







DATA SHEET

Y1 AC Ceramic Capacitor 400VAC

Serie: 122002

Mat. Code B Material: B= Y5P

Voltage Code 401 Voltage: 401= 400VAC

Range Code 102 Range: 102= 1000pf

Y1 AC Ceramic Capacitor 400VAC

Serie No.: **I22002**

Customer:

DRW: Jason **CHKD** Wilson MATL: Wilson **TOLERANCE** Mason DATE 01.11.2010 APPD: Schumi **FINISH** Sheet No. 1 from 13 Jamv









Technical Specifications

Temperature Characteristics Y5P and Y5U Capacitance Change of Temperature Y5P = $\pm 10\%$

Coeffizient $Y5U = \pm 20\% \sim -55\%$ Temperature Range: $-25^{\circ}\text{C} \sim +85^{\circ}\text{C}$

Capacitance Tolerance: $K= \pm 10\%$ $M= \pm 20\%$

Nominal Capacitance Code (Example)

 Code
 Capacitance (pf)

 101
 100

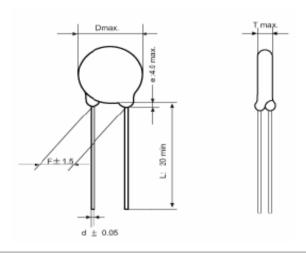
 102
 1000

 222
 2200

 103
 10000

Nominal capacitance shall consist of three numbers in the unit of picofard(pf). The frist and the second numbers mean the signifibant figures and the third number shall presendt the number of zeros flowing the significant figures.

Lead Style Informations



Lead Code Style (A) (mm)

Pitch Code	Α	В	С	D	Е				
F	2,5	5,0	7,5	10	12,5				
L		only 20	mm lor	ng lead					
d		0,5 or	0,6 or 0),8mm					
е	max. 4,0mm								

Y1 AC Ceramic Capacitor 400VAC

Part No.: **I22002**

Customer:

MATL: DRW: CHKD Wilson Wilson Mason 01.11.2010 Jason **TOLERANCE** DATE APPD: Schumi FINISH Sheet No. 2 from 13 Jamy





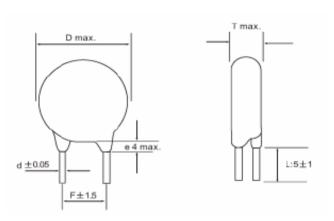


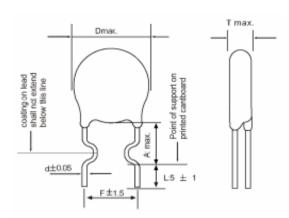


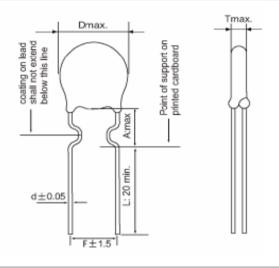
Lead Style Informations

Lead Style Informations

Lead Style Informations







Lead Code Style (B) Unit (mm)

Lead Code Style (C) Unit (mm)

Lead Code Style (D) Unit (m	m
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Pitch Code	Α	В	C	D	Е			
F	2,5 5,0 7,5 10				12,5			
L	5,0mm or on customer request							
d		0,5 or	0,6 or 0),8mm				
е	max. 4,0mm							

Pitch Code		В	С	D	Е		
F		5,0	7,5	10	12,5		
Α		5,0	5,0	6,5	6,5		
L	5,0mm or on customer request						
d		0,5 or	0,6 or 0),8mm			

Pitch Code		В	С	D	Е			
F		5,0	7,5	10	12,5			
Α		5,0	5,0	6,5	6,5			
L	20mm min.							
d	0,5 or 0,6 or 0,8mm							

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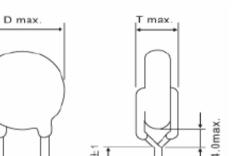
F±1.5





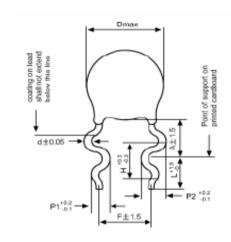


Lead Style Informations



 $\Phi d \pm 0.05$

Lead Style Informations



Lead Code Style (H) Unit (mm)

Pitch Code		В	С	D	Е			
F		5,0	7,5	10	12,5			
Г	5,0m	nm or o	n custo	mer rec	uest			
d	0,5 or 0,6 or 0,8mm							

Lead Code Style (M) Unit (mm)

Pitch Code		В	C	D	Е				
F		5,0	7,5	10	12,5				
Н		2,6	2,6	3,3	3,3				
P1	1,3 1,25 1,65 1,65								
P2		1,7	1,65	1,95	1,95				
Α	D<8	3: 6,0±	1,5, D>	8: 7,0±	: 1,5				
L	3,0 ~ 30mm								
d		0,5 or	0,6 or 0),8mm					

Y1 AC Ceramic Capacitor 400VAC

Part No.: **122002**

Customer:

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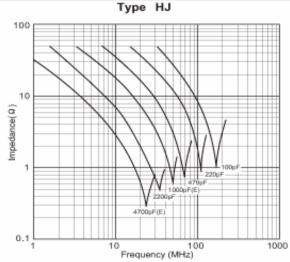


Specification and test method

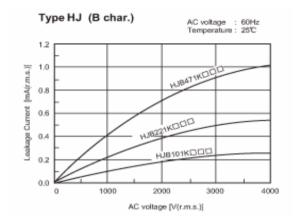
Operating Temperature range -25°C ~ +105°C But temperature range is -25% ~ +85°C at safety standard specification.

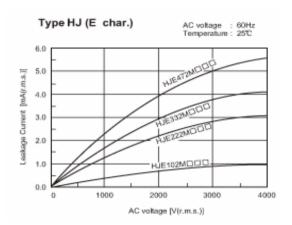
Test and measurement shall be made at the standard condition. (Temperature 15 ~ 35°C relative humidity 45 ~ 75% and athmospheric pressure 860~1060hpa). Unless otherwise specified herein it doubt accurated on the value of measurement, and remesuarement was requested by customer capacitor shall be measuremed at the reference condition (Temperature 20 ±2°C, relative humidity 60~70% and atmospheric pressure 860~1060hpa), unless otherwise specified herein.

Impedance vs. Frequency Characteristics

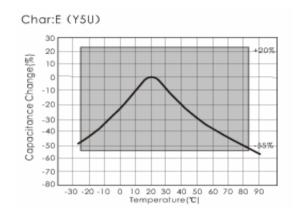


Leakage Current Characteristics

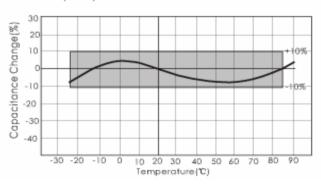




Capacitance Temperature Characteristics



Char: B(Y5P)



400VAC

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Y1 AC Ceramic Capacitor

Customer:

Wilson DRW: CHKD MATL: Mason 01.11.2010 Jason Wilson **TOLERANCE** DATE **FINISH** APPD: Schumi Sheet No. 5 from 13 Jamy









	Item		Sp	pecification			Testing Me	thod			Item		Specif	ication		Testi	ing Method
An	perance and	1		d defect on app			pacitor shall be irspes for visible evider	•				Cha	r. Capaci	tance Change			e measurement shall be step specified in table 3.
	Dimensions			dimension are becified range.	within	,	Dimensions shall be measured with slide			Temperature		В		ithin ± 10%		Step	Temperature (°C)
			sp	becilied range.			calipers.					Е	withi	n + 20% -55%		1	.+ 20 ±2
						The car	pacitor shall be irsp	pected by nacked			aracteristics				1	2	25 ±2
	Marking		lob	oe easily legible) .		eyes	,				Tem	perature	characteristics		3	.+ 20 ±2
С	apacitance		Within	spefied tolerar	nce									-25 to +85°C		4	.+ 85 ±2
			Cha	ar. Specification	n		capacitance, dissi									5	.+ 20 ±2
Dissipa	ation Factor ((D,F)	B=	D,F= ≤ 2,5%	·)	measur	ed at 25 \pm 2°C with AC1 \pm 0,1V (r	*									
			E=	D,F= ≤ 2,5%	·)	1	7.01 ± 0,1 v (1				Apperance		No mark	ed defect.			narge in made 50 times at m the capacitor (Cd)
Insulation	on Resistand R)	ce (10	0000M Ω min.			ulation resistance s DC 500 ± 50V with charging	in 60 ±5sec. Of			I.R.		1000M	Ω min.		ged at DC vol	tage of specified
	Between I wires			No failure		The capacitor shall not be damage when AC 500V (r.m.s.) are applied between the lead wires for 600s.				Discharge test (1)						Vs. R3	S RI
Dielectric Strength	Body Insul	lation		No failure		First, the terminals of the capacitor shall be connected together. Then as shown in Figure right, a metal foil shall be closely wrapped around the body of the capacitor to the distance of about 3-4mm from each terminal. Then the capacitor shall be insetedinto a container filed with ballsof about			Discharg	Dielectric Strength		per It	em 6.	Cd: 0 S: hig R1: 1 R2: 1 R3: \$	Figapacitor under 2,001μF gh voltage sw 1000Ω 1000MΩ Surge resistar DC 10KV	vitch	
						AC400 for 60 capacit	ameter. Finally AC (r.m.s.) is applied 0s between the or lead wires and metal balls.	Metal balls									ramic Capacitor 00VAC 122002
DR	RW:	Jaso	on	CHKD	Wil	son	MATL:	Wilson	TOLER	RANCE	Mason	DA	TE	01.11.2010			
AP	PD:	Schu	mi				FINISH	Jamy			Shee	t No.		6 from 13	Cus	tomer:	

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Item			Specification			Testing Me	thod			Item	Spe	cification	Testing	Method
				F C f	placed a capacitor four dich	arges from a dum	the test to be subjected to p capacitor		Disc	harge Trest II		loth around cpacitors t glow or flame.	Cap. Value Cd to	
				t 0 0	placed D test. The discharge 60Hz pot capacitor	C 5KV across the interval between e is to be 5s. AC2 tential is to applied r under test and is	successive 240V (r.m.s.)-		Solde	rability of leads	uniformly c	nall be soldered with coated on the axial n over 3/4 of the rential direction.	The lead wire of capa into molten solder of 2 The depth of immersic 2,0mm from the root of	$235 \pm 5^{\circ}$ C for 2 ± 0.5 s. on is up to about 1,5 to
				C	circiut is	opened in a short	ter time by			Apperance		narket defect		
						wn of the capacito			ø.		Within the s	specified tolerance	The capacitor shall fir	mly be soldered to the
		-	1 1 1	ŀ		in accordance wi	usted to provide a th the following.		stance	Capacitance	Char.	Specification	supporting lead wire	and vibration which is ation frequency range.
Discharge Tr	est II		cheese-cloth ard tors shall not glo flame.	ow or	Vdc= 5000	O(Cd+Ct) (V)	Ct Cd Vdc		Vibration Resistance	D, F.	B E	D,F, ≤ 2,5% D,F, ≤ 2,5%	1,5mm in total amplitu the rate of vibration 55Hz and back to 10h of 6H; 2H each in 3 r	ude, and about 1min in change from 10Hz to Hz is applied for a total nutually perpendicular tions.
				\$ [s: High v L: Choke	aible direct-currer oltage switch e coil of appr. 3ml- use rated 30A and	nt voltage source.							
						oply source rated	240V 60Hz 30A							nic Capacitor VAC
					Cd: Dum	p Capacitor							Part No.:	122002
DRW:	Jas		CHKD	Wils	son	MATL:	Wilson	TOLER	RANCE	Mason	DATE	01.11.2010	Customer:	
APPD:	Sch	umi				FINISH	Jamy			Shee	et No.	7 from 13	Customor.	

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	Item	Specification	Testing Method
	Apperance	No marked defect	As in figure, the lead wires shall be immersed solder of 350 ± 10°C or 260 ±
	Capacitance change	Within ± 10%	5°C up to 1,5 ~ 2,0mm from the root of the terminal for 3,5 \pm 0,5s. (10 \pm 1s for 260 \pm 5°C).
	I.R.	1000M Ω min.	5 6).
Soldering Effect	Dielectric Strength	Pre Item 6.	Pre-treatment: Capacitor shall be stored at 85 ± 2°C for 1h. Then placed at room conditions for 24 ± 2h before initial measurements. Post-treatment: Capacitor shall be stored for 1 to 2 h ar room conditions.

	Item		Specification	Testing Method				
(e)	Appearance		No marked defect.					
Stat	0	Cha	r. Capacitance Change					
8 8	Capacitance Change	В	within ± 10%					
rea	Change	E	within ± 15%	Set the capacitor for $500 \pm 12h$ at $40 \pm 2^{\circ}C$				
r St		Char.	Specification	in 90 ~ 95% relative humidity. Post-				
nde	D,F,	В	D.F. ≤ 5,0%	treatment: Capacitor shall be stored for 1 to				
n O		Е	D.F. ≤ 5,0%	2h at room condition.				
dity	I.R.		3000M Ω min.					
Humidity (Under Stready State)	Dielectric Strength		Per Item 6					
	Appearance		No marked defect.					
	0 1:	Cha	r. Capacitance Change					
ō	Capacitance Change	В	within ± 10%					
adin	Change	Е	within ± 15%	Apply the rated voltage for 500 ± 12h at 40				
Humidity Loading		Char.	Specification	± 2°C in 90 ~ 95% relative humidity. Post-				
dity	D,F,	В	D.F. ≤ 5,0%	treatment: Capacitor shall be stored for 1 to				
i E		Е	D.F. ≤ 5,0%	2h at room condition.				
エ	I.R.		3000M Ω min.					
	Dielectric Strength		Per Item 6					

Y1 AC Ceramic Capacitor
400VAC

Part No.: 122002

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DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010
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	Item	Specification	Testing Method				
	Appearance	No marked defect.	Impulse Voltage				
	Capacitance Change	Within ± 20%	Each individual Capacity shall be subjected				
	I.R.	3000M Ω min.	to 8KV impulses for three times. After the capacitance are supplied to life test.				
	Dielectric Strength	Per Item 6.	100/%)				
Life	Discharge Test (II)	Per Item 9.	T1=1.2 μ s=1.67T T2=50 μ s Apply a voltage of table 4 for 1000h at 105 +2/0°C, and relative humidity of 50% max. (table 4) Applied Voltage				
			AC 425V (r.m.s.). Except that once each hour the oltage is increased to AC 1000V (r.m.s.) for 0,1s.				
			Post-treatment: Cpapcitor shall be stared for 1 to 2h at room temperature.				

		Item	Specif	ication	Testing Method			
			The capacitor flan follows.	ne discontinue as	The Capacitor shall be subjected to applied flame for 15s and then removed for 15 s			
			Cycle Time		until 5 cycle.			
			1 to 4	30s max.	II Conneiter			
		lame Test	5	60s. Max	19x (4—Capacitor			
				Gas Burner (in mm)				
	ss of tion	Tensile	Lead wire shall		As a figure, fix the body of capacitor apply a tensile weight gradually to each lead wire in the radila direction of capacitor up to 10N and keep it for 10± 1s.			
	Robustness of Termination	Bending	Capacitor shall noit be broken.	T.				
	Active Flammability		The chees-cloth fir	n shall not be on e.	Each lead wire shall be subjected to 5N weight and then a 90° bend, at the point of egress, in one direction, return to original position, and then a 90° bend in the opposite direction at the rate of one bend in 2 to 3s.			

Y1 AC Ce	eramic Capacitor
	400VAC
Part No :	122002

Part No.: **122002**

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010
APPD:	Schumi			FINISH	Jamy		Shee	t No.	9 from 13









Item	S	pecification	T	esting Metho	d		Item	Specif	fication	Testing Method
	_	cheese-cloth shall not be on fire.	one but more that cloth. The capacit discharges. The it	n two complete lay tor shall be subject nterval between so be 5s. The UAC sh	ted to 20			exceeded the	me shall not be time 30s. The shall not ignite.	The capacitor under test shall be held in the flame in the position which best promotes burning. Each specimen shall only be exposed once to the flame. Time of exposure to flame: 30s. Length of flame: 12± 1mm.
	1	ST CT S2 UAC	C2 C3 Cx L3 L4 ↓	CI CI	J Ut	Pass	ive Flammability	noodoc paper	onali not ignice.	Gas bumer: Length 35mm min. Inside Dia: 0,5 ± 0,1mm- Outside Dia. 0,9mm max. Gas: Butane gas Purity 95% min.
			C1,2: 1µF ±10%	Oscilloscop	e e				1 5	→ Test specimen
Active Flammabili	у	The chees-cloth shall not be on fire	C3: 0,033µ ± 5% Ct: 3µF ± 5% 10K Cx: Capacitor und	(V				Appout 8mm	Las.	# STITE
			F: Fuse rated 10, L1 to 4: 1,5mH ± 16A Rod core cho	A 20%					-	Tissue About 10 mm ithak baard
	The c		R: 100Ω ±2% UAC: UR ±5% UR: Rated Voltag Ut: Voltage applie							
			5kV Time							Y1 AC Ceramic Capacitor 400VAC
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Part No.: I22002 Customer:
APPD:	Schumi		_	FINISH	Jamy	_	Shee	t No.	10 from 13	Customer.

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	Item	Sp	ecification	Testing Method					
	Appearance	No r	marked defect	The conscitor shall be subjected to 5 temperature					
	Canacitanas	Char. Capaci.Change		The capacitor shall be subjected to 5 temperature cyclies, then consecutively to 2 immersion cycles.					
	Capacitance Change	В	Within ± 10%	oyonoo, i	anon concocativoly	7 10 2 11111	nordion dy didd.		
	Onlango	Е	Within ± 20%		Tempera	ture cycl	е		
				Step	Temperature	(°C)	Time		
				1	25 +0/-	3	30min		
Φ		Char.	Specification	2	Room tempe	rature	3min		
Styl	D.F.	В	D.F. ≤ 5,0%	3	.+ 105 +3	3/0	30min		
ion		E	D.F. ≤ 5,0%	4	Room temperature		3min		
Temperature and Immersion Style				Cycle time: 5cycle Immersion cycle					
ature ar	I.R.	30	000M Ω min.	Step	Temperature (°C)	Time	Immersion Water		
empera				1	. +65 +/-0	15min	Clean Water		
	Dialogtria			2	Room Temp.	15min.	Salt Water		
	Dielectric Strength	Per Item 6		Pre-tratment: Capacitor shall be stored at 85 ±2°C for 1h, thenplaced at room conditions for 24 ± 2h.					
				Post-treatment: Capacitor shall be stored for 24 ± 2h at room conditions.					

[&]quot;Room Condition" Temperature 15 to 35°C, Relative humidity; 45 to 75%, Atmospheric pressure: 6 to 106KPa.

Y1 AC Ceramic Capacitor 400VAC

Part No.: **I22002**

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APPD:	Schumi			FINISH	Jamy		Shee	t No.	11 from 13









Ordering Informations

Serie		Range	Temperature Character.	Voltage	Tolerance Code	Lead Style Code	Lead Length Code	Lead Space Code	ROHS	Packing Code	
I22002	-	102	В	401	К	Α	20	D	R	BU	
		102= 1000pf	B= Y5P	401= 400VAC	K= 10%	A= Style A	20= 20mm	A= 2,50mm	R= ROHS Conform	BU= Bulk Ware	
						B= Style B	05= 5mm / ±1mm	B= 5,00mm	N= NON ROHS	TA= Tape Ammo Pack	
						C= Style C		C= 7,50mm	Conform	TR= Tape Reel	
						D= Style D		D= 10,0mm			
						H= Style H		E= 12,5mm			
						M= Style M					

Y1 AC Ceramic Capacitor 400VAC

Part No.: **122002**

DRW: Jason CHKD Wilson MATL: Wilson TOLERANCE Mason DATE 01.11.2010 APPD: FINISH Sheet No. 12 from 13 Schumi Jamy

Customer:



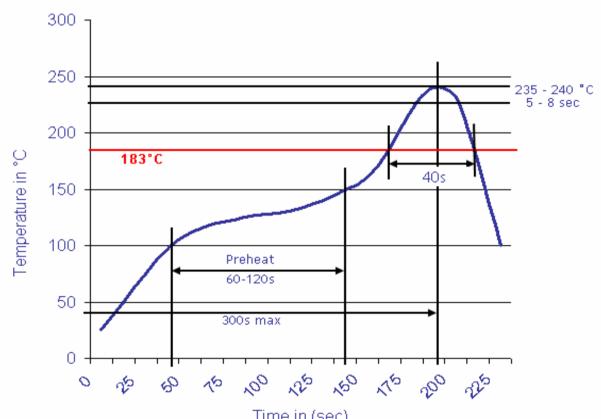






Soldering Profile Curve

Classification Reflow Profile (JEDEC J-STD-020C)



Time in (sec)

Y1 AC Ceramic Capacitor 400VAC

Part No.: 122002

Customer:

MATL: DRW: CHKD Wilson Wilson TOLERANCE Mason DATE 01.11.2010 Jason APPD: FINISH Schumi Sheet No. 13 from 13 Jamy