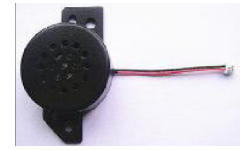


Content

- 1. General
- 2. Electrical and acoustical specification
- 3. Acoustical characteristic
- 4. Drawing
- 5. Reliability tests
- 6. Packaging



1. General

Operating temperature: -40°C bis +105°C component weight [g]: 11
 Storage temperature: -40°C bis +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, Housing: 51021-0200, Terminal: 50079-0800 (Both Molex)

2. Electrical and acoustical specification

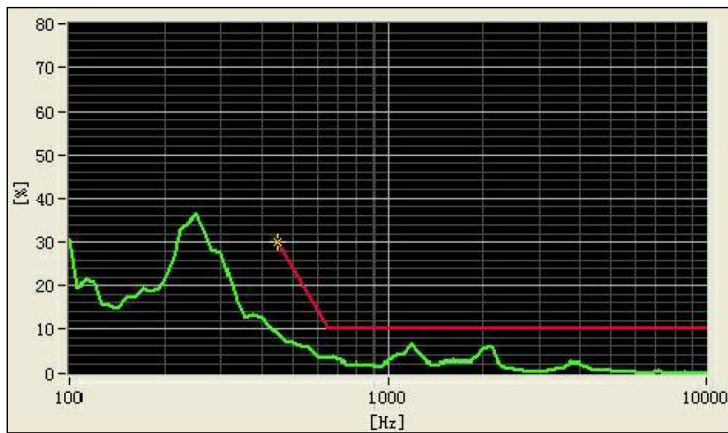
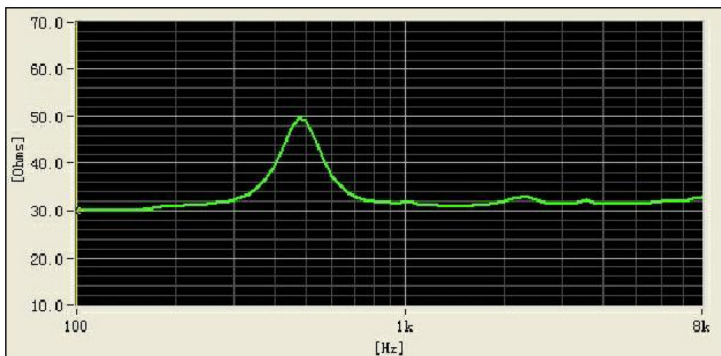
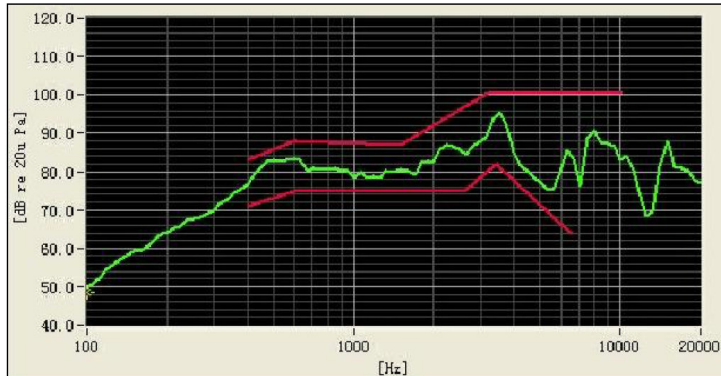
Description	Value	Tolerance
rated input power:	1,3	
maximum input power:	1,5	
impedance:	32	± 10%
Frequency [Hz]	500	± 100
frequency range:	400 -	10000
SPL [dBA]	within 400Hz and 10000Hz, 0.5m distance, 0.15W, 70% of frequency range / within 400Hz and 10000Hz, 0.5m distance, 0.15W, 100% of frequency range	>75
buzz and rattle:		
magnet material:		
membrane material:		
polarity:		
Remark:		

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GREWUS		dimensions without tolerance: ± 0.2	scale:	
Designed by: Ralf Hinnerichs	07.03.2012	part number: SH 3032P-07 A	index:	Last update:
Released by: Ralf Hinnerichs	08.03.2013		A	08.03.2013
drawing number: 411034689		Loudspeaker	Page 1 of 6	

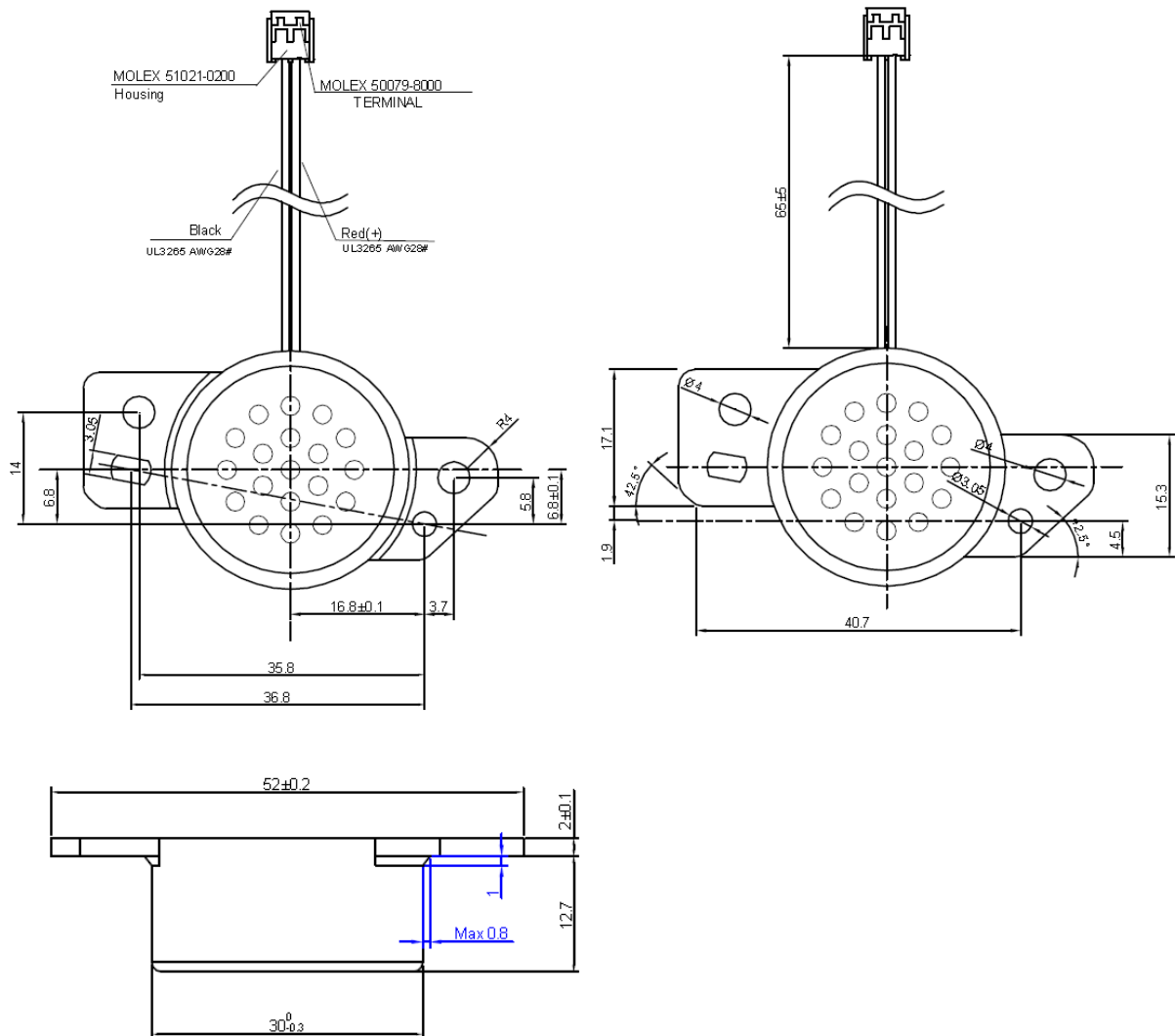
3. Acoustical characteristic

The following frequency curve is the minimum level (-3dB) at 0.15W in 0.1m distance.



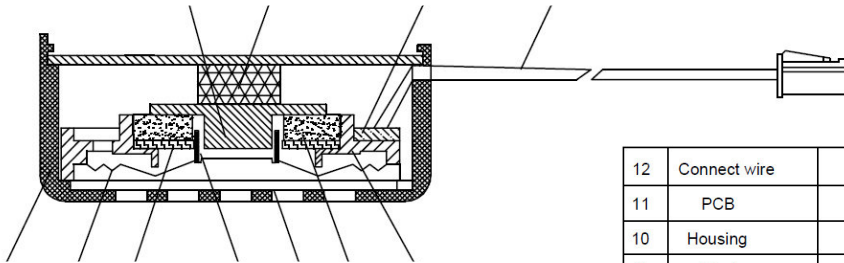
GREWUS			Dimensions without tolerance	± 0.3	Scale
Designed by	Ralf Hinnerichs	07.03.2012	Part number		Index
Released by	Ralf Hinnerichs	08.03.2013	SH3032P-07A		Date
Drawing number	411034689			Page	2 of 6

4. Drawing

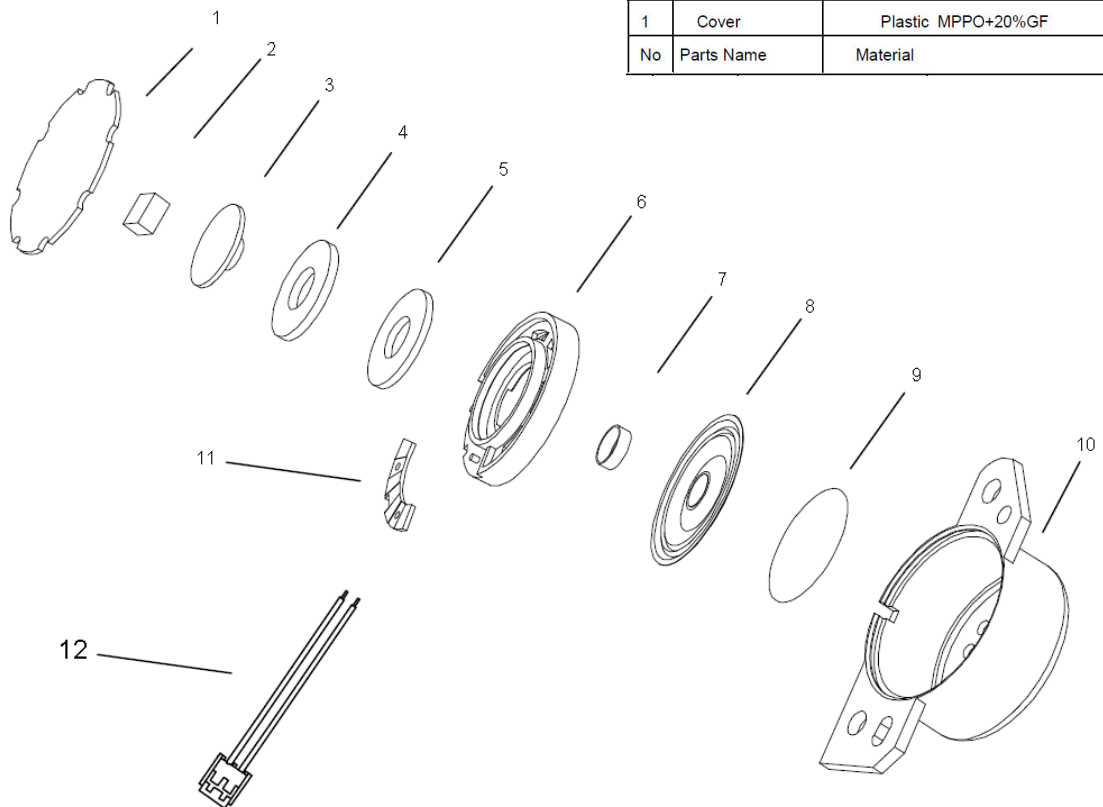


Dimension tolerance	0~3	>3~6	>6~30	>30~120
Tolerance level	±0.1	±0.1	±0.2	±0.2

GREWUS			Dimensions without tolerance ± 0.3	Scale	
Designed by	Ralf Hinnerichs	07.03.2012	Part number SH3032P-07A	Index	Date
Released by	Ralf Hinnerichs	08.03.2013		A	08.03.2013
Drawing number	411034689			Page	3 of 6



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 $\delta=0,05\text{mm}$
7	Voice Coil	$\varnothing 0.045$ 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	Cover	Plastic MPPO+20%GF
No	Parts Name	Material



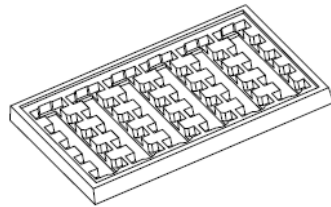
GREWUS			Dimensions without tolerance	± 0.3	Scale
Designed by	Ralf Hinnerichs	07.03.2012	Part number		Index
Released by	Ralf Hinnerichs	08.03.2013	SH3032P-07A		Date
Drawing number			411034689	Page	4 of 6

5. Reliability tests

1. Endurance test, Duration 240hrs
At square wave, duty cycle: 50% asymmetric, $U_n = 7V_{op}$ $f=2048 \pm 30Hz$
Temperature cycle $-40...+85^{\circ}C$ with cycle duration 4h; 10s on/off
2. High temperature durability acc. to IEC 60068 part2-2
Temperature $+85 \pm 3^{\circ}C$
Duration 1000h
3. Low temperature durability acc. to IEC 60068 part 2-1
Temperature $-40 \pm 3^{\circ}C$, Duration 500h
4. Humidity durability acc. to IEC 60068 part2-3
Temperature $40 \pm 3^{\circ}C$, Rel. humidity 93%RH, Duration 56days
5. Temperature cycle durability acc. to IEC60068 part 2-14
Low Temperature $-40 \pm 3^{\circ}C$, Upper Temperature $+85 \pm 3^{\circ}C$, Transfer time from lower to upper Temperature <10s, Number of cycles 100cycles
6. Shock test acc. to IEC 60068 part 2-27
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 solder point inspection according to VDON 4.4814.001
Washability: not washable
Cadmium prohibited as per DIN 5.5000.1

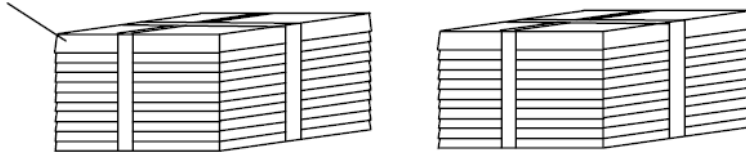
GREWUS			Dimensions without tolerance ± 0.3	Scale	
Designed by	Ralf Hinnerichs	07.03.2012	Part number SH3032P-07A	Index	Date
Released by	Ralf Hinnerichs	08.03.2013		A	08.03.2013
Drawing number 411034689			Page 5 of 6		

6. Packaging

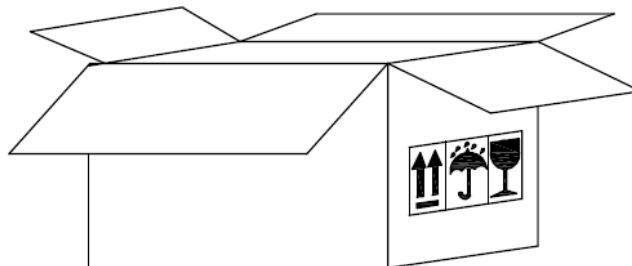


ESD packing

only cover



11 trays, 300 pcs



- 1) 30pcs per tray,
- 2) 22pcs tray per carton,
- 3) 600pcs per carton,
- 4) carton size: 59X45X28cm

GREWUS			Dimensions without tolerance	± 0.3	Scale
Designed by	Ralf Hinnerichs	07.03.2012	Part number		Index
Released by	Ralf Hinnerichs	08.03.2013	SH3032P-07A		Date
Drawing number			411034689		Page
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