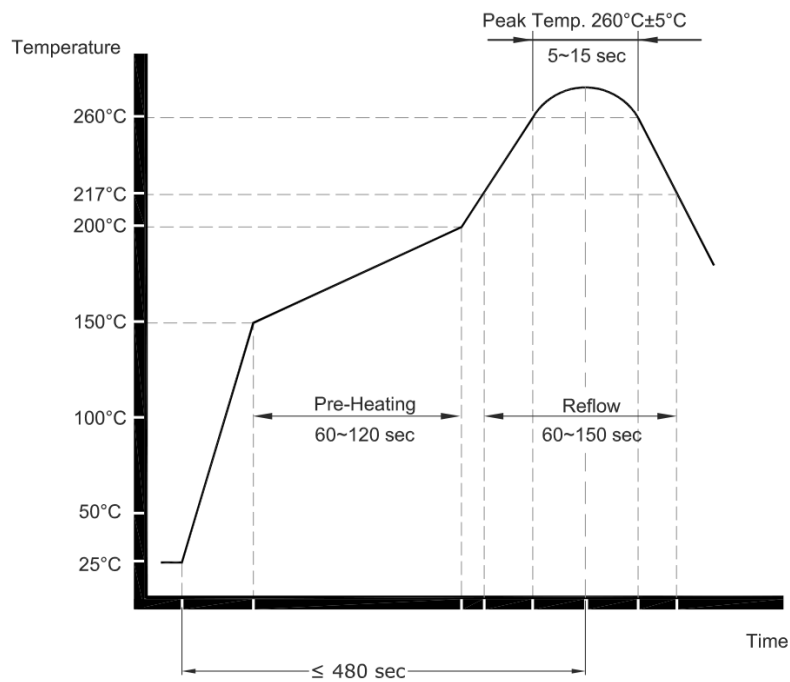
X° =

Hole =

rakon

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10.0 Reflow: RSX-10



TITLE: Pb-FREE Reflow (Package A/AG)

RELATED DRAWINGS:

FILENAME: CAT1036

REVISION: B

DATE: 03-Mar-2017

SCALE: NTS

Millimetres

TOLERANCES:

XX =

X.X =

X.XX =

X.XXX =

X° =

Hole =

rakon

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11.0 Specification History

Version	Notes	Approver	Date
1.0	Specification created	Sowmya Injeti	31 Jul, 2012
1.1	Updating package & related drawings, laser marking and qualification information	Sowmya Injeti	24 Jan, 2018