APPROVAL SHEET
FOR
MICROPHONE

CUSTOMER	
MODEL	ACMG4013-05S-443-WP-003
DIMENSIONAL	Φ4.0×1.3
SENSITIVITY	-44±3dB

CUSTOMER	APPROVER	CHECKER

DATE	2010-6-1
PREP	Zhang Chun Lan
CHKD	Fang Tao

PRODUCT SPECIFICATIONS

TYPE: Back Electret Condenser Microphone

Number: ACMG4013-05S-443-WP-003

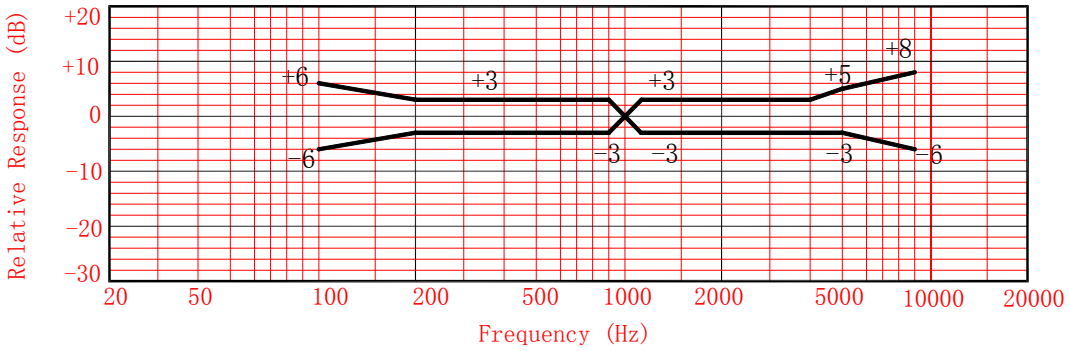
The Microphone including all material and solder joints must be free from Lead and other restricted substances as per customer requirement.

1. Electrical Characteristics

Test Condition (Vs=2.0V RL=2.2KΩ Ta=20℃ R.H.=65%)

Item	Symbol	Test Conditions	Minimum	Standard	Maximum	Unit
Sensitivity	S	Pin=1Pa , f=1kHz	-47	-44	-41	dB
Output Impedance	Zout	Pin=1Pa , f=1kHz			2.2	kΩ
Directivity		Omni directional				
Current consumption	I	Vs=2.0V, RL=2.2KΩ			500	μA
S/N ratio (A)	S/N (A)	Pin=1Pa, f=1kHz(A Curve)	58			dB
Decreasing Voltage Characteristic	△S	Pin=1Pa , f=1kHz Vs=2.0~1.5V			-3	dB
Operating Voltage		DC	1	2	10	V
Maximal Input Sound Pressure Level	MISPL	f=1kHz, distortion≤3%			104	dB

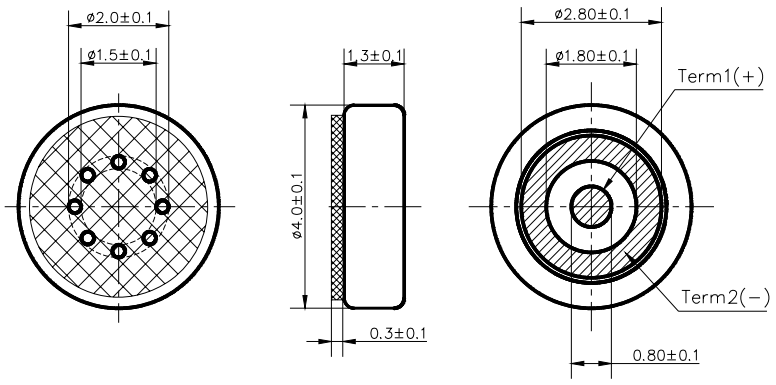
Typical Frequency Response Curve



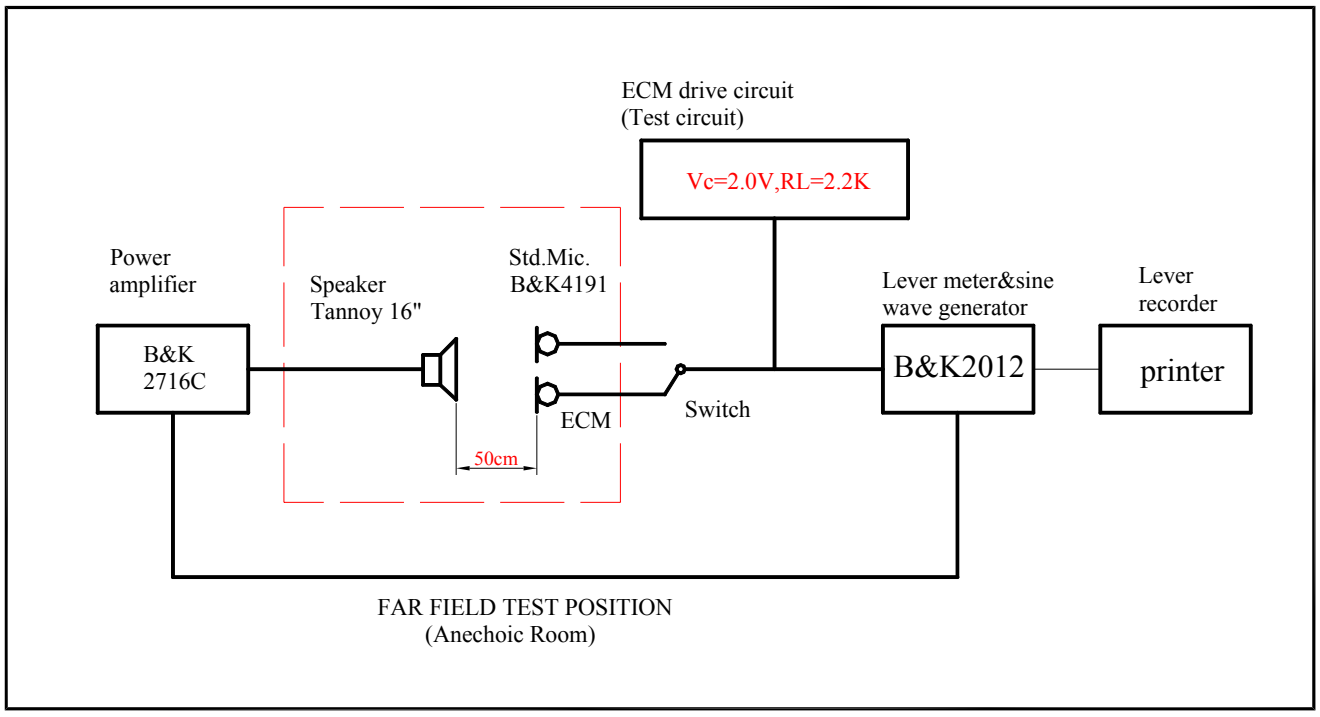
Frequency(Hz)	100	200	900	1000	1200	2000	4000	5000	8000
Upper Limit(dB)	6	3	3	0	3	3	3	5	8
Lower Limit(dB)	-6	-3	-3	0	-3	-3	-3	-3	-6

2. Microphone Mechanical Drawing

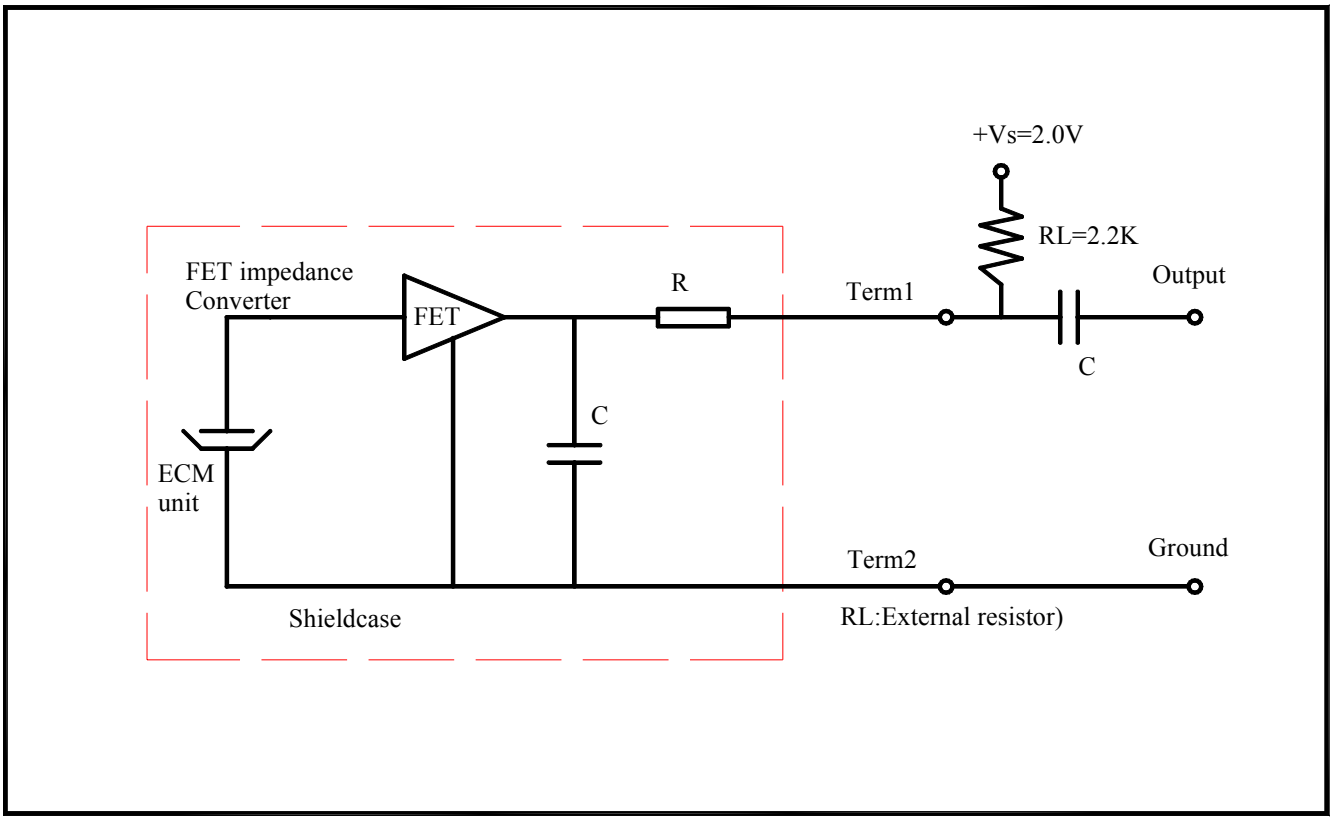
Unit: mm



3. Standard test fixtures



4. Standard test circuit.



5. Mechanical Characteristics

Dimension	See appearance drawing
Weight	Less than 0.5 g
Operation Temperature	-30℃ to +70℃
Storage Temperature	-40℃ to +85℃

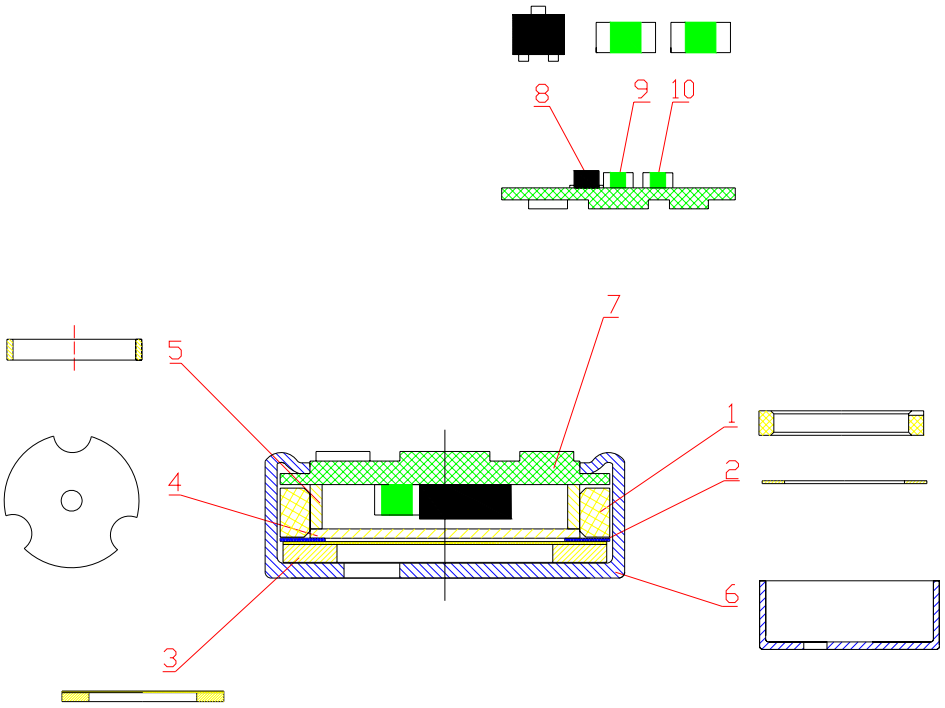
6. Reliability Tests

As per customer's requirements. If no customer's requirements available please refer to following tests.

Test item	Detail	Standard
Low Temperature	Conditions: -40±3℃ Duration: 72 hours	IEC60068-2-1
High Temperature	Conditions: 85±3℃ Duration: 72 hours	IEC60068-2-2
Temperature Shock	Conditions: 30 minutes at -40℃ followed by 30 minutes at 85℃,20 second maximum transition time between temperature extremes. 32 cycles	IEC60068-2-14
Damp heat	Conditions: 55±3℃ 93%RH Duration: 96 hours	IEC60068-2-56
Drop Test	Conditions:1.5 Meter height onto a concrete surface each time at three direction in state of packing	IEC60068-2-32
ESD	Conditions: 150pF, 330Ohm,±8kV. Tests: 2 times, apply voltage between housing and signal terminal(s).	IEC61000-4-2
Waterproof Test		IP67

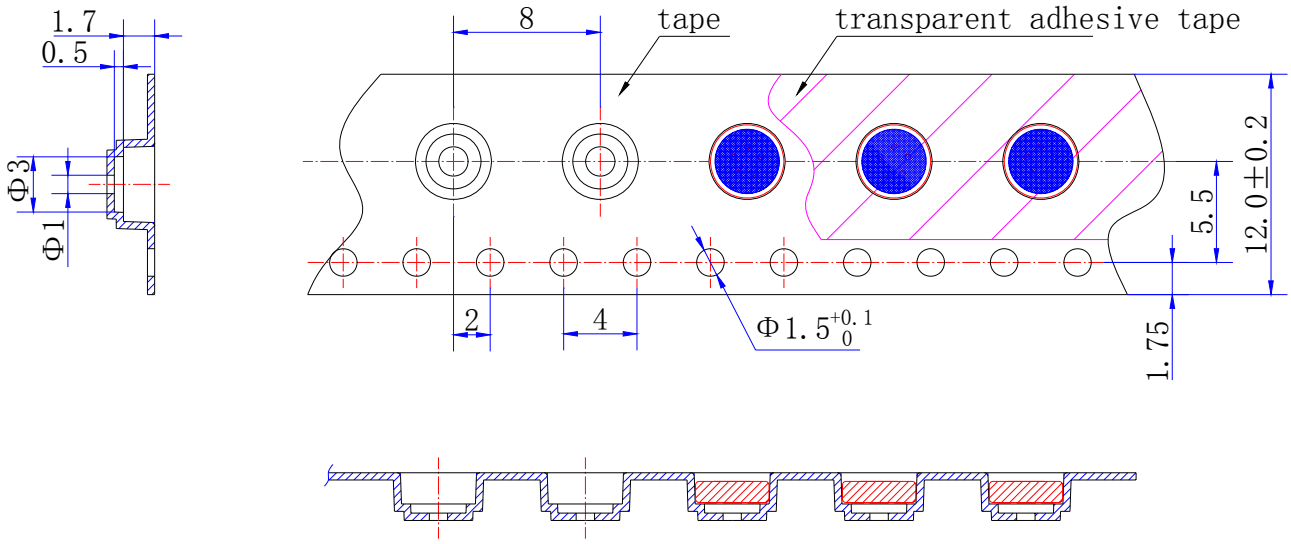
The measurement shall to be done after 2 hours of conditioning at room temperature.
The sensitivity change within ±3dB relative to initial value.

7. Microphone Material



No.	Name	Quantity	Material
10	Chip Capacitor	1	0201
9	Resistor	1	0201
8	FET	1	FET
7	PCB	1	FR-4
6	Case	1	Cu-Zn
5	Cooper Ring	1	Gold Plated
4	Back Plate	1	Cu&PTEF
3	D/P	1	PPS
2	Insulation Spacer	1	Mylar
1	Base	1	Plastic

8. Packaging Specifications

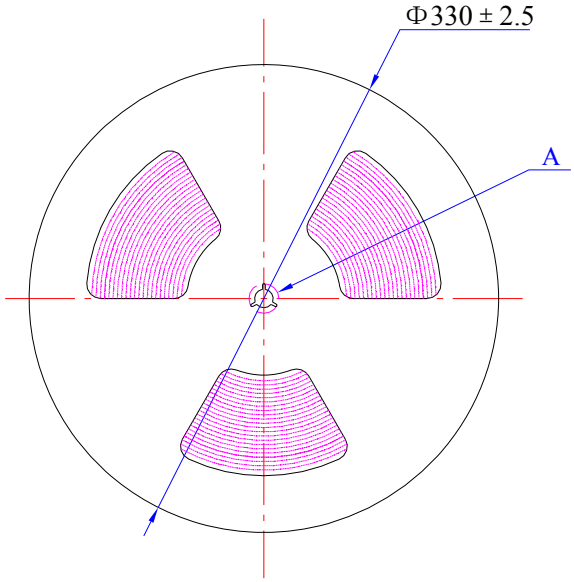


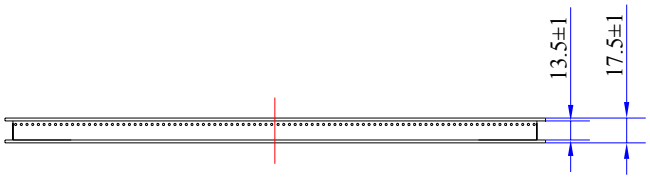
Anti-static plastic

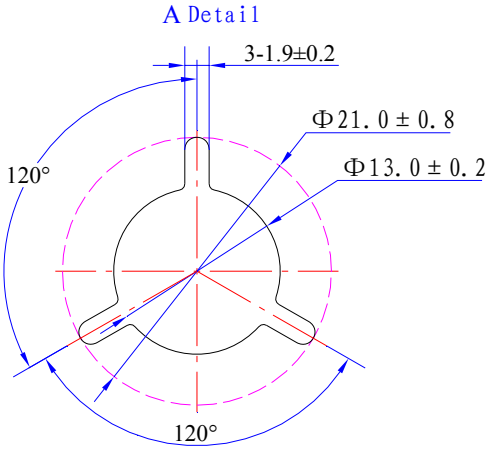
Notes:
1. 10 sprocket hole pitch cumulative tolerance ±0.2;
2.Camber in compliance with EIA 481;
3.Pocket position relative to sprocket hole measured as true position of pocket, Not pocket hole.

Model Number	Reel Diameter	Qty per Reel
Part No.	13″	3,000

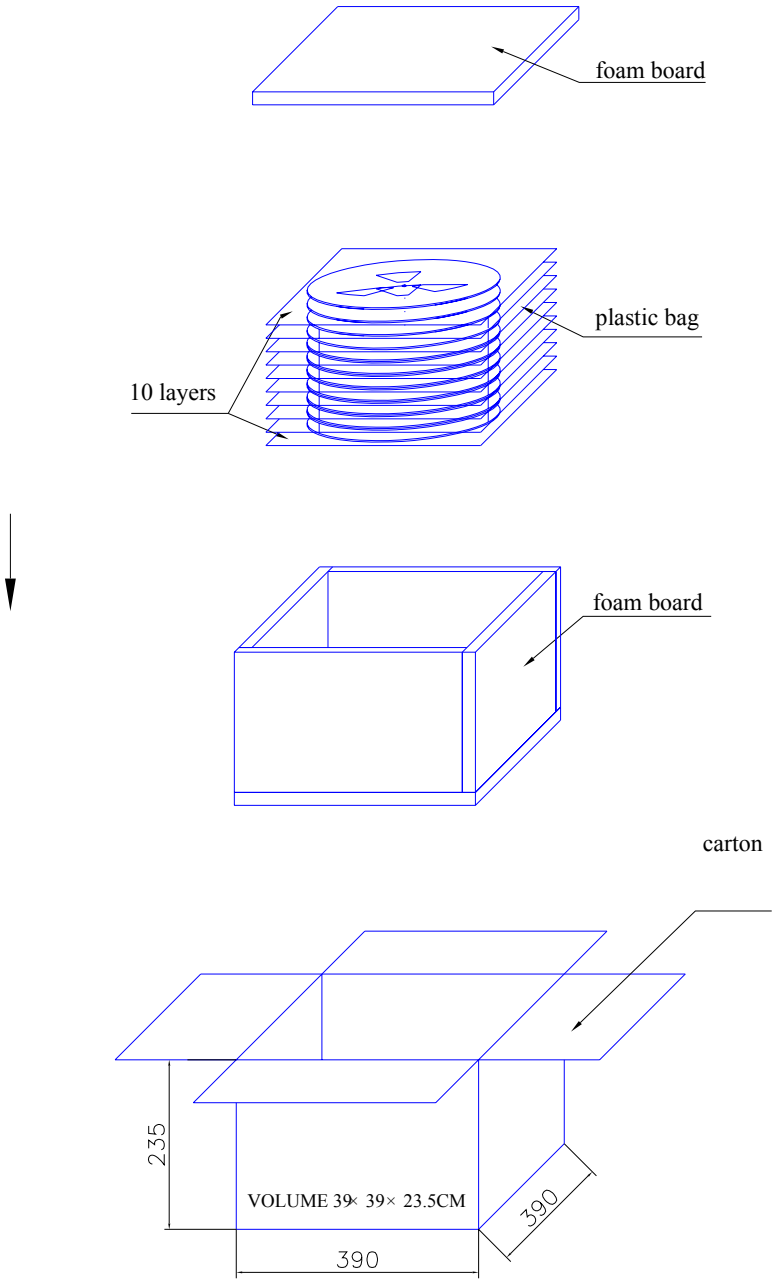
Leader length	Cells at leading end and trailing end of tape should be empty for a length of 300-450mm
Label	Label applied to external package and direct to reel. per JEDEC.
Empty Units	No consecutive empty pockets; No more than 3 empty pockets per reel.(Does not include empty pockets for leader/follower)





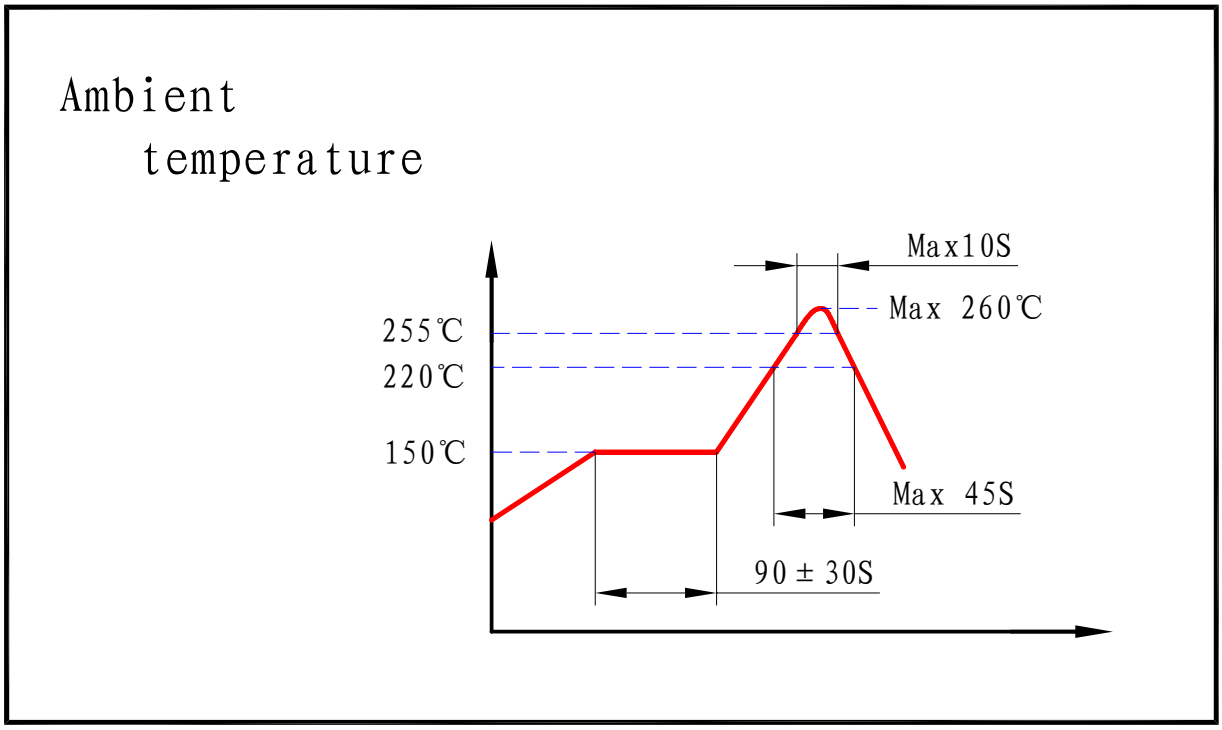


3,000 PCS PRODUCTS/1 reel



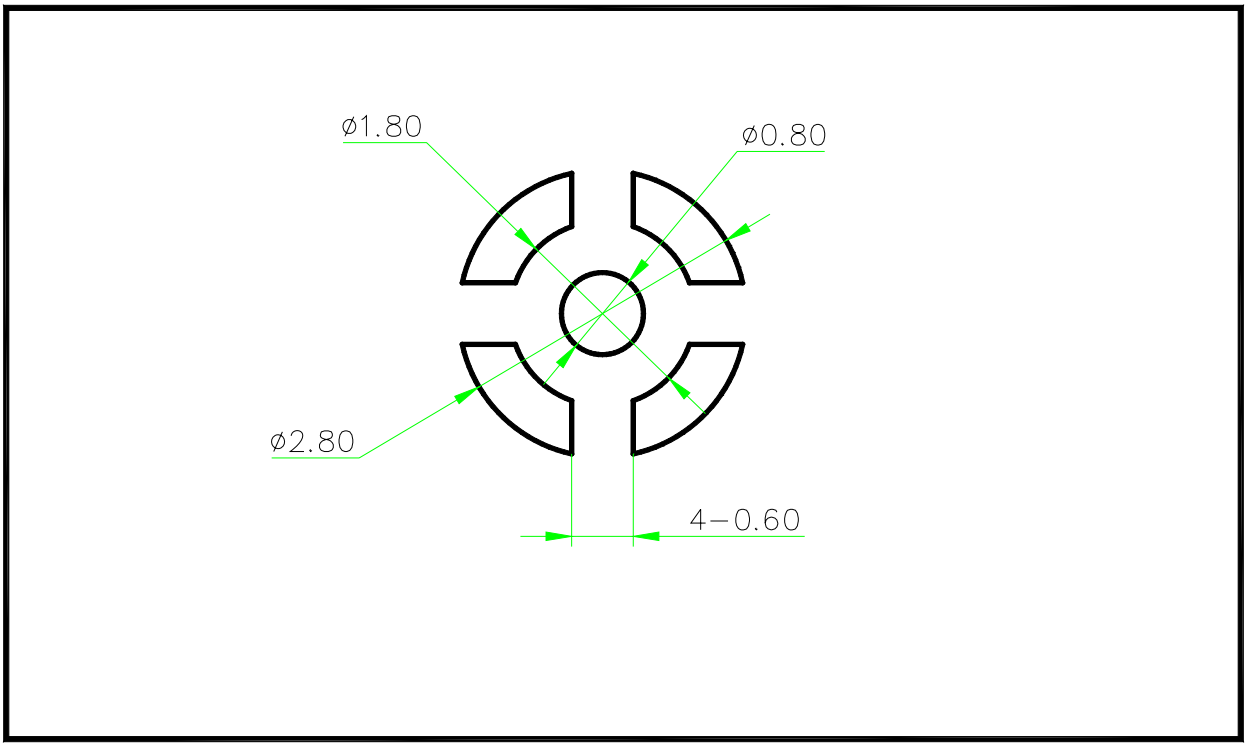
30,000 PCS PRODUCTS/1 CARTON

9. Regarding the soldering operation



NOTE: After the first reflow, the second reflow is tested on keeping ECM the usual temperature.

10. Recommended Land Pattern



11. X-ray inspection

- The performance don't change only under the setting conditions with Voltage :

1. Voltage: <80kV,

2.Current : <80㎂,

3.Time : within 60s

4.Distance: >30cm

Specification History

ISSUE:	ORIGINATOR:	DETAIL SPEC CHANGES:	DATE:
X1	Zhang Chun Lan	Initial Spec Release	2010-6-1