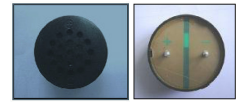


Content

- 1. General
- 2. Electrical and acoustical specification
- 3. Frequency
- 4. Drawing
- 5. Soldering conditions
- 6. Reliability tests
- 7. Packageing



1. General

Operating temperature: -40°C to +105°C component weight [g]: 9
 Storage temperature: -40°C to +105°C
 Contact: PIN housing color: black
 Packageing: magazine IP rating:
 ESD conform
 RoHs conform: yes
 Remark:
 coil wire 0.045 Cu bonded by hot air, change pcb, add tin on micro spot

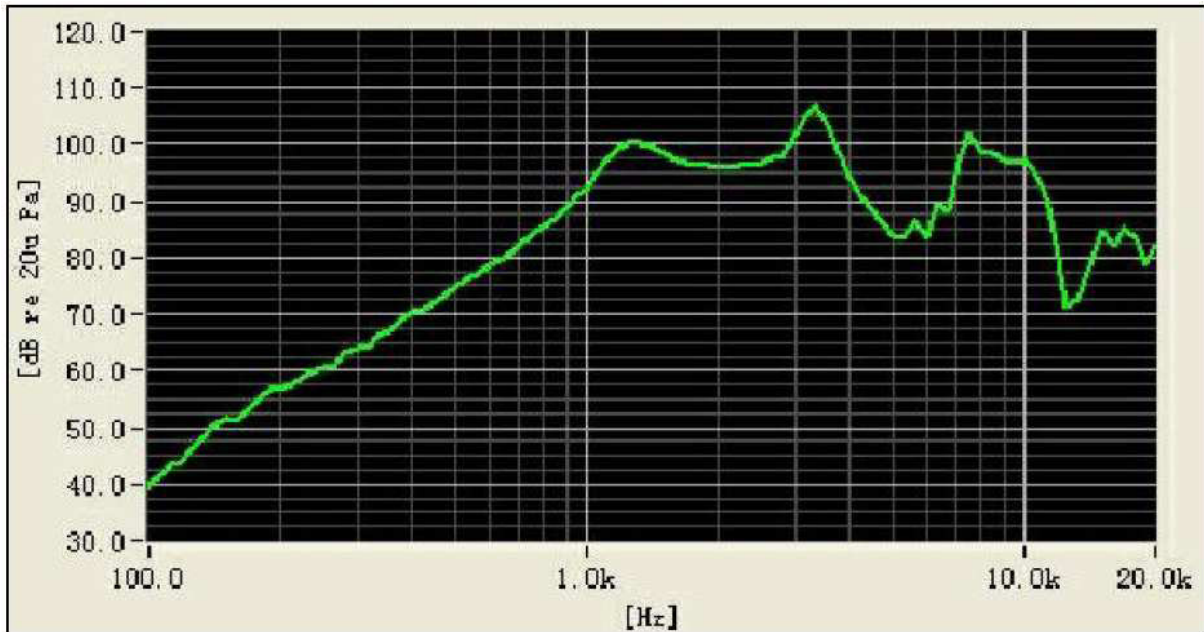
2. Electrical and acoustical specification

Description	Condition	Value
Impedance Z [Ω]	at 2 kHz	32 Ω ± 10%
Rated input power [W]		1.3
Maximum input power [W]		1.5
Operating voltage [Vac]	symmetrical voltage peak to peak	6 - 12.8
SPL [dBA]	measured in 10cm, 5,6Vpp, 50% duty cycle, 1000Hz	95 ± 5
Breakdown voltage [kV]	between pin and housing	> 5
Resonance frequency [Hz]		500 ± 100
Frequency range [Hz]		1000 - 4000

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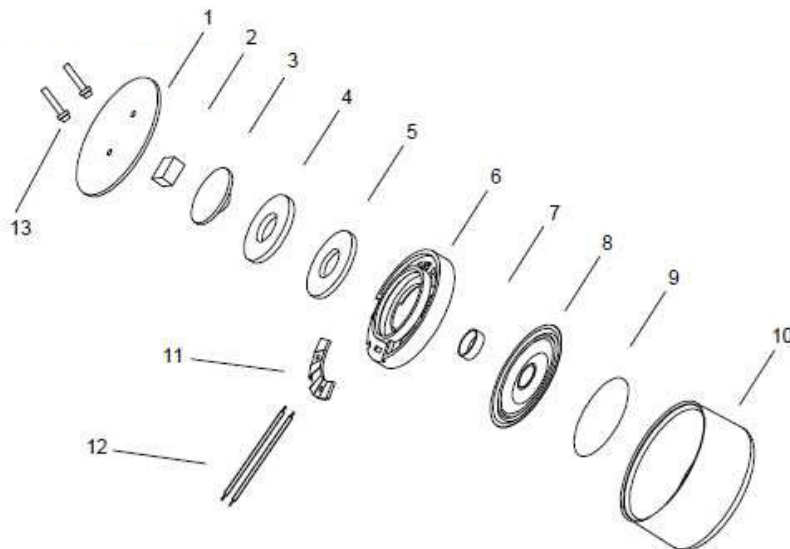
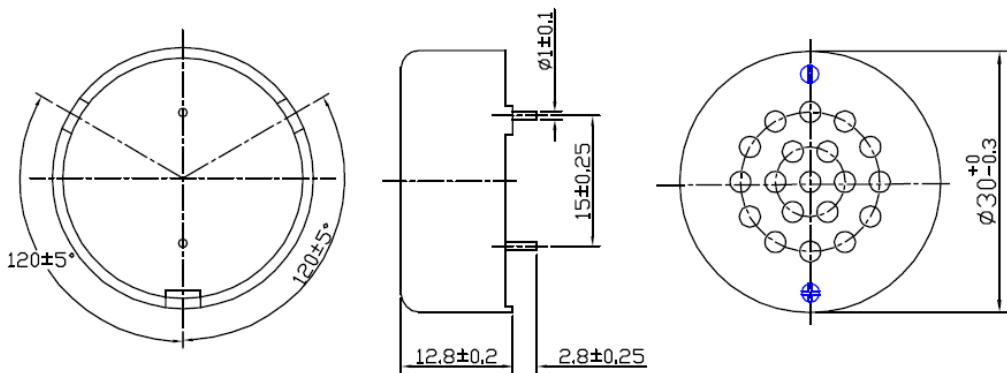
GREWUS		dimensions without tolerance:	scale:	
Designed by: Ralf Hinnerichs	04.06.2013	part number:	index:	Last update:
Released by: Ralf Hinnerichs	04.06.2013	SH3032P-04B	B	04.06.2013
drawing number: 414294131			Loudspeaker	Page 1 of 5

3. Frequency curve



GREWUS			Dimensions without tolerance	± 0.3	Scale
Designed by	Hinnerichs	04.06.2013	Part number	SH3032P-04B	Index
Released by	Hinnerichs	04.06.2013			B
Drawing number			414294131		Page
					2 of 5

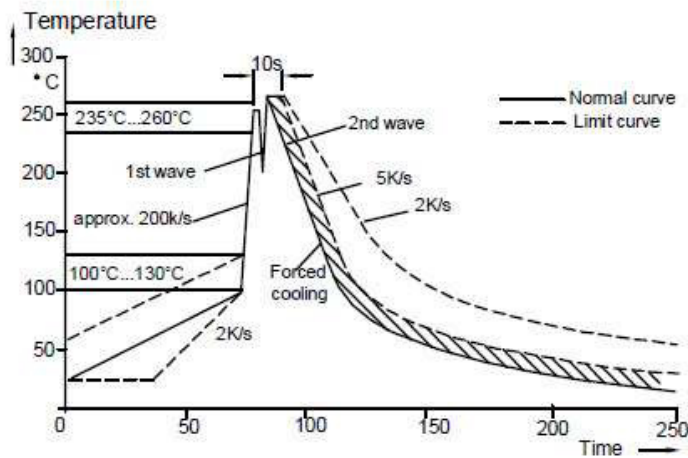
4. Drawing



13	Pin	CuØ1.0 (plating Sn)
12	Connect wire	Cu and PVC
11	PCB	Epoxy and Cu(plating Sn)
10	Housing	Plastic MPPO+20%GF
9	Mesh	Silk
8	Diaphragm	PEI δ=0,05mm
7	Voice Coil	Ø0,045 Cu, self-bonding by hot air
6	Frame	Plastic MPPO+20%GF
5	Piece	SPCC
4	Magnet	Nd-Fe-B N35H
3	Yoke	SPCC
2	Mat	Sponge
1	Plugboard	Epoxy and Cu(plating Sn)
No	Parts Name	Material

GREWUS			Dimensions without tolerance	± 0.3	Scale	
Designed by	Hinnerichs	04.06.2013	Part number	SH3032P-04B	Index	Date
Released by	Hinnerichs	04.06.2013			B	04.06.2013
Drawing number	414294131			Page	3 of 5	

5. Soldering conditions

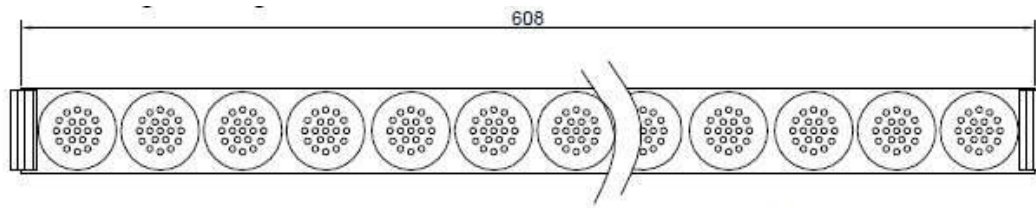


6. Reliability tests

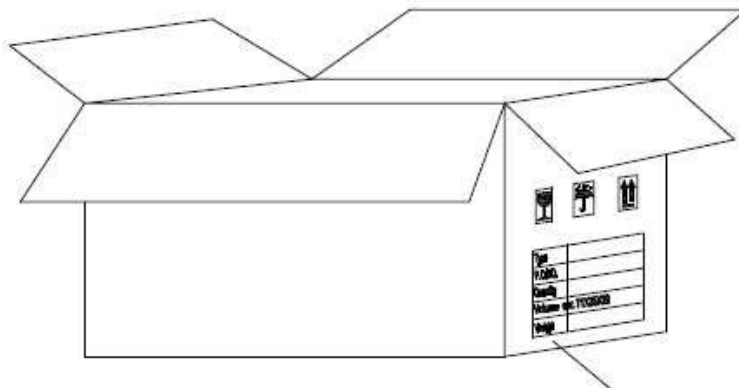
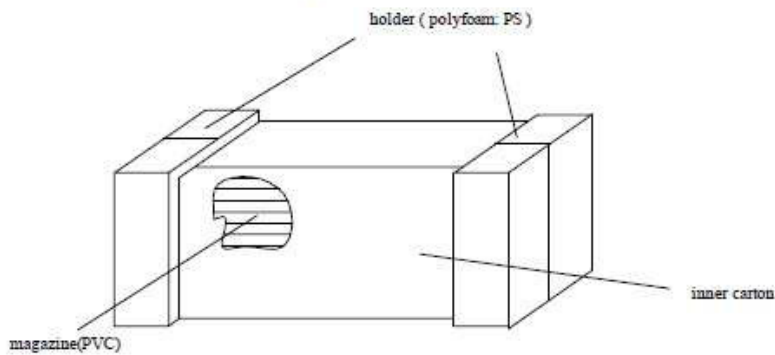
1. Endurance test
 - Duration 240hrs
 - at square wave, duty cycle:50% asymmetric, $U_n=7V_{op}$ $f=2048Hz$
 - Temperature cycle $-40...+85^{\circ}C$ with cycle duration 4h; 10s on/off
2. High temperature durability acc. to IEC 60068 part2-2
 - Temperature $+85^{\circ}C$
 - Duration 1000h
3. Low temperature durability acc. to IEC 60068 part 2-1
 - Temperature $-40^{\circ}C$
 - Duration 500h
4. Humidity durability acc. to IEC 60068 part2-3
 - Temperature $40^{\circ}C$
 - Rel. humidity 93%RH
 - Duration 56days
5. Temperature cycle durability acc. to IEC60068 part2-14
 - Low Temperature $-40^{\circ}C$
 - Upper Temperature $+85^{\circ}C$
 - Transfer time from lower to upper temperature <10s
 - Number of cycles 100cycles
6. Shock test acc. to IEC 60068 part2-27
 - 100g for each free mutually perpendicular directions to each of 3times by sine-wave
7. Vibration test acc. to IEC 60068 part 2 -6
 - sine-wave excitation; 8...300Hz, 2g, 1 octave/min; test time 16h each axis
 - Additional requirements:
 - Test of solderability and resistance to soldering heat acc. to VDON4.3643.001
 - X-ray solderpoint inspection according to VDON 4.4814.001
 - Washability: not washable
 - Cadmium prohibited as per DIN 5.5000.1

GREWUS			Dimensions without tolerance ± 0.3	Scale	
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7. Packaging



1. Magazine resistance pressure of static electricity: $\leq 10^{10} \Omega / \text{cm}^2$
2. All loudspeakers in one magazine must have the same polarity direction



- 1) 19pcs per tube
- 2) 40pcs tube per carton
- 3) 760pcs per carton
- 4) inner carton size: 64 x18 x 21cm
- 5) carton size: 71 x 25 x 29cm

GREWUS			Dimensions without tolerance	± 0.3	Scale
Designed by	Hinnerichs	04.06.2013	Part number		Index
Released by	Hinnerichs	04.06.2013	SH3032P-04B		Date
Drawing number 414294131					Page 5 of 5