Specification for Speaker	Page	2/9
openioalien ter opeaner	Revision No.	1.0
Model No. : KP4059SP1F400-6513	Drawing No.	KFC6513

## **CONTENTS**

- 1. Scope
- 2. General
- 3. Electrical and Acoustic Characteristics.
- 4. Reliability Test
- 5. Measurement Block Diagram & Response curve
- 6. Structure
- 7. Dimensions
- 8. Packing
- 9. Revision

Specification for Speaker		Page	3/9
		Revision No.	1.0
Model No.	: KP4059SP1F400-6513	Drawing No.	KFC6513

### 1. Scope

This specification is applied to the dynamic speaker which is used all of the electrical acoustic product.

- -- compact, rich sound
- -- applications: mobile phone, PDA, notebook computer, etc. ..

#### 2. General

2.1 Out-Diameter : 40 mm
 2.2 Height : 6.4 mm
 2.3 Weight : 10 g

2.4 Operating Temperature range:

-20~+60°C without loss of function

2.5 Store Temperature range:

-30~+70°C without loss of function

#### 3. Electrical and Acoustic Characteristics.

Test condition:  $15 \sim 35$  °C,  $25\% \sim 85\%$  RH,  $860\sim1060$  mbar

No	Items	Specification		
1	Impedance	$8~\Omega~\pm 15\%~$ (1Vrms at 1KHz)		
2	Sound Pressure Level	82 dB $\pm$ 3dB (1W/1M at 1.0kHz)		
3	Resonance Frequency	400 Hz ± 20%		
4	Frequency Range	Fo ~20KHz		
5	Input Power	Rated 1 W / Max. 1.5 W		
6	Distortion	<5% Max. at 2kHz/1Vrms		
7	Buzz and Rattle	Should not be audible buzzes,rattles when the 2.83V sine wave signal swept at frequency range.		
8	Polarity	When supplied plus D.C. voltage to (+) terminal, the cone diaphragm must move to forward.		

Specification for Speaker		Page	4/9
openioalien opeaner		Revision No.	1.0
Model No.	: KP4059SP1F400-6513	Drawing No.	KFC6513

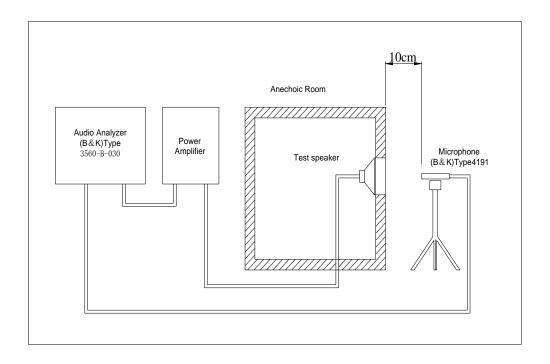
## 4. Reliability Test

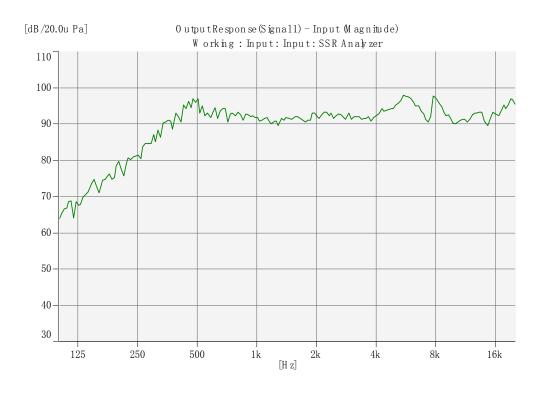
After test(1~7item), the speaker S.P.L . difference shall be within  $\pm 3 dB$ , and the appearance not exist any change to be harmful to normal operation (e.g. cracks,rusts,damages and especially distortion).

No	Items	Specification		
1	High Temperature Test	After being placed in a chamber with +70±3 °C for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.		
2	Low Temperature Test	After being placed in a chamber with -30±3 ℃ for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.		
3	Humidity Test	After being placed in a chamber with 85 to 90%R.H. at +40±2 °C for 96 hours and then being placed in natural condition for 1 hour, speaker shall be measured.		
4	Thermal Shock Test	After being placed in a chamber at +60°C for 1 hour, then speaker shall be placed in a chamber at -20°C for 1 hour(1 cycle is the below diagram).  After 6 above cycles, speaker shall be measured after being placed in natural condition for 1 hour.  20 Sec.  +60°C  -20°C  1 hour 1 hour		
5	Vibration Test	After being applied vibration of amplitude of 1.5mm with 10 to55Hz band of vibration frequency to each of 3 perpendicular directions for 1 hour, then placed in natural condition for 1 hour, speaker shall be measured.		
6	Drop Test	The speaker when mounted in the jig which weight 85g~100g, shall with stand 15 times random drops from a height of 1.5 meter to a concrete floor faced with 5mm thick hard wood board.and be nothing mechanical damage.		
7	Load test	After being applied loading white noise with input power 1W(2.83Vrms.) for 96 hours, then placed in natural condition for 1 hour, speaker shall be measured.		
8	Insulation test	When they are measured with DC 100V the insulation resistance between v.c. terminal and frame must be more than 1 $\text{M}\Omega$		

Specification for Speaker		Page	5/9
openioalien ter opeaker		Revision No.	1.0
Model No.	: KP4059SP1F400-6513	Drawing No.	KFC6513

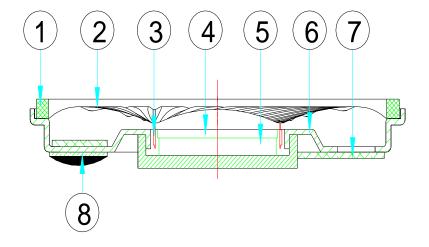
## 5. Measurement Block Diagram & Response curve





Specification for Speaker	Page	6/9
epocification for epocific	Revision No.	1.0
Model No. : KP4059SP1F400-6513	Drawing No.	KFC6513

# 6. Structure



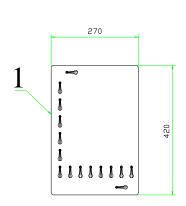
8	Terminal	1	PCB	
7	Screen	1	5B	
6	Frame	1	SPCC	
5	Magnet	1	Nd-Fe-B	
4	Plate	1	SPCC	
3	V-coil	1	bobbin coil	
2	Diaphragm	1	PET	
1	Gasket	1	Copper	
No.	Part Name	Q'ty	Material	Remarks

Specification for Speaker	Page	7/9
· · · · · · · · · · · · · · · · · · ·	Revision No.	1.0
Model No. : KP4059SP1F400-6513	Drawing No.	KFC6513

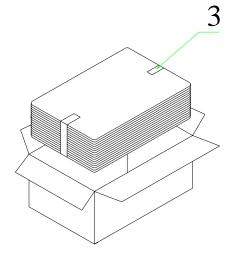
# 7. Dimensions Φ40±0.2 Φ17±0.2 Ф37 UNIT FIRST ANGLE PROJECTION : mm Tolerance: ±0.2

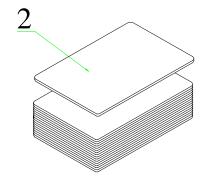
Specification for Speaker	Page	8/9
	Revision No.	1.0
Model No. : KP4059SP1F400-6513	Drawing No.	KFC6513

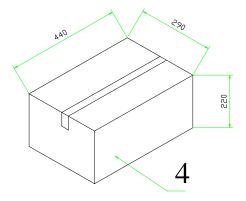
# 8. Packing



35Pcs







QTY:490Pcs 440 x290 x220