

# APPROVAL

DESCRIPTION : TUN-CAP 20-335P 20 × 20A

NCE PARTS NO. : AF443AB91-A04

PARTS NO. :

DRAWING :

**RECEIVED**

**VENDOR:UNITY SYSTEM.CO.,LTD.**

**ADD:17**Floor,Block C QIUSHI building,zhuzhilinlu,  
Shennandadao ,Shenzhen,Guangdong,P.R.China

**TEL:**86-755-88316650

**FAX:**86-755-88316651

**[Http://www.nce-newcont.com](http://www.nce-newcont.com)**

**E-mail:**pvc@newcont.com

# NCE

## POLYVARICON

**MODEL: AF443AB91-A04**

**UNITY SYSTEM. CO., LTD.**

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**ADD: 17Floor, Block C QIUSHI building, zhuzhilinlu,  
Shennandadao, Shenzhen, Guangdong, P.R. China**

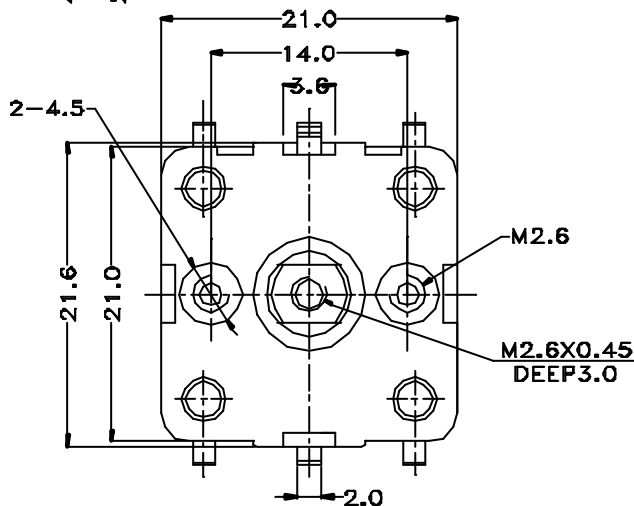
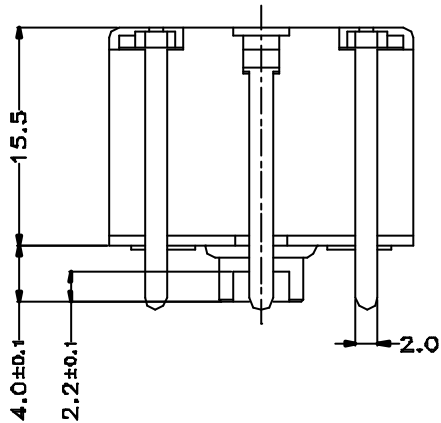
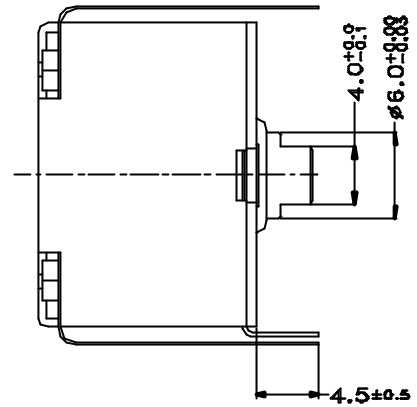
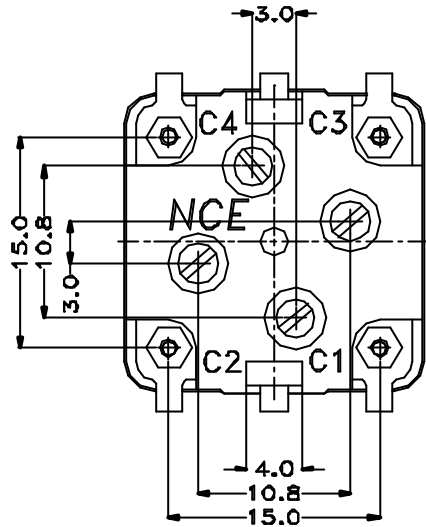
**TEL: 86-755-88316650**

**FAX: 86-755-88316651**

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**E-mail: [pvc@newcont.com](mailto:pvc@newcont.com)**

**Outline drawing**



- C1: FM OSC**
- C2: FM ANT**
- C3: AM OSC**
- C4: AM ANT**

REVISIONS	APPEARANCE		MODEL
	UNIT: mm	SCALE: 2/1	AF443AB91-A04
	DIMENSION TOLERANCE GENERAL ± 0.3		CODE NUMBER
	DESIGNED BY: WISDOM TIAN		189-91-01
	DRAWN BY: WISDOM TIAN		<b>NCE</b>
	CHECKED BY: LASER YANG		
	APPROVED BY: L.K.ZHANG		

**1. Application**

This specification is applicable for 4 gangs capacitor , model **AF443AB91-A04** with 2 gangs of equal capacitance on AM section and with 2 gangs of equal capacitance on FM section, for tuned and oscillation circuit of transistor radio.

**2. Electrical Characteristics**

**2-1. Capacitance**

Effective capacitance at each position is shown on Table 1 , defining the rotation angle 180 ° is expressed 100%.

Table 1 Capacitance & Coefficient

A M			F M		
Rotation	OSC / ANT		OSC / ANT		Rotation
(%)	Coef.	Capa.(pF)	Coef.	Capa.(pF)	(%)
*100	100.00	335.00	100.00	20.00	*100
90	84.40	282.74	86.18	17.24	90
*80	67.90	227.47	73.37	14.67	80
75	60.00	201.00	67.32	13.46	*75
70	52.30	175.21	61.48	12.30	70
*60	38.00	127.30	50.42	10.08	60
50	26.20	87.77	40.12	8.02	*50
*40	17.00	56.95	30.50	6.10	40
30	10.20	34.17	21.52	4.30	30
*25	7.57	25.36	17.25	3.45	*25
20	5.31	17.79	13.11	2.62	20
*10	1.74	5.83	5.23	1.05	*10
3	0.00	0.00	0.00	0.00	3

**2-2. Minimum Capacitance**

Minimum Capacitance shown on Table 2 is defined at the end stop, where shaft is rotated full clockwise. But trimmer capacitance is minimum.

Table 2

Section	Minimum Capacitance
AM	C3 : 4.6 ± 1.0pF , C4 : 4.2 ± 1.0pF
FM	C1 : 3.0 ± 1.0pF , C2 : 4.0 ± 1.0pF

**2-3. Tolerance of Capacitance**

The tolerance of the effective capacitance is shown Table 3

Table 3

Condition	Section	Standard
At the angle of * marking of Table 1	OSC	AM ± ( 1.5% + 1.5 pF ) , FM ± ( 1.0 % + 1.0 pF )
	ANT	AM ± ( 1.5% + 1.5 pF ) , FM ± ( 1.0 % + 1.0 pF )

Clause	Item	Condition	Standard
2 - 4	Insulation Resistance	At D.C. 100V	More than 100 M
2 - 5	Voltage Proof	Running D.C. 100V for 1 minute	Not to be found unusually
2 - 6	Q Characteristics	AM	Valued at 10MHz 50pF
		FM	Valued at 100MHz 10pF
2 - 7	Contact Resistance	Valued at the tops of shaft and earth terminals when 1kHz ± 200Hz and 100mA are supplied(Rotation speed 30 times/minute)	Less than 20 m

**3. Mechanical Characteristics**

Clause	Item	Condition	Standard
3 - 1	Direction of the rotation	Capacitance change when shaft is rotated clockwise	Decreasing
3 - 2	Shaft Rotation	Rotation range is defined 100% for 180 °	97% (+2 to -1%)
3 - 3	Rotation Torque	Torque application when shaft is rotated full at normal temperature condition	50 - 400 gf.cm
3 - 4	Strength of end stop	A specimen is left in the standard test condition for 1 minute after 5 kgf.cm rotations	Not to be found insulate both electrically and mechanically
3 - 5	Ratio of Max. and Min. torque	Max.: Min.	Within 3: 1

**4. Trimmer ability**

Clause	Item	Condition	Standard
4 - 1	Shaft Rotation	Rotation range	360 °
4 - 2	Rotation Torque	On the whole rotation range. Ratio of Max. and Min. torque	50 – 400 gf-cm Max.: Min. within 3 : 1
4 - 3	Effective Capacitance		More than 5 pF
4 - 4	Q Characteristics	At maximum capacitance and 10 MHz(main capacitance is minimum)	More than 200

**5. Materials**

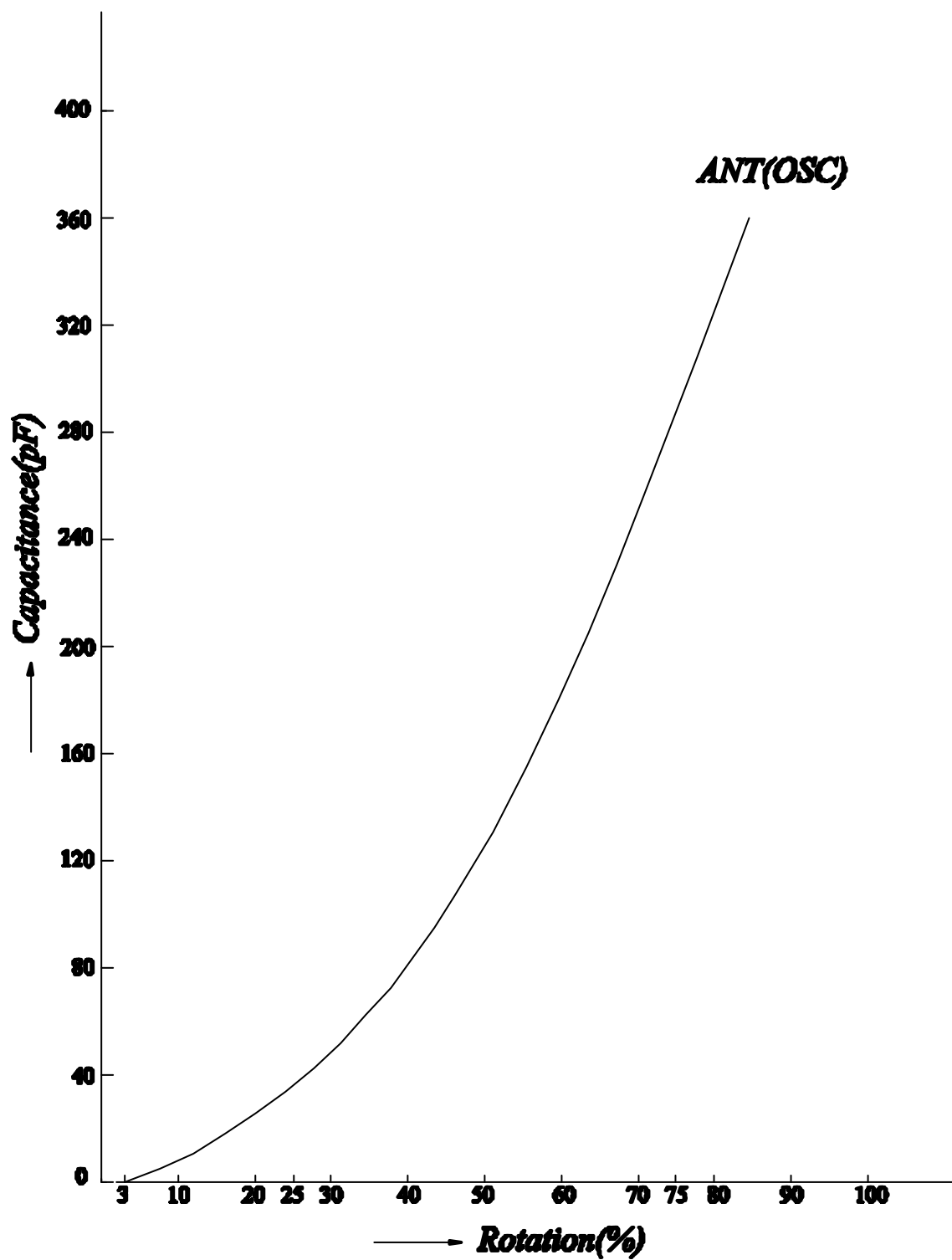
**5-1. Body Parts**

Component	Materials
Base	Degeneration ABS included glass
Case	Degeneration PP or AS
Rotor Shaft	Brass
Rotor Plate	Aluminum or Brass
Stator Plate	Aluminum - Polyethylene film
Terminal	Iron or Brass - Tin plating

**5-2. Trimmer Parts**

Component	Materials
Trimmer Base	Degeneration ABS included glass
Trimmer Shaft	Brass or Copper Alloys
Trimmer Rotor Plate	IRON - Nickel plating
Trimmer Stator Plate	IRON - Polypropylene film

# AM curve-AA



# FM curve-FB

