



Specification For Approval

承認書

客 戶 (Customer)			
品 名 (Product Name)	ECM		
機 種 (Model No.)			
客戶料號 (Customer Parts No.)			
供應商料號 (Supplier Model No.)	PVM-4013B-DSR443GT		
客戶承認簽章 Customer Approval Signature	In Charge	Checked	Approval

Revision History

Version	Date	Description	Author
V 001	2013.01.24	Creation	LJM

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Design : LJM Checked : VIVIAN Approval : VIVIAN

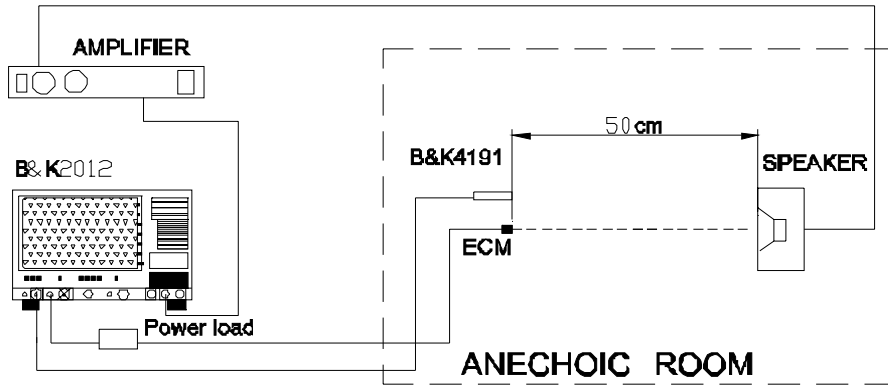
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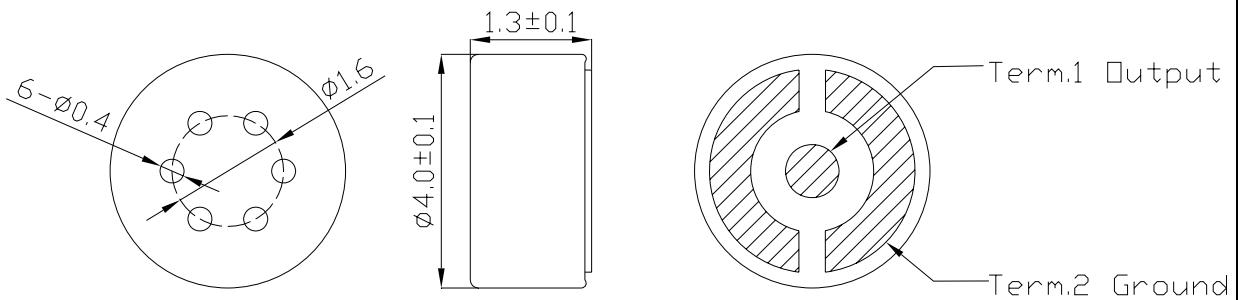
1.	Name :	Omnidirectional SMD Electret Condenser Microphone																																	
2.	Model No.	PVM-4013B-DSR443GT	C1=10NF	R1=330Ω																															
3.	Electrical Characteristics			(Temp=20±2°C Room Humidity=65±5%)																															
	No	Parameter	Symbol	Condition	Limits			Unit																											
					Min.	Center	Max.																												
	3.1	Sensitivity	S	0dB=1V/Pa , at 1kHz	-47	-44	-41	dB																											
	3.2	Output impedance	Z out	f=1kHz			2.2	KΩ																											
	3.3	Current Consumption	I _{DSS}	V _{CC} =2.0V,R _L =2.2KΩ			500	μA																											
	3.4	Signal to Noise Ratio	S/N	at 1kHz S.P.L=1Pa (A-Weighted Curve)	58			dB																											
	3.5	Decreasing Voltage	ΔS	V _{CC} =3.0V to2.0V			-3	dB																											
	3.6	Operating Voltage			1.0		10	V																											
	3.7	Maximum input S.P.L					110	dB																											
3.8	Typical Frequency Response Curve																																		
	Frequency Response				Microphone Response Tolerance Window																														
					<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Frequency(Hz)</th> <th style="text-align: center;">Lower Limit(dB)</th> <th style="text-align: center;">Upper Limit(dB)</th> </tr> </thead> <tbody> <tr><td style="text-align: center;">50</td><td style="text-align: center;">-6</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">100</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">800</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">1000</td><td style="text-align: center;">0</td><td style="text-align: center;">0</td></tr> <tr><td style="text-align: center;">1200</td><td style="text-align: center;">-3</td><td style="text-align: center;">+3</td></tr> <tr><td style="text-align: center;">3000</td><td style="text-align: center;">-3</td><td style="text-align: center;">+8</td></tr> <tr><td style="text-align: center;">5000</td><td style="text-align: center;">-3</td><td style="text-align: center;">+8</td></tr> <tr><td style="text-align: center;">10000</td><td style="text-align: center;">-8</td><td style="text-align: center;">+8</td></tr> </tbody> </table>				Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)	50	-6	+3	100	-3	+3	800	-3	+3	1000	0	0	1200	-3	+3	3000	-3	+8	5000	-3	+8	10000	-8	+8
Frequency(Hz)	Lower Limit(dB)	Upper Limit(dB)																																	
50	-6	+3																																	
100	-3	+3																																	
800	-3	+3																																	
1000	0	0																																	
1200	-3	+3																																	
3000	-3	+8																																	
5000	-3	+8																																	
10000	-8	+8																																	
3.9	Measurement Circuit																																		
							R _L =2.2KΩ																												
							V _s =2.0V																												
							C1=10NF																												
							R1=330Ω																												
							C=1μF																												

4. Test Setup Drawing

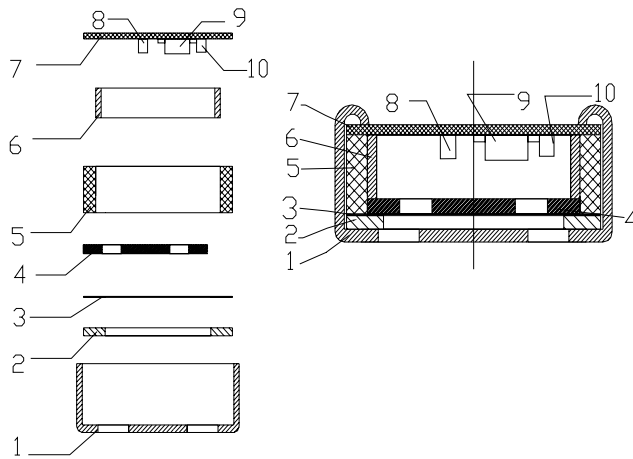


5. Appearance And Dimension

Unit : mm



6. Drawing

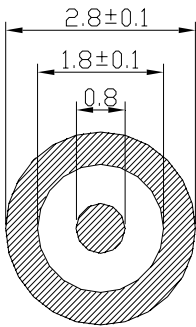


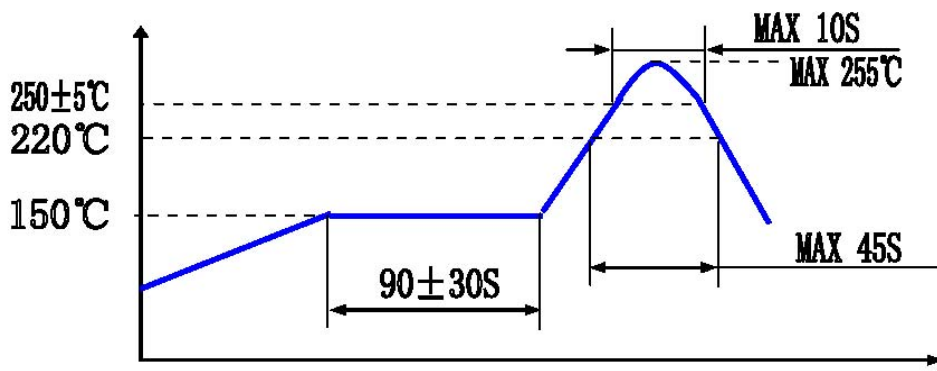
No.	Name	Material	QTY	Remark
10	RES		1	330Ω
9	FET		1	
8	Chip Capacitor		1	10nF
7	PCB	FR4	1	
6	Copper ring		1	
5	Chamber		1	
4	Electret Plate		1	
3	Spacer		1	
2	Diaphragm		1	
1	Case	Copper		

7. Temperature Conditions

Storage Temperature Range	Operation Temperature Range
-40°C ~ +85°C	-40°C ~ +85°C

8.	<p>Terminal Mechanical Strength</p> <p>Terminal should be no interference in operation after pulled the terminal with 1kg for 1 minute.</p>
9.	<p>Reliability Test</p> <p>After each of following test, the sensitivity of the microphone should be within $\pm 3\text{dB}$ of initial sensitivity after 3hours of conditioning at 20°C.</p> <ol style="list-style-type: none"> 1. Vibration Test <ul style="list-style-type: none"> Frequency : 10Hz~55Hz Amplitude : 1.52mm Change of Frequency : 1 octave/min 2 hours in each of axes 2. High Temperature Test <ul style="list-style-type: none"> +85$^{\circ}\text{C}$ for 240 hours. 3. Low Temperature Test <ul style="list-style-type: none"> -40$^{\circ}\text{C}$ for 240 hours. 4. Humidity Test <ul style="list-style-type: none"> 90%~95%RH,+60$^{\circ}\text{C}$ for 240 hours. 5. Thermal shocking test <ul style="list-style-type: none"> -40$^{\circ}\text{C}$, 30 minutes \leftrightarrow +80$^{\circ}\text{C}$, 30 minutes, repeated 32 cycles \rightarrow room temperature, 3 hours. 6. Temperature Cycles <ul style="list-style-type: none"> -40$^{\circ}\text{C}$ \leftrightarrow +20$^{\circ}\text{C}$ \leftrightarrow +85$^{\circ}\text{C}$ \leftrightarrow +20$^{\circ}\text{C}$ \leftrightarrow -40$^{\circ}\text{C}$ (2h) (0.5h) (2h) (0.1h) (2h) (0.5h) (2h) (0.5h) (2h) for 5 cycles. 7. Packing Drop Test <ul style="list-style-type: none"> Height : 1.5m Procedure: 5 times from each of axes 8. Electrostatic discharge <ul style="list-style-type: none"> Tested to IEC61000-4-2 level 3 : a) Contact discharge <ul style="list-style-type: none"> The microphone shall operate normally after 10 discharges to is 6KV DC and the discharge network is 150pF and 330Ω. b) Air discharge <ul style="list-style-type: none"> The microphone shall operate normally after 10 discharges to is 8KV DC and the discharge network is 150pF and 330Ω

10.	<p>Recommend assembly weld plate</p> 
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11.	<p>Reflow Process Condition</p> <p>The soldering profile depends on various parameters necessitating a set up for each application. The data here is given only for guidance on solder re-flow. There are four zones:</p> <ol style="list-style-type: none"> 1. Preheat Zone: This zone brings the temperature at a controlled rate, typically 1~2.5°C/s. 2. Equilibrium Zone: This zone brings the board to be a uniform temperature and also activates the flux. The duration in this zone (typically 2~3 minutes) will need to be adjusted to optimize the out gassing of the flux. 3. Re-flow Zone: The peak temperature should be high enough to achieve good wetting but not so high as to cause component discoloration or damage (255°C for maximum 10 seconds). <p>Excessive soldering time can lead to inter-metallic growth which can result in a brittle joint.</p> <ol style="list-style-type: none"> 4. Cooling Zone: The cooling rate should be fast, to keep the solder grains small which will give a longer lasting joint. Typically will be 2~5°C/s. 5. Sensitivity change should within ±3dB after re-flow process and at room temperature for 30 minutes at least. 
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12.	Packing Introduction	Packing chart
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PACKING INTRODUCTION

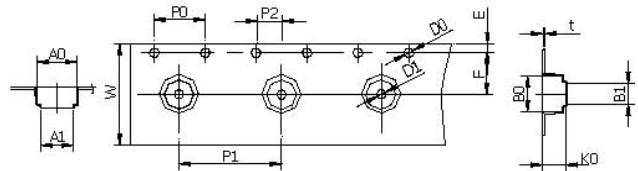
- 1000PCS/ DELIVERY PLATE
- 1000PCS/ AVOID STATIC SPONGE
- 3000PCS/ MID PACKET
- 24000PCS/ PAPER CASE

QUANTITY INTRODUCTION

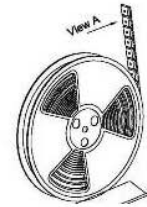
- 1PC=0.1g
- NET WEIGHT : 1.5 kg
- GROSS WEIGHT : 4.5 kg

LABEL STIPULATION

CONTENTS SHOULD BE SEEN CLEAR.



ITEM	W	A0	B0	D0	F	E	K0	P0	P1	P2	t
DIM	12	4.2	4.2	1.5	5.50	1.75	1.70	4.0	8.0	2.0	0.25
TOLE	± 0.30	± 0.10	± 0.10	± 0.10	± 0.10	± 0.1	± 0.10	± 0.1	± 0.1	± 0.1	± 0.05



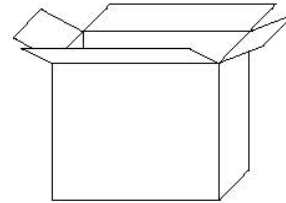
X1

1000PCS



X3

3000PCS



X8

24000PCS

