NO:ECAB2512132

Acknowledgement Book

Customer	**Name**	:		
Customer	**P/N**	:		
Frequency		:	**25.000000**	**MHz**
ECEC	**Type**	:	**OSC-3225**	
ECEC	**P/N**	:	**TS25000076**	
Rev.		:	**1**	
ISSUE DATE		:	**2025/12/25**	

Approved By	MFG	QA	PE/RD
总经理：骆红利	副总：郭雄伟	副总：黄文俊	部长：王晓东
APPROVED BY CUSTOMER			

公司名称：**东晶电子金华有限公司**

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CUST. P/N	:		
ECEC P/N	:	TS25000076	
DESIGN	:	吕俏笑	SHEET : 1 of 9
INSPECTION	:	王晓东	REV. : 1

Rev.	Date	Reviser	Revise Contents
1	2025/12/25	吕俏笑	Initial Released

CUST. P/N	:		
ECEC P/N	:	TS25000076	
DESIGN	:	吕俏笑	SHEET : 2 of 9
INSPECTION	:	王晓东	REV. : 1

SMD CRYSTAL OSCILLATOR

1 . ELECTRICAL CHARACTERISTICS

■ Standard atmospheric conditions

Unless otherwise specified , the standard range of atmospheric conditions for making measurement and tests are are as follow :

Ambient temperature : 25±3℃

Relative humidity : 40%~70%

If there is any doubt about the results , measurement shall be made within the following limits :

Ambient temperature : 25±3℃

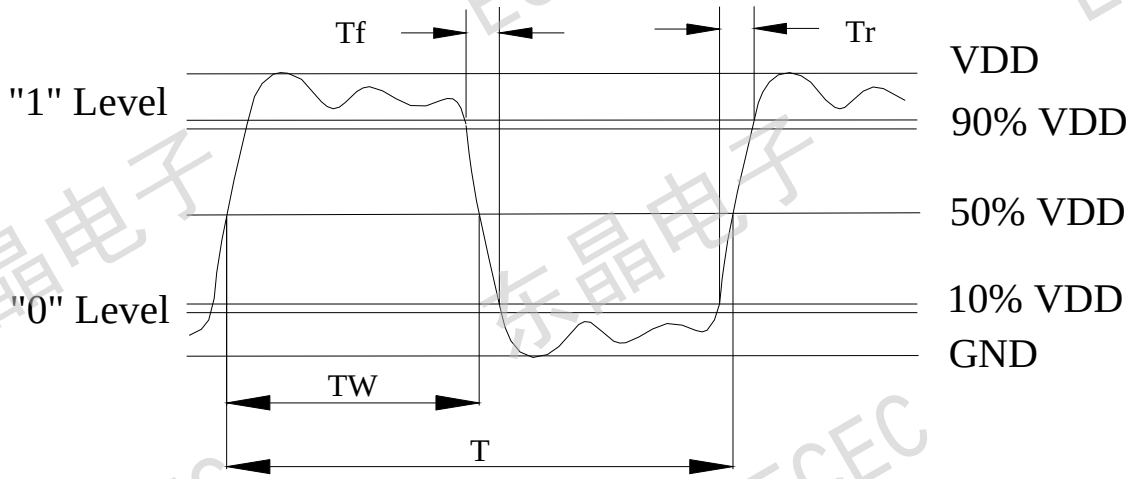
Relative humidity : 40%~70%

■ ECEC Model ：OSC-3225

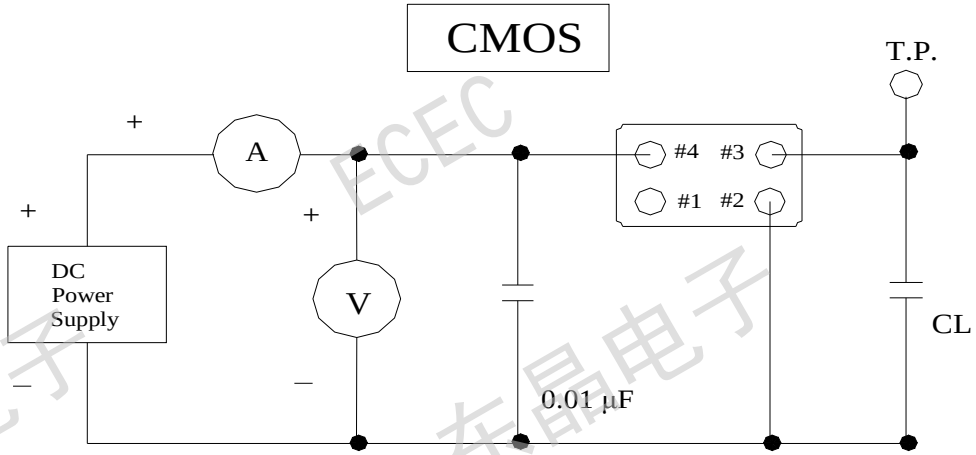
■ Cutting Model : AT CUT

Parameters	Symbol	Electrical Spec				Notes
		Min.	Typ.	Max.	Units.	
Nominal Frequency	Fout		25.000000		MHz	
Frequency Stability			± 10		ppm	at 25±2℃
Temperature drift (TC)			± 20		ppm	
Supply Voltage	VDD	1.8	3.3	3.3	V	
Output Load	CL		15		pF	
Output Type（Logic Levels）			CMOS			
Aging	FA		±3		ppm	1st Year at 25℃
Operating Temperature	TOPR	-40	~	85	℃	±35ppm Overall
Storage Temperature Range	TSTG	-55	~	125	℃	
Current consumption	IDD			15	mA	CL@15pF
Standby Current	IST			10	μA	
Output Voltage High	VOH	2.97			V	
Output Voltage Low	VOL			0.33	V	
Output Rise Time	Tr			8	ns	10%~90%VDD Level
Output Fall Time	Tf			8	ns	10%~90%VDD Level
Symmetry （Output Duty ）	Duty	45	~	55	%	50%VDD level,CL@15pF
Start-up Time	Tosc			10	ms	
Tri-state Function	INHN		yes			PIN1
Enable Voltage High	VIH	2.31			V	
Disable Voltage Low	VIL			0.99	V	

2 . C - MOS LOAD OUTPUT WAVEFORM

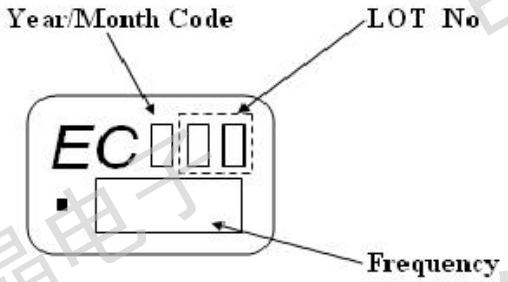


3 . C - MOS LOAD TEST CIRCUIT



***Because SMB series has no by pass capacitor.
So,we recommend our customer to use capacitor 0.01 μF
in join Vcc and GND.

4 . MARKING :



Frequcecy: as shown in the table

EX)

Frequcecy	4.000MHz	16.9344MHz	40.000MHz	100.000MHz
Frequcecy Code	4000	16934	40000	100.000

Year/Month code:as shown in the table

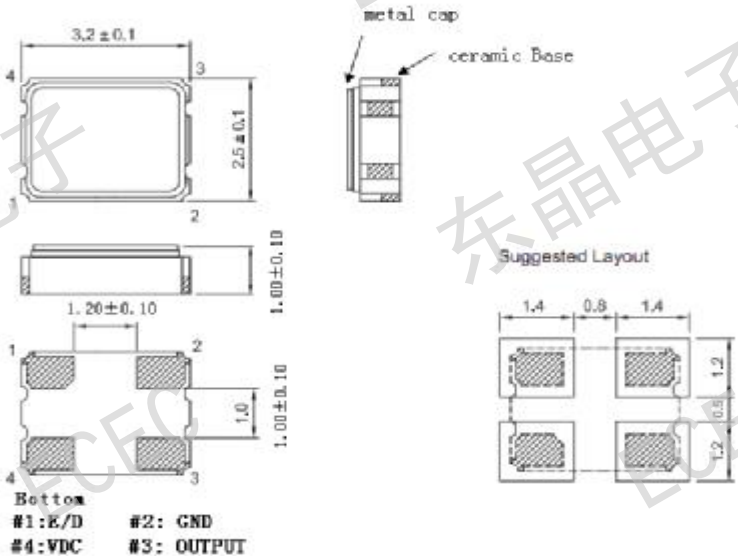
EX) December of 2020 shall be marked as"z"

Four year 1 cycle

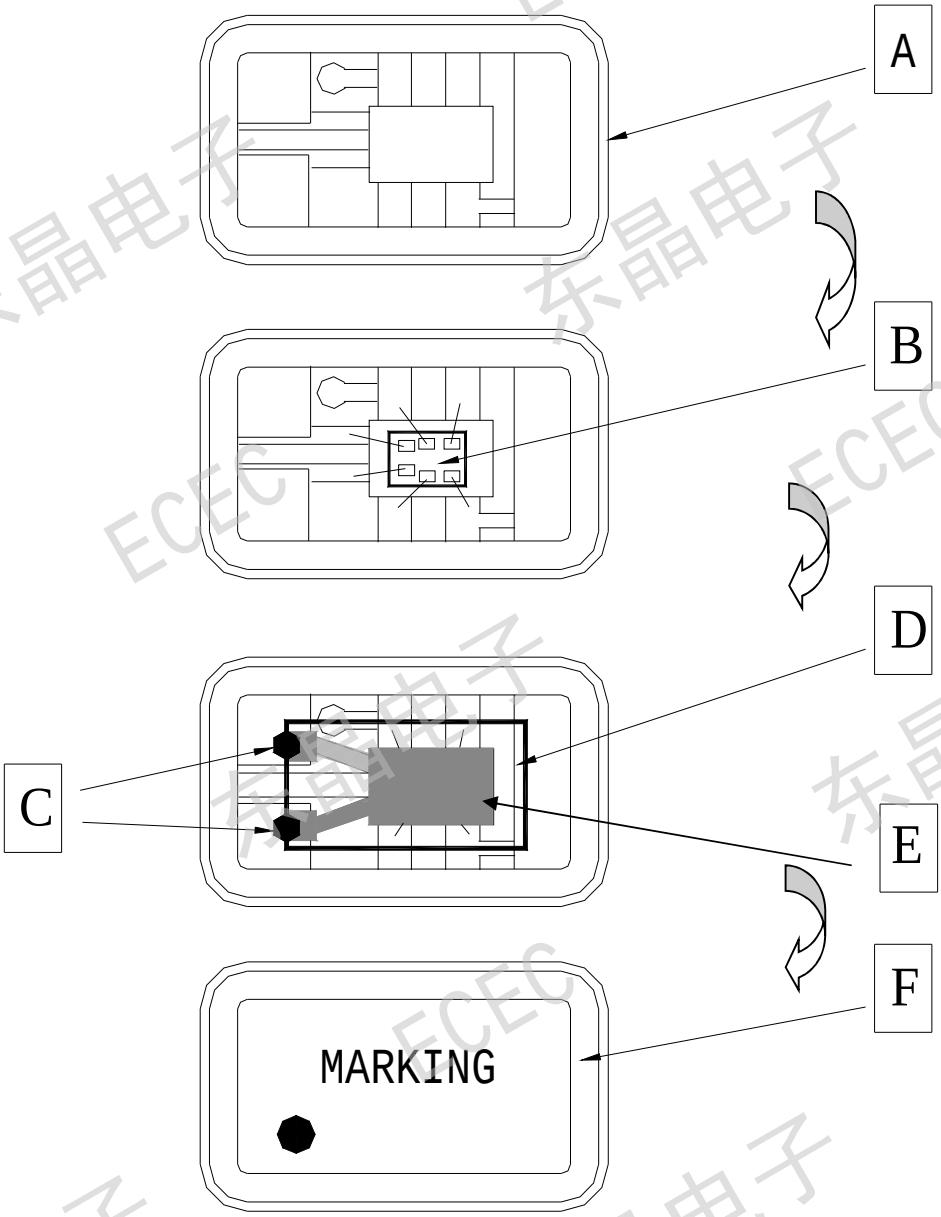
Year \ Month	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov	Dec.
2001 2009 2017 2025 2033 2041 2049 2057 2065 2073	A	B	C	D	E	F	G	H	J	K	L	M
2002 2010 2018 2026 2034 2042 2050 2058 2066 2074	N	P	Q	R	S	T	U	V	W	X	Y	Z
2003 2011 2019 2027 2035 2043 2051 2059 2067 2075	a	b	c	d	e	f	g	h	j	k	l	m
2004 2012 2020 2028 2036 2044 2052 2060 2068 2076	n	p	q	r	s	t	u	v	w	x	y	z
2005 2013 2021 2029 2037 2045 2053 2061 2069 2077	A	B	C	D	E	F	G	H	J	K	L	M
2006 2014 2022 2030 2038 2046 2054 2062 2070 2078	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007 2015 2023 2031 2039 2047 2055 2063 2071 2079	a	b	c	d	e	f	g	h	j	k	l	m
2008 2016 2024 2032 2040 2048 2056 2064 2072 2080	n	p	q	r	s	t	u	v	w	x	y	z

5 . DIMENSION :

(UNIT : mm)



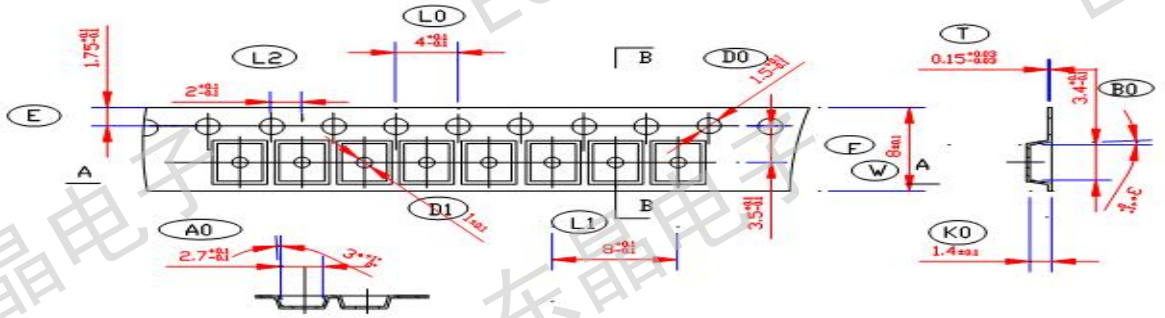
6 . STRUCTURE ILLUSTRATION



PART NAME		MATERIAL	PART NAME		MATERIAL
A	BASE	PACKAGE	D	BLANK	QUARTZ
B	DICE	IC	E	ELECTRODE	SILVER
C	FIXED GLUE	SILVER GLUE	F	LEAD	KOVAR

7 . PACKING :

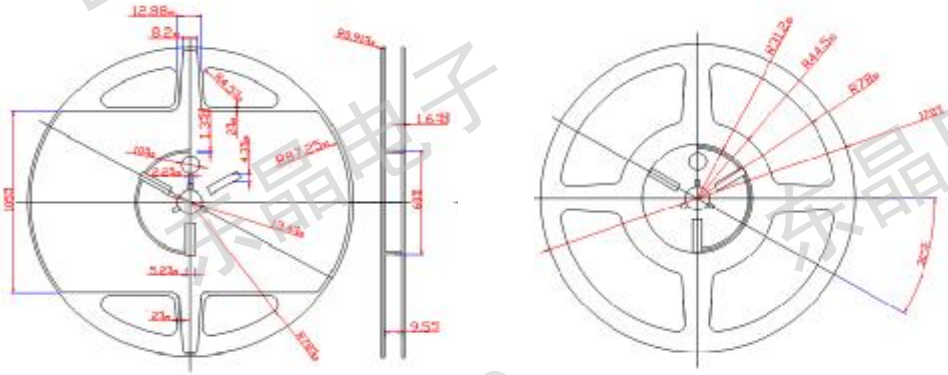
7-1.Dimensions of the tape (Unit : mm)



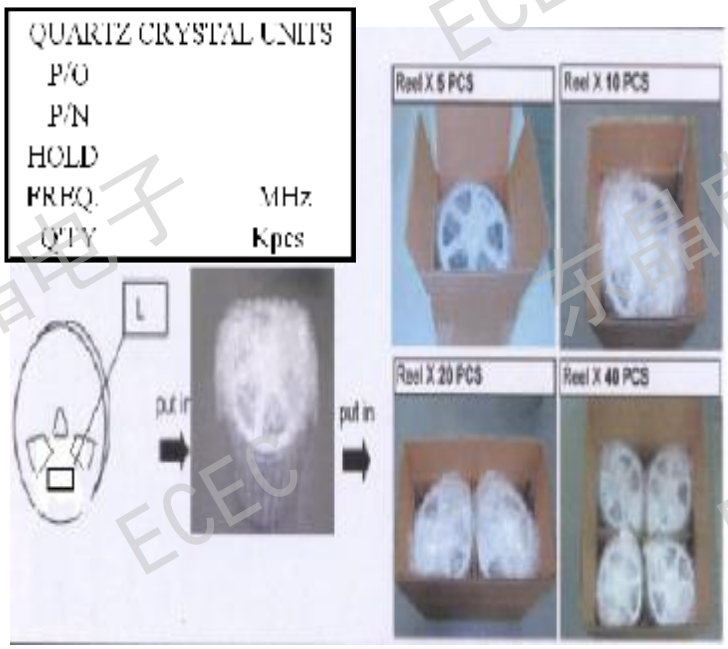
A–A

B–B A0=2.7 ± 0.1
B0=3.4 ± 0.1
K0=1.4 ± 0.1

7-2.Dimensions of the reel



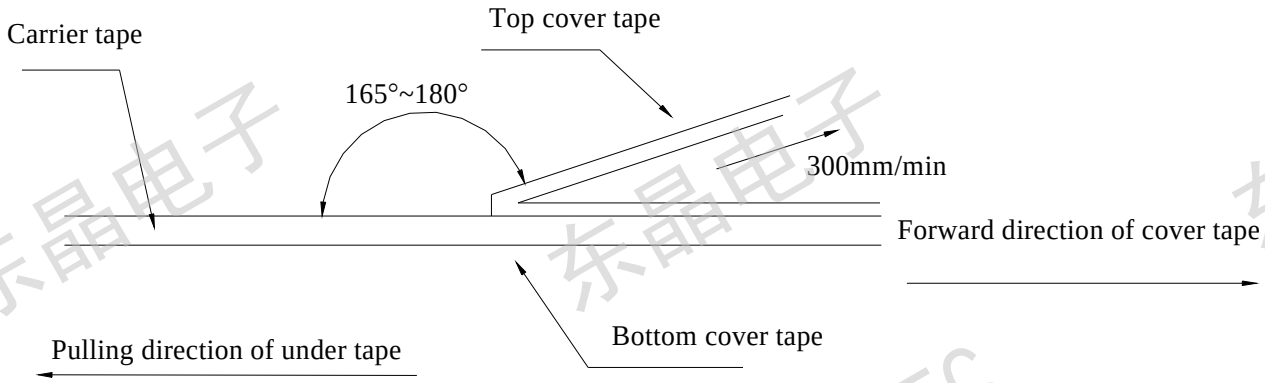
7-3.Packing and Label



1 Reel=3000pcs

Box type(Reel quantity)	Box size(L×W×H) mm
Atype	200×200×140
(Reel x 5pcs max)	
Btype	200×200×255
(Reel x 6~15pcs)	
Ctype	395×200×255
(Reel x 16~30pcs)	
Dtype	395×400×255
(Reel x 31~60pcs)	

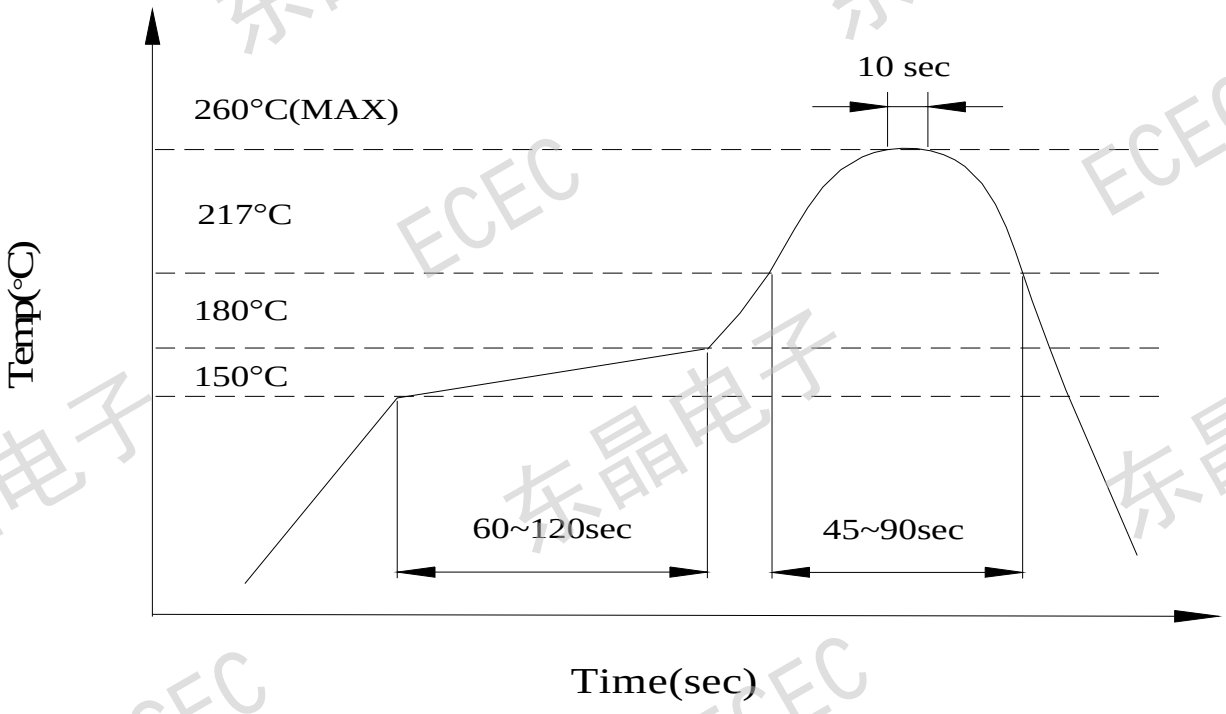
8. COVER TAPE ADHESION STRENGTH：



*** In the case, the cover tape is pulled off under the above conditions the cover tape adhesion strength should be as follows. *** Plastic tape:10.2g~71.4g

(Cover tape adhesion strength)

9 . SOLDERING REFLOW PROFILE



ECEC	CUST. P/N :		
	ECEC P/N :	TS25000076	
	DESIGN :	吕俏笑	SHEET : 8 of 9
	INSPECTION :	王晓东	REV. : 1

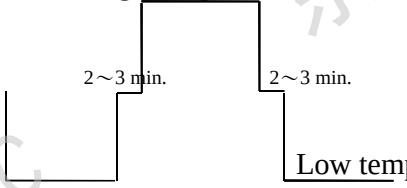
10 . MECHANICAL PERFORMANCE

TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE
10-1. Drop Test	The specimen is measured for its frequency and resistance before the test. It is then dropped from a hight of 100 cm or more as a free fall object onto a hard wooden plate of 30mm or more in thickness. (in accordance with JIS-C0044)	To satisfy the electrical performance .
10-2 . Vibration Test	The specimen is measured for its frequency and resistance before the test. Most them into X,Y and Z axes, respectively, for the vibration test. Vibration condition: Frequency range ; 20 ~ 2000HZ Peak to peak amplitude : 1.52 mm Peak acceleration : 20G Sweep time : 20 minute / axis Pendicular total test time : 4 hours (in accordance with MIL-STD-883F : 2007.3)	
10-3. Resistance to Soldering Test	The specimen is measured for its frequency and resistance before the test. Place the specimen on the belt of the converynace and let it pass through the reflow with the presetted temperature condition. After passing twice the reflow place,the specimen under the referee condition for -~2 hours and then measure its electrical performance. Temperature Condition of IR Simulation: The temperature range of the preheated section is setted at 150 ~ 180℃ for 60~120 sec. For the next section the temperature range is setted at 217~260℃ for 45~90 sec. and within this time range the specimen should be able to sustain at the peak temperature, 260+/-3℃ , for 10 sec long. (in accordance with JESD22-B106-B)	
10-4. Fine Leak Test	Place the specimen in a pressurized container and pressurize it with the detection gas (mixed gas consisting of 95% or more helium) for at least 2 hours. Complete the measurement of the concentration of helium within 30 min after taking it out from the pressurized container. (in accordance with MIL-STD-883F : 1014.11)	Less than $1.0 * 10^{-8}$ atm .c.c. / sec, Helium

The referee condition： (In accordance with MIL-STD-883E : 1014. 9)

Temperature：25 ± 2 ℃ Humidity：44 ~ 55 % Pressure：86 ～ 106 kPa

11 . CLIMATIC RESISTANCE

TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE
11-1. Low Temp Exposure Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the chamber and kept it at the temperature of - 40 ± 3℃ for 168 ± 6 hours . Take the specimen out of the chamber and measure itselectrical performance after leaving 1 ~ 2 hours under the referee condition. (in accordance with JIS-C0020)	To satisfy the electrical performance .
11-2. Aging Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and keep it at the temperature of + 125 ± 3℃ for 720 ± 48 hours. And then take the specimen out of the chamber and measure its electrical performance after leaving for 1 ~ 2 hours under the referee condition . (in accordance with JIS-C0021)	
11-3. High Temperature & High Humidty	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and kept it at the temperature of + 85 ± 5 ℃ and humidity of 85 ± 5 % for 168 ± 6 hours.and then take the specimen out and measure its electrical performance after leaving for 1 ~ 2 hours under the referee condition. (in accordance with MIL-STD-883F : 1004.7)	
11-4. Temperature Cycle Test	The specimen is measured for its frequency and resistance before the test . Subject the specimen to the 100 cycles of temperature ranges stated below . High temp . + 125 ± 3 ℃ (15± 3 min).  Measure its electrical performance after leaving it for 1 ~ 2 hours under the referee condition . (in accordance with MIL-STD-883F : 1010.8)	