

# 规 格书

# **SPECIFICATION SHEET**

RD	ТҮРЕ:	RADIAL
6.8uF/400V	Ф8*12	
2022-04-12		
		USTOMER
	6.8uF/400V	6.8uF/400V Ф8*12 2022-04-12

P/N:RD400M6R8LO8*12TH-2A	2Et	P/N:		
PREPARED	APPROVAL	PREPARED	CHECKED	APPROVAL
董桂茹	张业维			
30200195				

After approved, please sign back 1 Approval Sheet before order. If not, we will treat it as tacitly acknowledged and accepted our relative standard and technical index.

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# **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.

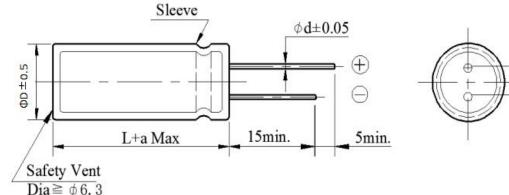
## 2. Table of specification and characteristics

Series	Cap(uF) 120Hz/20°C	WV(V)	Size	(mm)	Temperature (°C)		Capacitance Tolerance	Life(hours) @105(°C)						
	120112/20 C		D	L			( )				( C)		( 0)	
RD	6.8	400	8	12	-40~+1	05	$\pm 20\%$	8000						
DF (%)(MAX) 120Hz/20°C		LC(µA)(MAX) 2min/20°C				RC (mA rms) (MAX)105°C/120Hz		Surge voltage(V)						
≤24		≤64			-		115	440						

Other: /

## 3、 Product Dimensions

Туре



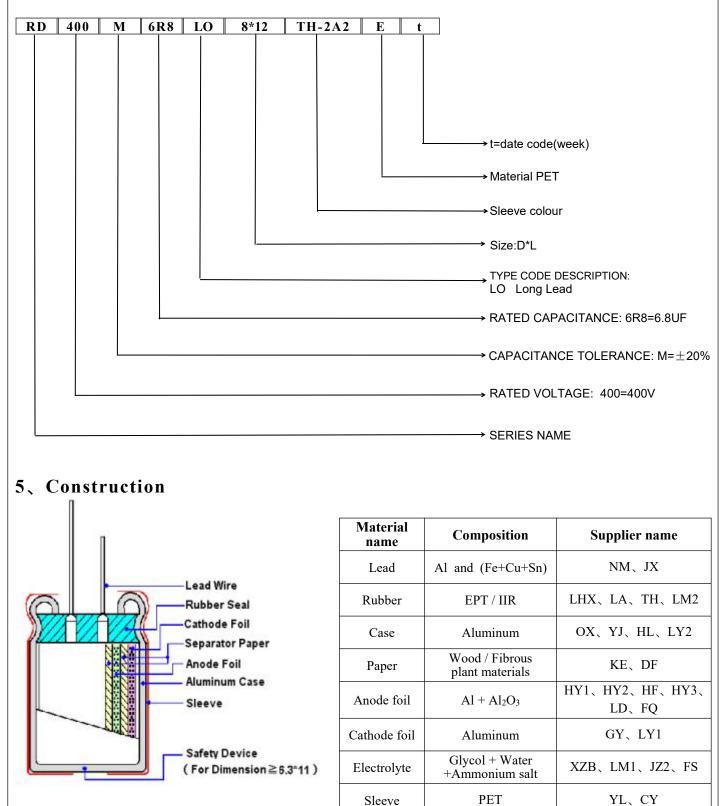
ΦD	5	6.3	8	10	13	16	18	22
Р	2	2.5	3.5	5	5	7.5	7.5	10
Фd	0.5	0.5	0.5/0.6	0.6	0.6	0.8	0.8	0.8
а			(L< 20)	± 1.5	(L≥2	$0) \pm 2.0$		

Sheet NO.: 20220412

P±0.5

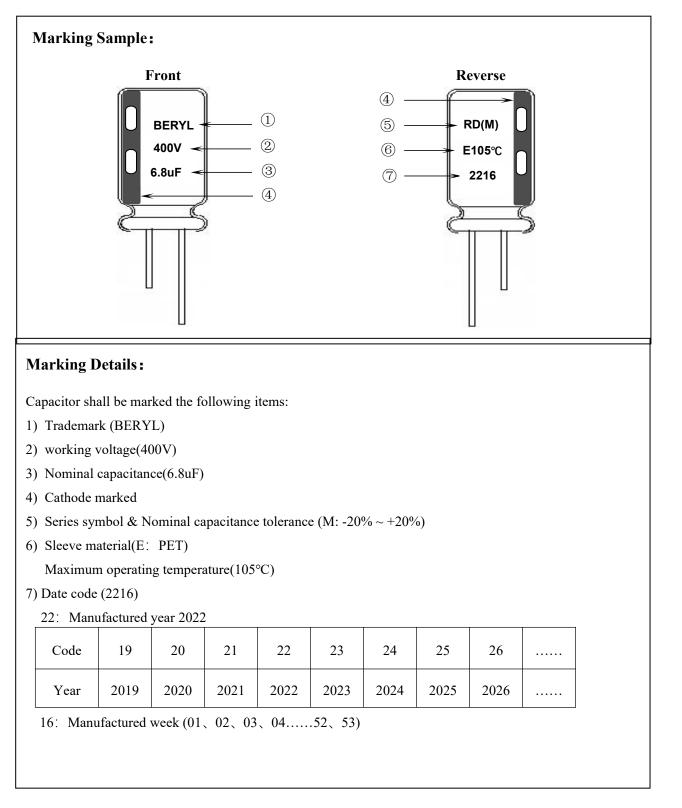


### 4、Part Number





## 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  $(160 \sim 400 \text{WV}) - 40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$   $(450 \sim 500 \text{WV}) - 25^{\circ}\text{C}$  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	$\begin{array}{c} <\!\! \textbf{Condition}\!\!> \\ \text{Connecting the capacitor with a protective resistor } (1k\Omega\pm10\Omega) \text{ in series for} \\ 2 \text{ minutes, and then, measure leakage current.} \\ <\!\! \textbf{Criteria}\!\!> \\ \text{I: Leakage current } (\mu\text{A}) \\ \text{I} (\mu\text{A}) \leq 0.02\text{CV}+10(\mu\text{A}), \\ \text{measurement circuit refer to right drawing.} \\ \text{C: Capacitance } (\mu\text{F}) \\ \text{V: Rated DC working voltage (V)} \end{array}$
3	Dissipation factor	<condition> Nominal capacitance, for measuring frequency, voltage and temperature. Must be within the parameters (See page 3)</condition>



	ITEM			PEF	RFORMA	NCE			
4	Impedance	<b>Condition&gt;</b> Measuring frequency:100kHz; Measuring temperature:20±2°C Measuring point: 2mm max. from the surface of a sealing rubber on the lead wire. <b>Criteria&gt;</b> (20°C) Must be within the parameters (See page 3)							
5	Load life test	<condition>         According to IEC         Maximum operate         current for Rated         exceed the rated         recovering time         <criteria>         The characteristic         Leakage curren         Capacitance Ch         Dissipation Fac         Appearance</criteria></condition>	ing temperatu life +48/0hou working volt at atmospheri shall meet th t No ange Wi tor No	the the transformation is the transformation in the transformation is the transformation is the transformation in the transformation is the transformatio	with DC bia sum of DC the produc ns. The res ng requiren an the spec of initial an 200% of	as voltage pl and ripple p et should be sult should m nents. rified value.	us the rated a beak voltage tested after 1 neet the follo	ripple shall not 6 hours	
6	Shelf life test		C for1000+4 namber and b t hall meet the Not nge With r Not	8/0 hours e allowed following more than in ±20% of more than	Following to stabilize 200%of th of initial va 200%of th	g this period, ed at room te ents. e specified v	, the capacito emperature f value. value.	Maximum opera ors shall be remo or 16 hours. meas	
7	Maximum permissible (ripple current, temperature coefficient)	Cap. (µF) 6.8 Temperature Coeff	m operating the of D.C volue of D.C volue reverse volue reverse volue res:	emperature tage and t	re				



	ITEM				PE	RFC	ORMANO	CE			
8	Terminal strength	Fixed the original seconds. If Fixed the original seconds are consistent of the original second seco	capacito Bending capacito ds, and t eter of le 5mm and 0.6~0.8 t	strength of r, applied fo hen bent it t ead wire d less mm	a force to the terminal in lead out direction for $30+$ of terminals.a force to bent the terminal (1~4 mm from the rubit for 90° to its original position within 2~3 seconTensile force N (kgf)5 (0.51)2.5 (0.25)10 (1.02)5 (0.51)					the rubbe seconds N (kgf)	er) for 90° within
			able cha	nges shall b	e found,	10 bi	reakage o	r loosene	ess at the	terminal	
		<condition> STEP</condition>	Testi	ng temperat	ure (°C)			Tim	e		]
			1050	20±2		T	Time to rea			ibrium	-
		2		-40 -25±3	3		Time to rea		-		-
		$3$ $20\pm$				-	Time to rea		-		-
		4			Т	Time to rea	each thermal equilibrium			-	
		5	5 20±2			Time to reach thermal equilibrium			-		
9	Temperature characteristics	<criteria> a. At +105 Dissipat The leal b. In step 5 Dissipat The leal c. At - 40° Voltage Z-40°C/Z-</criteria>	°C, capa tion fact cage cur 5, capaci tion fact cage cur C, Impe (V)	and impeda acitance mea or shall be w rent measur itance measur or shall be w rent shall no dance (Z) ra 160 2 6	asured at vithin the ed shall n ured at + vithin the ot more the tio shall	+20° limi ot m 20°C limi an ti	°C shall b it of Item nore than shall be it of Item he specifi	e within 7.3 10 times within ±1 7.3 ed value	±25% of of its sp 10% of it	ecified va s origina	alue. l value.
10	Surge test	$\label{eq:condition} $$$ Applied a surge voltage to the capacitor connected with a (100 ±50)/CR (k\Omega) resistor is series for 30±5 seconds in every 5±0.5 minutes at 15~35°C.Procedure shall be repeated 1000 times. Then the capacitors shall be left under normal humidity for 1-2 hours before measurement CR : Nominal Capacitance (µF) $$$ 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 or voltage as often applied. $$$							eated		
She	et NO.: 20220	_						Page	: 8,	/ 12	



	ITEM	PERFORMANCE						
		Accor	t <b>ion&gt;</b> erature cycle: rding to IEC60384-4 No. ding as below:	.4.7 methods, capacitor	shall be	placed in an over	n, the condition	
			Tem	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	<b>a&gt;</b> haracteristic shall meet t	nt.				
			Leakage current	Not more than the sp		value.		
			Dissipation Factor	Not more than the sp	pecified	value.		
			Appearance	There shall be no lea				
		be exp	ding to IEC60384-4 No.	an atmosphere of 90~9	95%R H	.at		
12	Damp heat	<criteria< td=""><td>a&gt;</td><td>nge shall meet the follo Not more than the spec</td><td>_</td><td>-</td><th></th></criteria<>	a>	nge shall meet the follo Not more than the spec	_	-		
12	-	<criteria< td=""><td><b>a&gt;</b> akage current</td><td>Not more than the spec</td><td>cified va</td><td>-</td><th></th></criteria<>	<b>a&gt;</b> akage current	Not more than the spec	cified va	-		
12	heat	<criteria Le Ca</criteria 	<b>a&gt;</b> akage current pacitance Change	Not more than the spec Within ±10% of initial	cified va	ilue.		
12	heat	<criteria Le Ca Dis</criteria 	<b>a&gt;</b> akage current	Not more than the spec	cified va value.	alue. ecified value.		
12	heat	<criteria Le Ca Dis</criteria 	<b>a&gt;</b> akage current pacitance Change ssipation Factor	Not more than the spec Within ±10% of initial Not more than 120% c	cified va value.	alue. ecified value.		
12	heat	<criteria Le Ca Dia Ap <condit The ca Solder Dippin Dippin</condit </criteria 	a> akage current apacitance Change ssipation Factor opearance tion> apacitor shall be tested u ring temperature : 245 ng depth : 2m ng speed : 25± ng time : 3±0	Not more than the spec Within $\pm 10\%$ of initial Not more than 120% of There shall be no leak ander the following cond $\pm 5^{\circ}C$ m $\pm 2.5$ mm/s	cified value. of the sp age of e	alue. ecified value.		
	heat test Solderability	<criteria Le Ca Dia Ap <condit The ca Solder Dippin Dippin Oippin Criteria</condit </criteria 	a>         akage current         apacitance Change         ssipation Factor         opearance         tion>         apacitor shall be tested u         ring temperature : 245         ng depth : 2m         ng speed : 25±         ng time : 3±0         a>	Not more than the spec Within $\pm 10\%$ of initial Not more than 120% of There shall be no leak ander the following cond $\pm 5^{\circ}C$ m $\pm 2.5$ mm/s	cified value. of the sp age of e	alue. ecified value.		



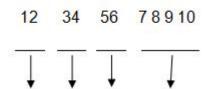
	ITEM	PERFORMANCE
14	Vibration test	<condition>         The following conditions shall be applied for 2 hours in each 3 mutually perpendicular directions. Vibration frequency range : 10Hz ~ 55Hz each to peak amplitude : 1.5mm         Sweep rate       : 10Hz ~ 55Hz ~ 10Hz in about 1 minute         Mounting method:       The capacitor with diameter greater than 12.5mm or longer than 25mm must be fixed in place with a bracket.         4mm or less       Within 30°         4mm or less       Within 30°         Criteria&gt;       To be soldered         After the test, the following items shall be tested:       Inner construction         No intermittent contacts, open or short circuiting. No damage of tab terminals or electrodes.       No mechanical damage in terminal. No leakage of electrolyte or swelling of the case. The markings shall be legible.</condition>
15	Resistance to	<condition>         Terminals of the capacitor shall be immersed into solder bath at 260±5°Cfor10±1seconds or400±10°Cfor3<sup>-0</sup> 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>         Leakage current       Not more than the specified value.</criteria></condition>
10	solder heat 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 test	<condition>         The following test only apply to those products with vent products at diameter ≥∅6.3 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.         <table 2="">         Diameter (mm)       DC Current (A)         22.4 or less       1         <criteria>         The vent shall operate with no dangerous conditions such as flames or dispersion of pieces of the capacitor and/or case.</criteria></table></condition>



## 8、 Packing Information

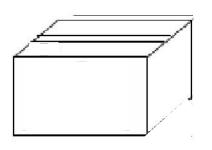
Packing Label Marked (the following items shall be marked on the label)
(Inside box or bag)
(1)Clint order number (2)Client part number (3)Beryl part number (4)Capacitance (5)Voltage (6)Dimension
(7)Packaging quantity (8)Capacitance tolerance (9) QC Marking (0) Lot number (1) Series

LOT Number :

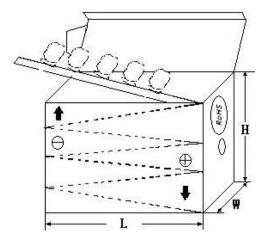


year month date number

#### 1) Bulk Packing:



#### 2) Taped Packing:



#### 3) Outer box



外箱

4) Outer box label:

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



### 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)					
Onconic chlorin	Polychlorinated naphthalenes (PCN)					
Organic chlorin compounds	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 com	pounds					
Formaldehyde						
Polyvinyl chlorid	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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