

规格书 SPECIFICATION SHEET

BERYL SERIES:	RC	TYPI	E: RADIAI	[]
DESCRIPTION:	33uF/400V	Ф10*25		
Apply date :	2022-04-12			
BERYL			CUSTOMER	
N:RC400M330LO10*25TH-2I	B1Et	P/N:		
REPARED	APPROVAL	PREPARED	CHECKED	APPROVAL
董桂茹 🎬 廖梅君	张业维			

tacitly acknowledged and accepted our relative standard and technical index.

Zhao Qing Beryl Electronic Technology Co., Ltd.

TEL: (0758) 13428556686 FAX: (0758) 2862870

E-mail: master@zq-beryl.com <u>http://www.zq-beryl.com</u>

NO.8 DUANZHOU ROAD, ZHAOQING CITY. GUANGDONG. CHINA



Revise record

NO.	Date	Revise reason	Revise content	Prepared	
01	2022.04.12	First issue	First issue	董桂茹	



1、 Application

This specification applies to Aluminum electrolytic capacitor (foil type) used in electronic equipment. Designed capacitor's quality meets IEC 60384.

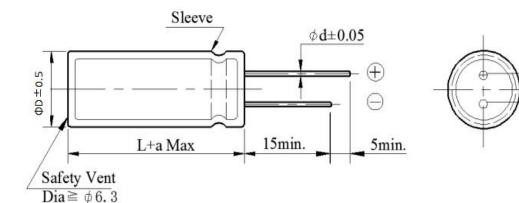
2. Table of specification and characteristics

Series	Cap(uF)			Capacitan								
	120HZ/20°C		D	L	(°C)		Toleranc	e @105(°C)				
RC	33	400	10	25	-40~+105		-40~ +105		-40~ +105		±20%	5000
DF (%)(MAX) 120Hz/20°C		LC(μA)(MAX 2 min/20°C	5)	ESR(Ω)(N 100KHz/			mA rms) 95℃/100KHz	Surge voltage(V)				
≤20 ≤27		≤274		-			753	440				

Other: /

3、 Product Dimensions

Type



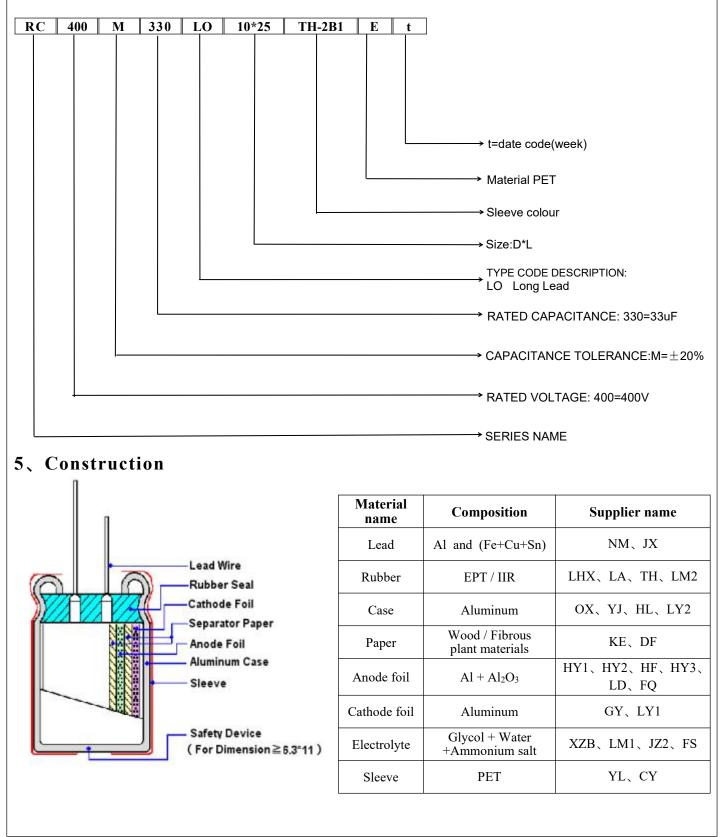
ΦD	5	6.3	8	10	13	16	18	22
Р	2	2.5	3.5	5	5	7.5	7.5	10
Фd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8	0.8
а			(L<20)	± 1.5	(L≥2	$(0) \pm 2.0$		

Sheet No.: 20220412

P±0.5

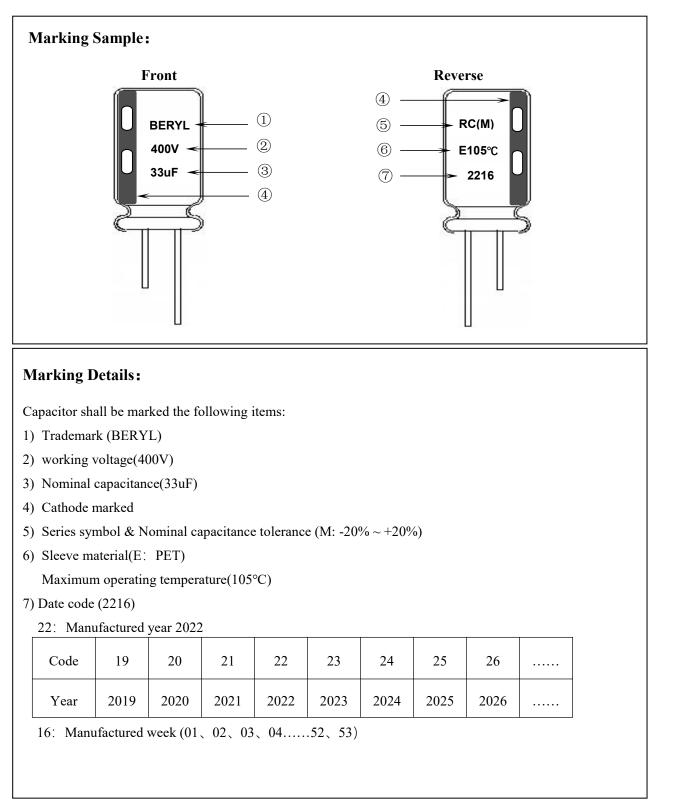


4、Part Number





6、Product Marking





7、 Characteristics

Standard atmospheric conditions

Unless other specified, the standard range of atmospheric conditions for making measurements and tests is as follows:

Ambient temperature :15°C to 35°CRelative humidity:45% to 85%

Air pressure : 86kPa to 106kPa

If there is any doubt about the results, measurement shall be made within the following conditions: Ambient temperature : $20^{\circ}C \pm 2^{\circ}C$ Relative humidity : 60% to 70%Air pressure : 86kPa to 106kPa

Operating temperature range

The ambient temperature range at which the capacitor can be operated continuously at rated voltage is $(6.3 \sim 450 \text{WV}) - 40^{\circ}\text{C}$ to $+105^{\circ}\text{C}$.

Table

	ITEM	PERFORMANCE
1	Nominal capacitance (Tolerance)	<condition> Measuring Frequency: 120Hz±12Hz Measuring Voltage: Not more than 0.5Vrms +1.5~2.0V.DC Measuring Temperature: 20±2°C <criteria> Shall be within the specified capacitance tolerance.</criteria></condition>
2	Leakage current	$\begin{array}{c} < \textbf{Condition} > \\ \text{Connecting the capacitor with a protective resistor } (1k\Omega \pm 10\Omega) \text{ in series for} \\ 2 \text{ minutes, and then, measure leakage current.} \\ < \textbf{Criteria} > \\ \text{I: Leakage current } (\mu A) \\ 1 (\mu A) \leq 0.02 \text{CV} + 10 (\mu A) \\ \text{measurement circuit refer to right drawing.} \\ \text{C: Capacitance } (\mu F) \\ \text{V: Rated DC working voltage (V)} \end{array}$
3	Dissipation factor	<condition> Nominal capacitance, for measuring frequency, voltage and temperature. <criteria> Must be within the parameters (See page 3)</criteria></condition>



	ITEM			PE	RFORMAN	ICE				
4	Impedance	<condition> Measuring frequency:100kHz; Measuring temperature:20±2°C Measuring point: 2mm max. from the surface of a sealing rubber on the lead wire. <criteria> (20°C) Must be within the parameters (See page 3)</criteria></condition>								
5	Load life test	Maximum of current for exceed the recovering <criteria></criteria> The charact Leakage of Capacitan Dissipation Appearan	ce Change N n Factor 1 ce 7	ature $\pm 2^{\circ}$ C nours. (The oltage) Ther eric condition t the follow Not more th Within $\pm 20^{\circ}$ Not more th There shall	with DC bia sum of DC n the produc ons. The rest ing requiren nan the spec 6 of initial v an 200% of t be no leakag	s voltage plu and ripple p t should be t ult should me nents. ified value. /alue. the specified ge of electrol	is the rated rij eak voltage sl ested after 16 eet the follow value. yte.	ople nall not hours ing table:		
6	Shelf life test	temperat from the leakage c	ure±2°C for1000 test chamber and current ristic shall meet t rrent No change W Factor No	+48/0 hours d be allowed he followin ot more than ithin $\pm 20\%$ ot more than	s. Following I to stabilize <u>g requireme</u> <u>1 200% of th</u> of initial va <u>1 200% of th</u>	this period, d at room te <u>nts.</u> e specified v	the capacitor mperature for value alue.	aximum operatir s shall be remove 16 hours. measu		
7	Maximum permissible (ripple current, temperature coefficient)	<condition> The maximum permissible ripple current is the maximum A.C current at 100kHz and car applied at maximum operating temperature Table-3 The combined value of D.C voltage and the peak A.C voltage shall not exceed the rated voltage and shall not reverse voltage.Frequency Multipliers:$freq (Hz)$1201k10k100k330.500.730.921.00Temperature Coefficient:Temperature (°C)608595105Factor2.231.731.411.00</condition>								



	ITEM						P	ER	FOR	MAN	ICE					
8	Terminal strength	<condition> Tensile strength of terminals Fixed the capacitor, applied force to the terminals. Fixed the capacitor, applied force to bent the 2~3 seconds, and then bent it for 90° to its constrained. Diameter of lead wire Tensile for (kg)</condition>								ermir inal <u>p</u> e N	al (1~ positic	-4 mm on with nding	from forc	m the $-3 \sec^2 \theta$ m the $-3 \sec^2 \theta$	rubbe	r) for 90° within
			0.5 mm ar		S		1		(0.51)				(0.2			
			0.6~0.8	mm			1	0 (1.02)			5 (0.5	1)		
		<criteria> No notic</criteria>	eable cha	anges	sha	ll be	found	l, no	brea	kage	or loo	seness	s at t	he ter	minal.	
		<condition< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></condition<>														
		STEP	Test	ing te			e (°C)				Time				
		1			20±2							herma	-			
		2		-40 -25±3 20±2								herma	-			
		3						me to reach thermal equilibriur me to reach thermal equilibriur								
		4		=2					reach thermal equilibrium							
9	Temperature characteristics	Capacit < Criteria> a. At +10 Dissip The le b. In step Dissip The le c. At - 40 Vottage Z-40°C/2	ation fac akage cu 0.5, capac ation fac akage cu 0° C, Impo 0° C, Impo 0° C, Impo	, and pacitan tor sh rrent citance tor sh rrent	nce i all b mea e me all b shal e (Z	edano meas be wi surec easur be wi l not) rati	ured a thin t l shal ed at thin t more o sha	at +2 he li l not +20 he li thai ll no	e mea 20°C mit o t more °C sh mit o n the ot exc	shall f Iten e than all be f Iten speci	l at 12 be with n 7.3 n 10 ti e within n 7.3 fied v ne val	20Hz. thin ± 2 mes of n $\pm 10^{\circ}$ alue.	25% f its % o	of its specif f its of	origir ied va iginal	value.
10	Surge test	$\label{eq:condition} $$$ Applied a surge voltage to the capacitor connected with a (100 \pm 50)/CR (k\Omega) resistor in series for 30\pm5 seconds in every 5\pm0.5 minutes at 15~35°C.Procedure shall be repeated 1000 times. Then the capacitors shall be left under normal humidity for 1-2 hours before measurement CR : Nominal Capacitance (µF) $$$ Criteria> $$$ Leakage current Not more than the specified value. Capacitance Change Within ±15% of initial value. Dissipation Factor Not more than the specified value. Appearance There shall be no leakage of electrolyte. $$ Attention: This test simulates over voltage at abnormal situation only. It is not applicable to such over the specification of the spec$							ated							



		PERFORMANCE								
		<condition> Temperature cycle: According to IEC60384-4 No. according as below:</condition>	.4.7 methods, capacitor	shall be placed in an over	, the condition					
			perature	Time						
		(1) +20°C		3 Minutes						
	Change of	(2) Rated low temperatu	re (- 40°C)(-25°C)	30±2 Minutes						
11	temperature test	(3) Rated high temperatu	are (+105°C)	30±2 Minutes						
		(1) to (3) =1 cycle, total	5 cycle							
		<criteria> The characteristic shall meet the</criteria>	he following requireme	nt.						
		Leakage current	Not more than the sp							
		Dissipation Factor	Not more than the sp	pecified value.						
		Appearance	There shall be no lea	akage of electrolyte.						
12	Damp heat	be exposed for 500±8 hours in 40±2°C, the characteristic char < Criteria > Leakage current		wing requirement.						
	test	Capacitance Change	Within $\pm 10\%$ of initial	value.						
		Dissipation Factor	Not more than 120% c							
		Appearance	There shall be no leaka	age of electrolyte.						
13	Solderability test	<condition> The capacitor shall be tested under the following conditions: Soldering temperature : 245 ±5°C Dipping depth : 2mm Dipping speed : 25±2.5mm/s Dipping time : 3±0.5s <criteria> Soldering wetting time Less than 3s Coating quality A minimum of 95% of the surface being</criteria></condition>								



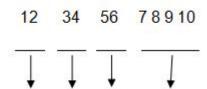
	ITEM	PERFORMANCE
14	Vibration test	Condition> The following conditions shall be applied for 2 hours in each 3 mutually perpendicular directions. Vibration frequency range : 10Hz ~ 55Hz each to peak amplitude : 1.5mm Sweep rate : 10Hz ~ 55Hz ~ 10Hz in about 1 minute Mounting method: The capacitor with diameter greater than 12.5mm or longer than 25mm must be fixed in place with a bracket. Within 30° 4mm or less UNT or less Within 30° To be soldered
		After the test, the following items shall be tested: Image: sense truction No intermittent contacts, open or short circuiting.
		Inner construction No intermination contacts, open of short chedring. No damage of tab terminals or electrodes. No mechanical damage in terminal. No leakage
		Appearance of electrolyte or swelling of the case. The markings shall be legible.
	Resistance to	Terminals of the capacitor shall be immersed into solder bath at 260±5°Cfor10±1seconds or400±10°Cfor3 ⁻⁰ seconds to 1.5~2.0 mm from the body of capacitor. Then the capacitor shall be left under the normal temperature and normal humidity for 1~2 hours before measurement. <criteria></criteria>
15	solder heat	Leakage current Not more than the specified value.
	test	Capacitance Change Within ±5% of initial value.
		Dissipation Factor Not more than the specified value.
		Appearance There shall be no leakage of electrolyte.
16	Vent	<condition> The following test only apply to those products with vent products at diameter ≥Ø6.3 with vent. D.C. test The capacitor is connected with its polarity reversed to a DC power source. Then a current selected from Table 2 is applied.</condition>
-	test	Diameter (mm) DC Current (A)
		<criteria> 1 The vent shall operate with no dangerous conditions such as flames or dispersion of pieces of the capacitor and/or case.</criteria>



8、 Packing Information

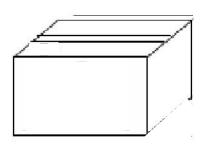
Packing Label Marked (the following items shall be marked on the label)
(Inside box or bag)
(1)Clint order number (2)Client part number (3)Beryl part number (4)Capacitance (5)Voltage (6)Dimension
(7)Packaging quantity (8)Capacitance tolerance (9) QC Marking (0) Lot number (1) Series

LOT Number :

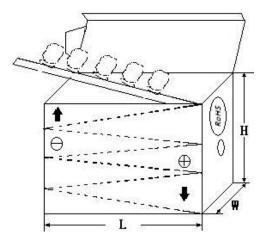


year month date number

1) Bulk Packing:



2) Taped Packing:



3) Outer box



外箱

4) Outer box label:

BERYL	Zhao Qin	g Beryl Ele Ltd.	ctronic	c Technology Co.,
C.S.R:				
C.S.R P/O				ROHS HE
C.S.R P/N				
S.P.R P/N	1			QC
SPEC:				
QTY:	PCS	TOL:	%	
L/N:		S.P.R:		3



9、 Prohibition to Use Environment- related Substances

We are hereby to certify the followings:

Our company hereby warrants and guarantees that all or part of products, including, but not limited to, the peripherals, accessories or package, delivered to your company (including your subsidiaries and affiliated companies) directly or indirectly by our company are free from any of the substances listed below.

	Cadmium and cadmium compounds							
Accord with	Lead and lead compounds							
heavy metal	Mercury and mercury compounds							
	Hexavalent chromium compounds							
	Polychlorinated biphenyls (PCB)							
	Polychlorinated naphthalenes (PCN)							
Organic chlorin	Polychlorinated terphenyls (PCT)							
compounds	Chlorinated paraffins (CP)							
	Other chlorinated organic compounds							
Organic	Polybrominated biphenyls (PBB)							
bromine	Polybrominated diphenylethers (PBDE)							
compounds	Other brominated organic compounds							
Tributyltin compo	bunds							
Triphenyltin com	pounds							
Asbestos								
Specific azo comp	pounds							
Formaldehyde								
Polyvinyl chloride	e (PVC) and PVC blends							
F、Cl、Br、I								
REACH								

The latest version of <Substances Prohibited as per RoHS or <Sony-SS-00259>

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