LRA 08235L A

LINEAR RESONANT ACTUATOR

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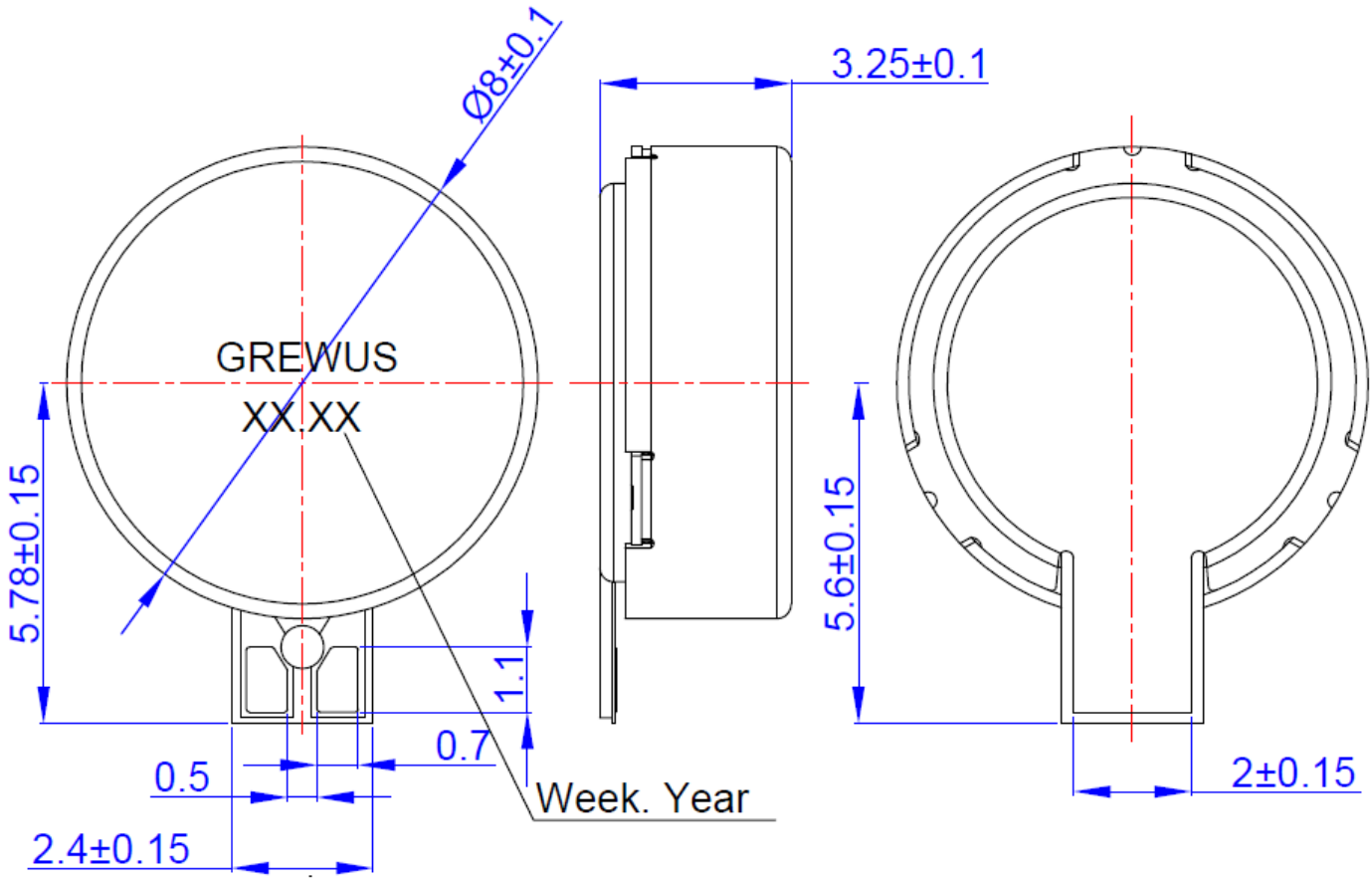
CONTENT

1. SPECIFICATIONS

Parameter	Unit	Conditions / Description	MIN	TYP	MAX
Rated Voltage	VrmsAC	Sine wave		1.8	
Operating Voltage	VrmsAC		0.1		1.8
Rated Frequency	Hz			235	
Rated Current	mArms	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz)			80
Rated Acceleration	Grms	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz)	1.00		1.50
Acceleration	Grms/min	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz) At -20°C		1.0	
Rise Time	ms	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz) run to 50% of the maximum acceleration after powering on			50
Falling Time	ms	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz) decelerate to 50% of the maximum acceleration after outage			80
Insulation Resistance	MΩ	At 100VDC between lead wire and case	10		
Resistance	Ω	At 25 ±3°C	22.95	25.5	28.05
Noise	dB	Driven at rated voltage and frequency (1.8VrmsAc, Sine wave, 235Hz) 10cm distance from microphone Background noise max. 28dBA			50
Direction of Vibration				Z-AXIS	
Contact				TAB	
Packaging				TRAY	
Operating Temperature	°C	At 65 ±29% RH	-20		+60
Storage Temperature	°C	At 65 ±20% RH	-30		+70
Weight	g			0,76	

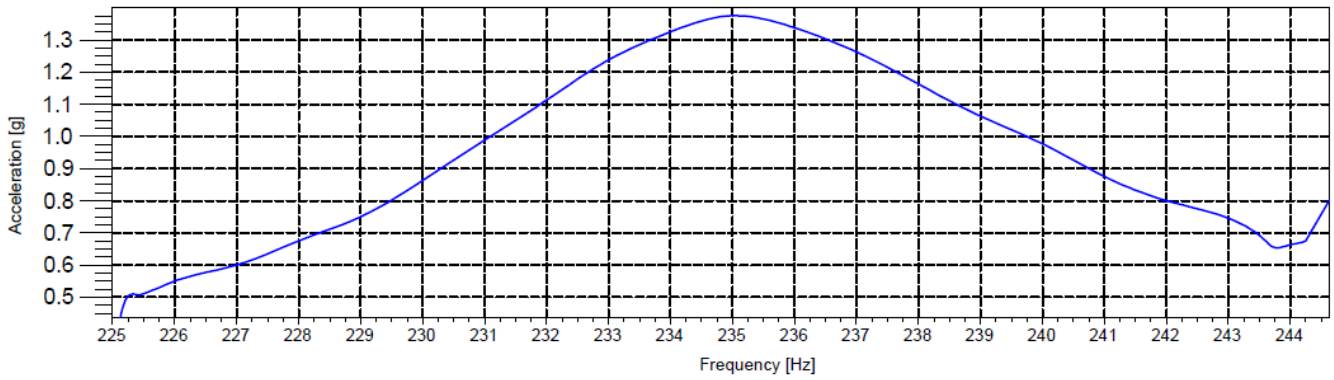
DESIGNED BY	Christopher Pagel	DATE	2018.12.07	PART NO.	INDEX
RELEASED BY	Anouschka Esselun	DATE	2019.01.08	LRA 08235L A	A
CHANGED BY	Rabea Richter	DATE	2020.01.13		
DRAWING NO.	428865515				

2. DRAWING



Unit: mm Tolerance: ± 0.3mm

3. FREQUENCY CHARACTERISTICS



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4. RELIABILITY TEST

4.1 Life Test

Power	Rated Voltage and Frequency
Duration	2 seconds on, 1 second off
	As one cycle
Cycles	500.000

After the test the product should meet the requirements of item A.

4.2 High Temperature Storage Test

Temperature	+80 ±2°C
Duration	96 hours

After 4 hours exposure in ordinary temperature and humidity the product should meet the requirements of item B.

4.3 Low Temperature Storage Test

Temperature	-40 ±2°C
Duration	96 hours

After 4 hours exposure in ordinary temperature and humidity the product should meet the requirements of item B.

4.4 Humidity Storage Test

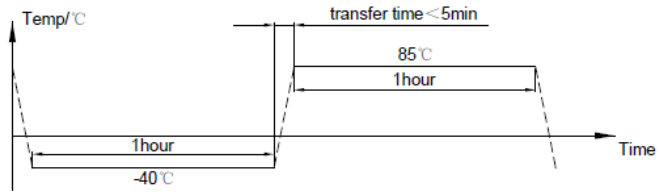
Temperature	+55 ±2°C
Relative Humidity	95% RH
Duration	96 hours

No condensation of moisture
After 4 hours exposure in ordinary temperature and humidity the product should meet the requirements of item B.

4.5 Temperature Shock Test

Cycles	15
One Cycle	1 hour at -40°C, 1 hour at +85°C
Transfer time	<5 minutes

After 2 hours exposure in ordinary temperature and humidity the product should meet the requirements of item B.



4.6 Vibration Test

The motor fixed fixture weight 180g

Vibration Frequency	10~55Hz
Double Amplitude	1.5mm (p-p)
Acceleration	22m/s
Period	In the range of 10 minutes (10~55~10Hz)
Condition	Do the test in three axial directions for one hour to the samples.

After the test the product should meet the requirements of item B.

4.7 Drop Test

Fix the motor on an object weighted about 180g (incl. the motor) and drop on cement floor.

Height	1.5m (on cement floor)
Times	3 times for each direction
Direction	±X , ±Y, ±Z

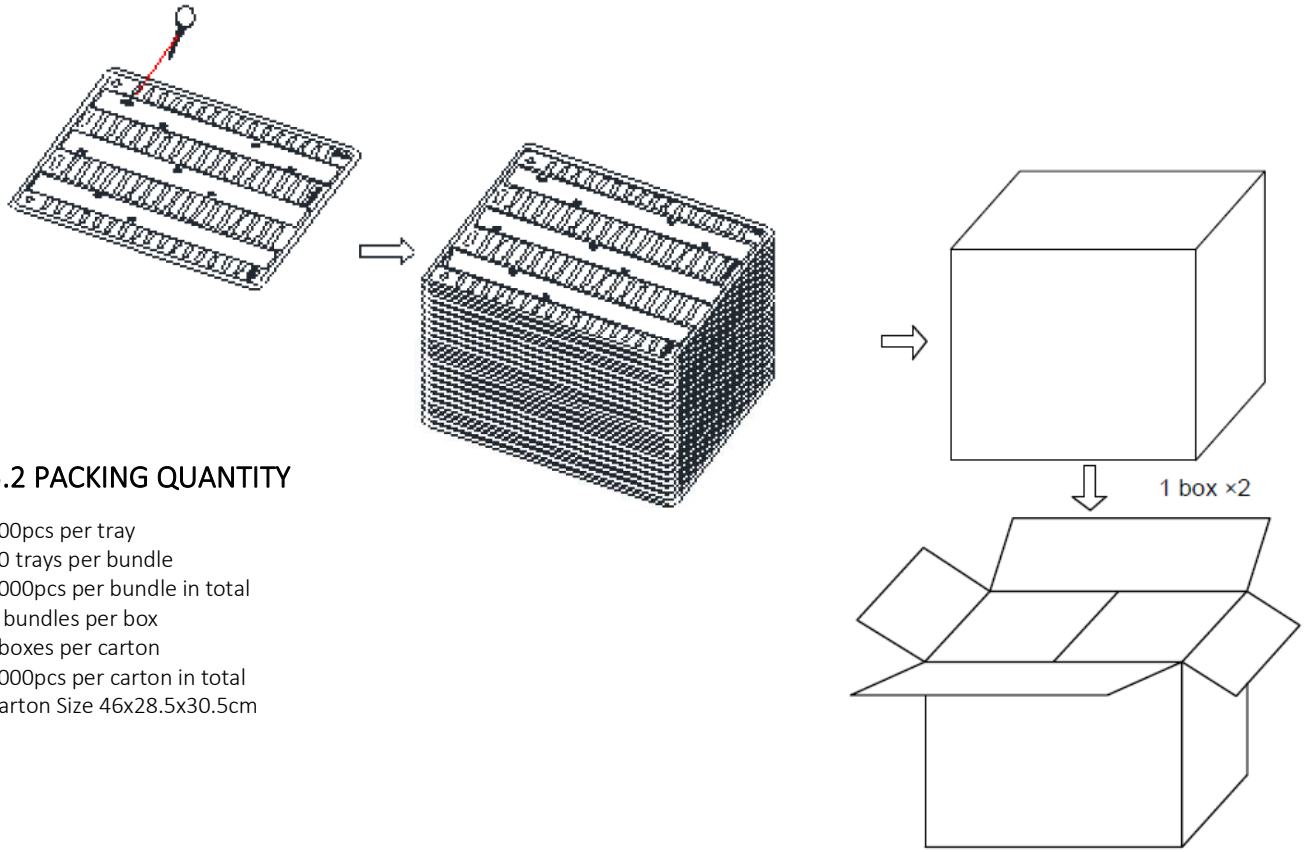
After the test the product should meet the requirements of item B.

JUDGMENTS AFTER RELIABILITY TEST:

Item A:
The acceleration fluctuates in the initial value ±30%. The current and noise meet the specifications.
Item B:
There should be no abnormalities to happen in structure.

5. PACKING

5.1 PACKING DRAWING



5.2 PACKING QUANTITY

100pcs per tray
20 trays per bundle
2000pcs per bundle in total
2 bundles per box
2boxes per carton
8000pcs per carton in total
Carton Size 46x28.5x30.5cm

6. NOTICE

6.1 Make sure to use the motor in accordance with the specifications. If not, the lifetime might be reduced accordingly, pay high attention to the range of the voltage.

6.2 The motor is suggested using within 6 months. Do not use or store the motor under below environments:

a. High temperature and high humidity area;

b. Corrosive gas such as H2S, SO2, NO2, Cl2;

c. Dusty area;

6.3 Pay attention to the working environment of the motor, avoid any iron material sucked by the motor, or the motor might cause noise and the performance will be degraded, meanwhile, the reliability might be reduced.

6.4 Make sure the product will not violate any local relevant standards, as well as laws and regulations.

6.5 Handle with care.

6.6 A little rusty spot at the steel plate surface is allowed.

7. HISTORY CHANGE RECORD

REV	CHANGE ITEMS		DATE
	BEFORE CHANGE	AFTER CHANGE	
1		Add lead	2018.12.18
2		Add wire	2019.01.08
3	Old layout	New layout	2019.08.23
4	Part name: LRA08235CA	Part Name: LRA08235LA	2020.01.13
5	Resistance: 24 Ω ±10%	Resistance: 25.5 Ω ±10%	2020.01.13
6	Packing quantity: 5000pcs per carton	Packing quantity: 8000pcs per carton	2020.01.13
7		Update drawing: Add Printing	2020.01.13