

# DATA SHEET

## Y1 AC Ceramic Capacitor 250VAC

# Serie: I22001

Mat. Code	E	Material: <b>B= Y5P</b>
Voltage Code	251	Voltage: 251= 250VAC
Range Code	392	Range: 392= 3900pf

											mic Capacitor DVAC
										Serie No.:	I22001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customori	
APPD:	Schumi			FINISH	Jamy		Shee	t No.	1 from 13	Customer:	
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Temperature Range:

Capacitance Tolerance:

Coeffizient

Code

101

102

222

103

**Temperature Characteristics** 

Capacitance Change of Temperature

**Technical Specifications** 

Y5P and Y5U

 $Y5P = \pm 10\%$ 

K= ± 10%

 $M = \pm 20\%$ 

Nominal Capacitance Code (Example)

100

1000

2200

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.

. -25°C ~ +85°C

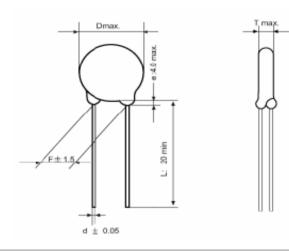
Capacitance (pf)

Y5U = ±20% ~ -55%





**Lead Style Informations** 



Lead Code Style (A) (mm)

Pitch Code	Α	В	С	D	E	
F	2,5	5,0	7,5	10	12,5	
L	only 20mm long lead					
d	0,5 or 0,6 or 0,8mm					
е		ma	ax. 4,0n	nm		

											amic Capacitor
										Part No.:	122001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
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REACH ROHS Lead Free



#### Lead Style Informations

Lead Code Style (B) Unit (mm)

С

7,5

5,0mm or on customer request

0,5 or 0,6 or 0,8mm

max. 4,0mm

D

10

В

5,0

A 2,5 L:5±1

Ε

12,5

Pitch Code

F

А

L

d

#### Lead Style Informations

Lead Code Style (C) Unit (mm)

С

7,5

5,0

5,0mm or on customer request

0,5 or 0,6 or 0,8mm

D

10

6.5

Ε

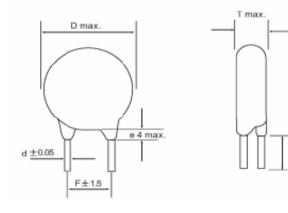
12,5

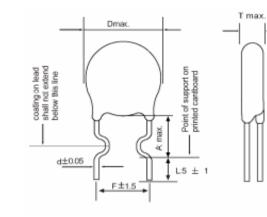
6.5

В

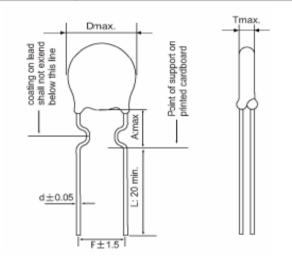
5,0

5.0





#### Lead Style Informations



#### Lead Code Style (D) Unit (mm)

Pitch Code	В	С	D	E
F	5,0	7,5	10	12,5
A	5,0	5,0	6,5	6,5
L	20	)mm m	in.	
d	0,5 or	0,6 or (	),8mm	

											amic Capacitor 50VAC
										Part No.:	I22001
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Pitch Code

F

L

d

е

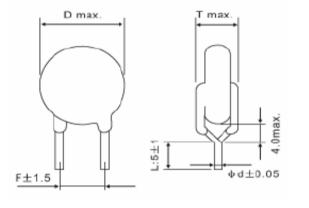
TS

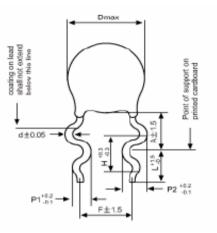
email: info@edcon-components.com



#### Lead Style Informations

Lead Style Informations





#### Lead Code Style (H) Unit (mm)

Pitch Code		В	С	D	E
F		5,0	7,5	10	12,5
L	5,0n	nm or o	n custo	mer rec	quest
d	0,5 or 0,6 or 0,8mm				

Lead Co	de Style	e (M) l	Jnit (mi	n)

Pitch Code		В	С	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
A	D<8	3: 6,0±	1,5, D>	•8: 7,0±	: 1,5
L		3,	0 ~ 30n	าท	
d		0,5 or	0,6 or (	),8mm	

## Y1 AC Ceramic Capacitor

250VAC

t No.	:	122001

										Part No.:	I22001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customor	
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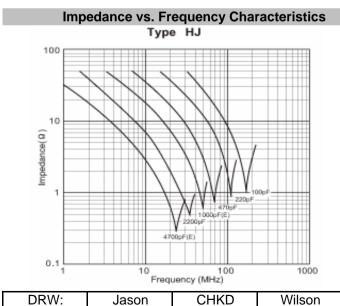


APPD:

#### Specification and test method

Operating Temperature range  $-25^{\circ}C \sim +105^{\circ}C$ But temperature range is  $-25\% \sim +85^{\circ}C$  at safety standard specification.

Test and measurement shall be made at the standard condition. (Temperature 15 ~  $35^{\circ}$ 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.



Schumi

#### Leakage Current Characteristics

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AC voltage : 60Hz

Temperature : 25°C

E332MDD

202000

E102MDDD

3000

Mason

4000

Sheet No.

DATE

2000

TOLERANCE

AC voltage [V(r.m.s.)]

**RoHS** Lead Free

Type HJ (B char.) AC voltage : 60Hz Temperature : 25°C

Type HJ (E char.)

6.0

3.0

0.0

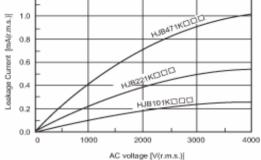
Wilson

Jamy

FS 5/

₩ 4.0

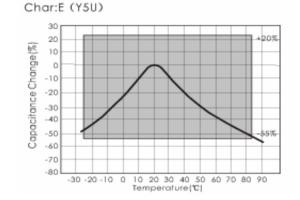
ට දී 2.0



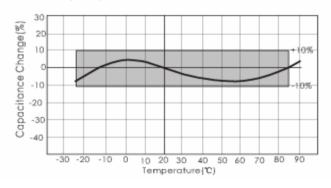
Capacitance Temperature Characteristics

СОМРОМЕМ

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#### Char: B(Y5P)



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MATL:

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1000



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Sheet No.



Step

1

2

3 4

5

R3

Ct: Capacitor under Test

S: high voltage switch

Cd: 0,001µF

R1: 1000Ω R2: 1000MΩ R3: Surge resistance Vs: DC 10KV

Part No.:

Customer:

6 from 13

**Testing Method** 

The capacitance measurement shall be made of each step specified in table 3.

As in figure, discharge in made 50 times at 5sec intervalls from the capacitor (Cd) charged at DC voltage of specified

> s R1 Ct+

Cd:

Fig.1

Temperature (°C)

.+ 20 ±2

.- 25 ±2 .+ 20 ±2

.+ 85 ±2

.+ 20 ±2

₹R2

Approximation and mension are within Dimensions     from and dimension are within specified range.     Operation within be measured with slide calipers.     Dimensions will be measured with slide calipers.       Marking     To be easily legible.     The capacitor shall be inspected by nacked eyes     Temperature Characteristics     E       Capacitance     Within spefied tolerance     The capacitance, dissipation shall be measured at 25 + 2°C with 1 + 0.1KHz and     Temperature Characteristics     Temperature Characteristics	Specification         ar. Capacitance Change         within ± 10%         within + 20% -55%         operature characteristics         arantee is -25 to +85°C
Apperance and Dimensions       No marked defect on apperance from and dimension are within specified range.       eyes for visible evidence of defect. Dimensions shall be measured with slide calipers.       E       E         Marking       To be easily legible.       The capacitor shall be inspected by nacked eyes       The capacitance, dissipation shall be measured at 25 ± 2°C with 1 ± 0.1 KHz and       Temperature       E	within ± 10% within + 20% -55%
Marking     To be easily legible.     The capacitor shall be rejected by fracted eyes     Terr       Capacitance     Within spefied tolerance     The capacitance, dissipation shall be measured at 25 + 2°C with 1 + 0.1KHz and     Terr	•
Char. Specification measured at 25 + 2°C with 1 + 0 1KHz and	arantee is -25 to +85°C
$rac{1}{2}$ measured at 25 + 2°C with 1 + 0 1KHz and	
Dissipation Factor (D,F) B= D,F= $\leq 2.5\%$ AC1 $\pm 0.1V$ (r.m.s)	
$E=D,F=\leq 2,5\%$ Apperance	No marked defect.
Insulation Resistance ( R) The insulation resistance shall be measured with DC 500 ± 50V within 60 ±5sec. Of charging. I.R.	1000M Ω min.
Between Lead wires     No failure     The capacitor shall not be damage when AC 500V (r.m.s.) are applied between the lead wires for 600s.	
Between Lead wires       No failure       The capacitor shall not be damage when AC 500V (r.m.s.) are applied between the lead wires for 600s.         Between Lead wires       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       Dielectric Strength         Body Insulation       No failure       capacitor shall be insetedinto a container filed with ballsof about 4mm dismetare Finally 400       About 34mm	per Item 6.
1mm diameter. Finally AC AC400(r.m.s.) is applied for 60s between the capacitor lead wires and metal balls.	
DRW: Jason CHKD Wilson MATL: Wilson TOLERANCE Mason D/	ATE 01.11.2010

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Jamy

Y1 AC Ceramic Capacitor 250VAC

122001







ltem		:	Specification			Testing Me	thod		Item	Spec	ification	Testing Method
					placed a	layer of cheese cluround the body of r. Each sample is	the test	Dis	charge Trest II		oth around cpacitors glow or flame.	Capacitance value and D.F. are follows Cap. Value Cd to 0,005µF 0,0051 to 0,05µF Cap. Value CD 0,005µF 0,05µF
					charged placed E test. The discharg 60Hz po capacito	arges from a dum to a voltage that. DC 5KV across the interval between le is to be 5s. AC2 tential is to applied r under test andis	When discharged, capacitor under successive 40V (r.m.s.)- d across the to be maintained	Sold	erability of leads	uniformly co direction	II be soldered with ated on the axial over 3/4 of the ential direction.	D.F of Cd. 0,5% max. 0,5% max. The lead wire of capacitor shall be dipped into molten solder of $235 \pm 5^{\circ}$ C for $2 \pm 0,5$ The depth of immersion is up to about 1,5 2,0mm from the root of lead wires.
						after the fouth disc opened in a short			Apperance	No ma	irket defect	
Discharge Trest II					breakdo	wn of the capacito	r.The direct		Аррегансе	Within the sp	becified tolerance	The capacitor shall firmly be soldered to
		Tho o	heese-cloth arc			supply is to be adju I in accordance wit		stance	Capacitance	Char.	Specification	supporting lead wire and vibration which 10 to 55Hz in the vibration frequency ran
	st II	cpacitors shall not glow or flame.			Vdc=500 - va	ent supply is to be adjusted to provide a antial in accordance with the following.     Output     Capacitance       5000(Cd+Ct) Cd     C     Capacitance		D, F.	E	D,F, ≤ 2,5% D,F, ≤ 2,5%	1,5mm in total amplitude, and about 1mi the rate of vibration change from 10Hz 55Hz and back to 10Hz is applied for a to of 6H; 2H each in 3 mutually perpendicu directions.	
					Fig.2 Vdc: Varaible direct-current voltage source. s: High voltage switch L: Choke coil of appr. 3mH and 0,03Ω F: Plug fuse rated 30A and 250V							
					Vac.: su	pply source rated 2 acitor under test.						Y1 AC Ceramic Capacito 250VAC
						action under test.						Part No.: <b>I22001</b>
DRW:	Jas	on	CHKD		son	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	
	540	÷.,	0.11.0			FINISH			11100011		0.11.2010	Customer:

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	ltem	Specification	Testing Method
	Apperance	No marked defect	As in figure, the lead wires shall be immersed solder of $350 \pm 10^{\circ}$ C or $260 \pm$
	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 $\Omega$ min.	5 C).
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.

	ltem		Specification	Testing Method
(ə	Appearance		No marked defect.	
Stat	Conscitores	Chai	r. Capacitance Change	
dy (	Capacitance Change	В	within ± 10%	
trea	enange	E	within ± 15%	Set the capacitor for 500 $\pm$ 12h at 40 $\pm$ 2°C
r Si		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)		E	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.	
	Conscitores	Chai	r. Capacitance Change	
D	Capacitance Change	В	within ± 10%	
adir	onango	E	within ± 15%	Apply the rated voltage for $500 \pm 12h$ at 40
Loi		Char.	Specification	$\pm 2^{\circ}$ C in 90 ~ 95% relative humidity. Post-
dity	D,F,	В	D.F. ≤ 5,0%	treatment: Capacitor shall be stored for 1 to
nmi	Change OT Atipium D,F,		D.F. ≤ 5,0%	2h at room condition.
Т	I.R.		3000M Ω min.	
	Dielectric Strength		Per Item 6	

											mic Capacitor )VAC
										Part No.:	l22001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
APPD:	Schumi			FINISH	Jamy		Shee	t No.	8 from 13	Cusiomer.	
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	ltem	Specification	Testing Method			Item	Specif	ication	Testing Method
		No marked defect.	Impulse Voltage			item			The Capacitor shall be subjected to applied flame for 15s and then removed for 15 s
	Change	Within ± 20%	Each individual Capacity shal be subjected				Cycle	Time	until 5 cycle.
	I.R.	3000M Ω min.	to 8KV impulses for three times. After the capacitance are supplied to life test.				1 to 4	30s max.	
	Dielectric Strength	Per Item 6.	100(%)		F	lame Test	5	60s. Max	1% Fiame
Life	Discharge Test (II)	Per Item 9.	Apply a voltage of table 4 for 1000h at 105 + $2/0^{\circ}$ C, and relative humidity of 50% max. (table 4 )	-	Robustness of Termination	Tensile Bending	Lead wire shall not cut off. Capacitor shall noit be broken.	R	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.
			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.		Active	e Flammability	The chees-cloth fir	shall not be on	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.

											amic Capacitor 50VAC
										Part No.:	122001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
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#### COMPONENTS A MEMBER OF EDCON-GROUP Specification **Testing Method** Specification **Testing Method** Item Item The capacitor under test shall be held in the The capacitor shall be individually wrapped in at least flame in the position which best promotes one but more than two complete lavers of cheeseburning.Each specimen shall only be The cheese-cloth shall cloth. The capacitor shall be subjected to 20 exposed once to the flame. Time of not be on fire. discharges. The interval between successive The burning time shall not be exposure to flame: 30s. discharges shall be 5s. The UAC shall be maintained for 2min after the last discharge. exceeded the time 30s. The Length of flame: 12± 1mm. tissuse paper shall not ignite. Gas burner: Length 35mm min. Inside Dia: $0.5 \pm 0.1$ mm-Outside Dia. 0.9mm max. Gas: Butane gas Purity 95% min. Passive Flammability Test specimen Oscilloscope mm8 fundamm C1,2: 1µF ±10% C3: 0,033µ ± 5% 10KV Active Flammability Ct: 3µF ± 5% 10KV Cx: Capacitor under test F: Fuse rated 10A - Tissue L1 to 4: 1.5mH ± 20% About 10 mm ithek board. 16A Rod core choke R: 100Ω ±2% The chees-cloth shall not UAC: UR ±5% be on fire UR: Rated Voltage Ut: Voltage applied to Ct Ux 5kV Y1 AC Ceramic Capacitor 250VAC Time Part No.: 122001 DRW: CHKD Wilson MATL: 01.11.2010 Wilson TOLERANCE Mason DATE Jason Customer: APPD: FINISH Schumi Sheet No. 10 from 13 Jamy

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	Item	Sp	ecification	Testing Method						
	Appearance	No r	narked defect	The can	acitor shall be sub	iected to	5 temperature			
	Consoitonoo	Char.	Capaci.Change	The capacitor shall be subjected to 5 temperature cyclies, then consecutively to 2 immersion cycles.						
	•	В	Within ± 10%	eyeee, .						
	Appearance Capacitance Change	E	Within ± 20%	Temperature cycle						
e Sts D.F.			Step	Temperature	Time					
				1	25 +0/-	30min				
Φ		Char.	Specification	2	Room temper	ature	3min			
Styl		В	D.F. ≤ 5,0%	3	.+ 105 +3	/0	30min			
berature and Immersion S	D.I .	E	D.F. ≤ 5,0%	4	Room temper	3min				
				Cycle time: 5cycle Immersion cycle						
	I.R.	30	000M Ω min.	Step	Temperature (°C)	Time	Immersion Water			
empera				1	. +65 +/-0	15min	Clean Water			
	Dielectric			2	Room Temp.	15min.	Salt Water			
			Per Item 6	Pre-tratment: Capacitor shall be stored at $85 \pm 2^{\circ}$ (for 1h, thenplaced at room conditions for 24 ± 2h.						
				Post-treatment: Capacitor shall be stored for $24 \pm 2h$ at room conditions.						

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

											amic Capacitor 0VAC
										Part No.:	I22001
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
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**Ordering Informations** 

		_	Temperature		Tolerance	Lead Style	Lead Length	Lead Space		Packing		1
Serie		Range	Character.	Voltage	Code	Code	Code	Code	ROHS	Code		
												4
I22001	-	392	E	251	М	A	20	D	R	BU		]
	4		•				•	•				4
		<b>392=</b> 3900pf		251=		A= Style A	<b>20=</b> 20mm	<b>A=</b> 2,50mm	R= ROHS	BU= Bulk		
		<b>392</b> - 3900pr		250VAC		A- Style A		<b>A-</b> 2,30mm	Conform	Ware		
			<b>E=</b> Y5U		<b>M=</b> 20%	B= Style B	<b>05=</b> 5mm /	<b>B=</b> 5,00mm	N= NON	TA= Tape		
						,	±1mm	,	ROHS	Ammo Pack		
						C= Style C		<b>C=</b> 7,50mm	Conform	TR= Tape Reel		
							-			Reel	1	
						D= Style D		<b>D=</b> 10,0mm				
						H= Style H	1	<b>E=</b> 12,5mm				
						n= Style H	-	<b>L</b> = 12,011111				
						M= Style M						
										Y1 A	C Ceramic	Capa
											250VA	-
										Dort		
DRW:		son CH	IKD Wils		ATL: Wi	Ison TOLE	RANCE Ma	ison DA		2010	No.:	122001
APPD:		humi				imy		Sheet No.		Custor	mer:	
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**Soldering Profile Curve** 

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

