







# DATA SHEET

# Y1 AC Ceramic Capacitor 250VAC

Serie: I22001

Mat. Code B Material: B= Y5P

Voltage Code 251 Voltage: 251= 250VAC

Range Code **271** Range: **271= 270pf** 

Y1 AC Ceramic Capacitor 250VAC

Serie No.: **I22001** 

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) Capacitance (pf)

 Code
 Capaci

 101
 100

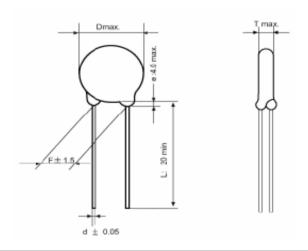
 102
 1000

 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 20mm long lead					
d		0,5 or	0,6 or 0	),8mm		
е		ma	ax. 4,0n	nm		

# Y1 AC Ceramic Capacitor 250VAC

Part No.: **|22001** 

Customer:

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



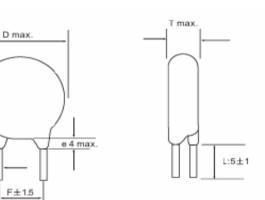
 $d \pm 0.05$ 



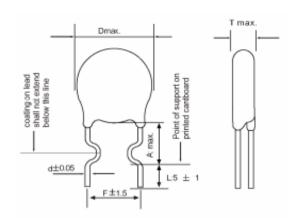




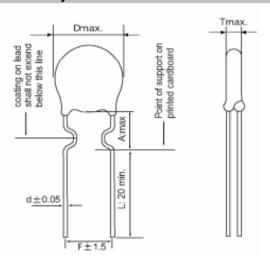
#### **Lead Style Informations**



#### **Lead Style Informations**



#### **Lead Style Informations**



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

Pitch Code	Α	В	С	D	Е
F	2,5	5,0	7,5	10	12,5
L	5,0mm or on customer reque				
d		0,5 or	0,6 or 0	),8mm	
е		ma	ax. 4,0n	nm	

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

		_					
Pitch Code		В	C	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						

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

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			

### **Y1 AC Ceramic Capacitor 250VAC**

Part No.: I22001

Customer:

MATL: CHKD Wilson Mason DRW: Wilson TOLERANCE DATE 01.11.2010 Jason APPD: Schumi FINISH Sheet No. 3 from 13 Jamy



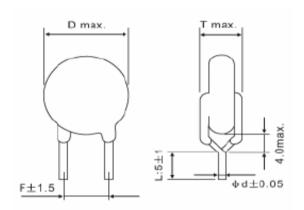


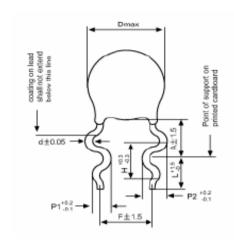




#### **Lead Style Informations**

# **Lead Style Informations**





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

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

Pitch Code		В	С	D	Е	
F		5,0	7,5	10	12,5	
L	5,0m	nm or o	n custo	mer red	quest	
d	0,5 or 0,6 or 0,8mm					
_					·	

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		
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 250VAC

Part No.: **I22001** 

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010
APPD:	Schumi			FINISH	Jamy		Shee	t No.	4 from 13







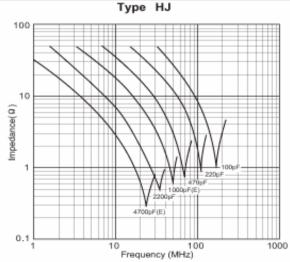


#### Specification and test method

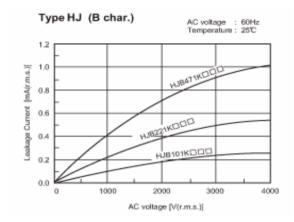
Operating Temperature range -25°C ~ +105°C But temperature range is -25% ~ +85°C at safety standard specification.

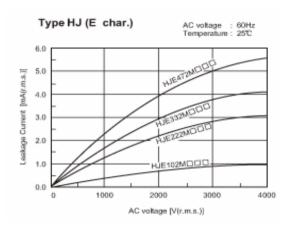
Test and measurement shall be made at the standard condition. (Temperature 15 ~ 35°C relative humidity 45 ~ 75% and athmospheric pressure 860~1060hpa). Unless otherwise specified herein it doubt accurated on the value of measurement, and remesuarement was requested by customer capacitor shall be measuremed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

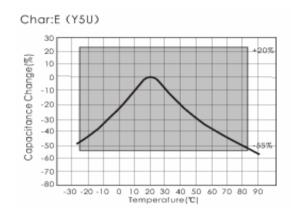


#### **Leakage Current Characteristics**

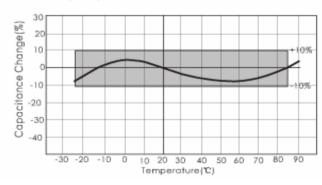




#### **Capacitance Temperature Characteristics**



#### Char: B(Y5P)



### **Y1 AC Ceramic Capacitor 250VAC**

Part No.: 122001

Customer:

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

Jason

Schumi

DRW:

APPD:









	Item		Specification			Testing Me	thod			Item		Specif	ication		Test	ing Method	
			<u> </u>									_				J	
	perance and		arked defect on app		eye	pacitor shall be irspes for visible evider	nce of defect.				Cha	r. Capaci	tance Change			ce measurement sha step specified in tab	
	Dimensions	11011	specified range.	WILLIIII	Dimen	sions shall be mea					В	w	ithin ± 10%		Step	Temperature (°	,C)
			3,			calipers.				emperature	Е	withi	n + 20% -55%		1	.+ 20 ±2	
	Marking		To be easily legible	Э.	The cap	pacitor shall be irspered	pected by nacked	ted by nacked			Tem	Temperature characteristics			3	25 ±2 .+ 20 ±2	
	apacitance	V	Vithin spefied tolera	nce		-,							-25 to +85°C		4	.+ 85 ±2	
	apacitarice	V	Char. Specification		The	capacitance, dissi	pation shall be					guarantee is 20 to 100 C			5	.+ 20 ±2	
Discipa	ation Factor (D	_\	B= D,F= ≤ 2,5%		measur	ed at 25 ± 2°C wit	•	-						-	<u> </u>	.+ 20 ±2	
Dissipa	וווטוז רמכנטו (ט	「) ———	E= D,F= $\leq 2.5\%$			AC1 ± 0,1V (I	r.m.s)			Annoronoo	rance No marked defect. As in figu			figure, disc	harge in made 50 tin	mes at	
			E= D,F=≤2,5%	0						Apperance		NO Mark	ea aerect.	5sec intervalls from the capacitor (Cd)			
Insulation	on Resistance R)	(	10000M Ω min.		The insulation resistance shall be measured with DC 500 ± 50V within 60 ±5sec. Of charging.					I.R.	1000M Ω min.			_ char	ged at DC vo	oltage of specified	7
	Between Le wires	ad	No failure			apacitor shall not b DV (r.m.s.) are app lead wires for	lied between the		Discharge test (1)					Vs T			¥
Dielectric Strength	Body Insulat	on			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	ner Item 6		Cd: ( S: hi R1: R2: R3:	Eapacitor und 0,001μF gh voltage sv 1000Ω 1000MΩ Surge resista DC 10KV	witch		
						ameter. Finally AC (r.m.s.) is applied	$A \rightarrow$	-									
					for 60 capacit	Os between the or lead wires and netal balls.	Metal balls							Y		ramic Capac 50VAC	itor
		-		•			•	•						F	art No.:	122001	
	RW: PD:	Jason Schumi	CHKD	Wils	son	MATL: FINISH	Wilson Jamv	TOLER	ANCE	Mason Shee		TE	01.11.2010 6 from 13	Cus	stomer:		
	. ט.	schumi   Finish   Jar		Jailiy			5100	, LINU.		0 110111 13							

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Item			Specification			Testing Me	thod			Item	Sp	ecification	Testing	Method	
														and D.F. are follows.	
					_	layer of cheese cl ground the body of			Disc	harge Trest II		-cloth around cpacitors not glow or flame.		0,005μF 0,0051 to 05μF	
					capacitor. Each sample is to be subjected to						Silali i	iot glow of flame.	Cap. Value CD 0	,005µF 0,05µF	
					four dicharges from a dump capacitor								D.F of Cd. 0,5%	max. 0,5%max.	
	placed DC 5KV across the capacitor under test. The interval between successive discharge is to be 5s. AC240V (r.m.s.)-60Hz potential is to applied across the capacitor under test and is to be maintained				placed DC 5KV across the capacit test. The interval between success discharge is to be 5s. AC240V (r.m 60Hz potential is to applied across capacitor under test andis to be ma		test. The interval between successive discharge is to be 5s. AC240V (r.m.s.)-60Hz potential is to applied across the capacitor under test andis to be maintained			Solderability of leads		Lead wire shall be soldered with uniformly coated on the axial direction over 3/4 of the circumferential direction.			$235 \pm 5$ °C for $2 \pm 0.5$ s. on is up to about 1,5 to
						after the fouth disc opened in a short				Annoronoo	No	market defect			
					breakdo	wn of the capacito	r.The direct			Apperance	Within the	e specified tolerance	]_, , , , , , ,		
		The	:heese-cloth ar			supply is to be adju I in accordance wit			istance	Capacitance	Char.	Specification	The capacitor shall firmly be solde supporting lead wire and vibration to 55Hz in the vibration frequer	and vibration which is	
Discharge Tre	Discharge Trest II		chacitors shall not glow or		Vdc= 5000(Cd+Ct) (V)			Vibration Resistance	D, F.	B E	D,F, ≤ 2,5% D,F, ≤ 2,5%	1,5mm in total amplit the rate of vibration 55Hz and back to 10 of 6H; 2H each in 3	ude, and about 1min in change from 10Hz to Hz is applied for a total mutually perpendicular ctions.		
					Vdc: Vai	raible direct-currer									
						oltage switch		1							
						e coil of appr. 3ml									
					r: Plug t	use rated 30A and	2 25UV	-							
					Vac.: su	pply source rated	240V 60Hz 30A							nic Capacitor	
				}	C1: Capacitor under test.			1					250	VAC	
					Cd: Dump Capacitor							Part No.:	I22001		
DRW:	Jas	on	CHKD	Wils	son	MATL:	Wilson	TOLER	RANCE	Mason	DATE		Customer:		
APPD:	Schi	umi				FINISH	Jamy			Shee	et No.	7 from 13	Customer.		

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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%	$5^{\circ}$ C up to 1,5 ~ 2,0mm from the root of the terminal for 3,5 ± 0,5s. ( $10 \pm 1$ s for $260 \pm 5^{\circ}$ C).
	I.R. 1000M Ω min.	5 0).	
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	Compositorno	Cha	r. Capacitance Change				
\$	Capacitance Change	В	within ± 10%				
rea	Onlange	Е	within ± 15%	Set the capacitor for 500 ± 12h at 40 ± 2°C			
r. S		Char.	Specification	in 90 ~ 95% relative humidity. Post-			
nde	D,F,	В	D.F. ≤ 5,0%	treatment: Capacitor shall be stored for 1 to			
<u> </u>		Е	D.F. ≤ 5,0%	2h at room condition.			
dity	I.R.		3000M $\Omega$ min.				
Humidity ( Under Stready State)	Dielectric Strength		Per Item 6				
	Appearance		No marked defect.				
	Compoitance	Cha	r. Capacitance Change				
D <sub>D</sub>	Capacitance Change	В	within ± 10%				
Humidity Loading	Onlange	Е	within ± 15%	Apply the rated voltage for 500 ± 12h at 40			
Ľ		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			
Ë		Е	D.F. ≤ 5,0%	2h at room condition.			
エ	I.R.		3000M $\Omega$ min.				
	Dielectric Strength		Per Item 6				

Y1 AC Ceramic Capacitor
250VAC

Part No.: **I22001** 

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010
APPD:	Schumi			FINISH	Jamy		Shee	t No.	8 from 13









	Item	Specification	Testing Method				
	Appearance	No marked defect.	Impulse Voltage				
	Capacitance Change	Within ± 20%	Each individual Capacity shal be subjected to 8KV impulses for three times. After the				
	I.R.	3000M Ω min.	capacitance are supplied to life test.				
	Dielectric Strength	Per Item 6.	100/%)				
Life			90 50 30 0 11=1.2 μ s=1.671 12=50 μ s				
	Discharge Test (II)	Per Item 9.	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.	11			
	_	lame Test	5 60s. Max		19x Capacitor			
	riame Test				Gas Burner (in mm)			
	Tensile		Lead wire shall		As a figure, fix the body of capacitor apply			
	Robustness of Termination	Bending	not cut off. Capacitor shall noit be broken.	Mî	tensile weight gradually to each lead wire the radila direction of capacitor up to 10N and keep it for 10± 1s.			
	Activ	e Flammability	The chees-cloth		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 Ceramic Capacitor						
250VAC						
Part No.:	122001					

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









one but more than two complete layers of cheese- The cheese-cloth shall cloth. The capacitor shall be subjected to 20 not be on fire. discharges. The interval between successive	capacitor under test shall be held in the me in the position which best promotes burning.Each specimen shall only be
discharges shall be 5s. The UAC shall be maintained for 2min after the last discharge.  The burning time shall not be exceeded the time 30s. The tissuse paper shall not ignite.  Length of	exposed once to the flame. Time of exposure to flame: 30s.  gth of flame: 12± 1mm.
Gas bun Inside D Outside	bumer: Length 35mm min. de Dia: 0,5 ± 0,1mm- side Dia. 0,9mm max. : Butane gas Purity 95% min.
Active Flammability  C1,2: 1µF ±10%  C3: 0,033µ ± 5% 10KV  Ct: 3µF ± 5% 10KV  Cx: Capacitor under test  F: Fuse rated 10A  L1 to 4: 1.5mH + 20%	Test specimen  Tissue About 10 mm ithak board
The chees-cloth shall not be on fire  R: 1000 ±2%  UAC: UR ±5%  UR: Rated Voltage  Ut: Voltage applied to Ct  Y1 A	1 AC Ceramic Capacitor 250VAC
Time Part	Part No.: <b>I22001</b>
DRW: Jason CHKD Wilson MATL: Wilson TOLERANCE Mason DATE 01.11.2010 APPD: Schumi FINISH Jamy Sheet No. 10 from 13	stomer:

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111	1							
	Item	Sp	ecification	Testing Method				
	Appearance	Noı	marked defect	The capacitor shall be subjected to 5 temperature				
	Oit	Char. Capaci.Change			acitor snail be sub then consecutively	•	•	
	Capacitance Change	В	Within ± 10%	oyonoo, t	inen conscounvery	10 2 111111	iciolori oyolco.	
	Onlange	Е	Within ± 20%		Tempera	ture cycle	Э	
				Step	Temperature	(°C)	Time	
				1	25 +0/-3		30min	
Φ		Char.	Specification	2	Room temper	ature	3min	
Styl	D.F.	В	D.F. ≤ 5,0%	3	.+ 105 +3	/0	30min	
ion	<b>D</b>	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	
	Dielectric	Per Item 6		2	Room Temp.	15min.	Salt Water	
	Strength			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.				

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

**Y1 AC Ceramic Capacitor 250VAC** 

Part No.: I22001

Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.201
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
I22001	-	271	В	251	K	Α	20	D	R	BU
		<b>271=</b> 270pf	<b>B=</b> Y5P	<b>251=</b> 250VAC	<b>K=</b> 10%	A= Style A	<b>20=</b> 20mm	<b>A=</b> 2,50mm	R= ROHS Conform	<b>BU=</b> Bulk Ware
						B= Style B	<b>05=</b> 5mm / ±1mm	<b>B=</b> 5,00mm	N= NON ROHS	TA= Tape Ammo Pack
						C= Style C		<b>C=</b> 7,50mm	Conform	TR= Tape Reel
						<b>D=</b> Style D		<b>D=</b> 10,0mm		
						H= Style H		<b>E=</b> 12,5mm		

M= Style M

Y1 AC Ceramic Capacitor 250VAC

Part No.: **I22001** 

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



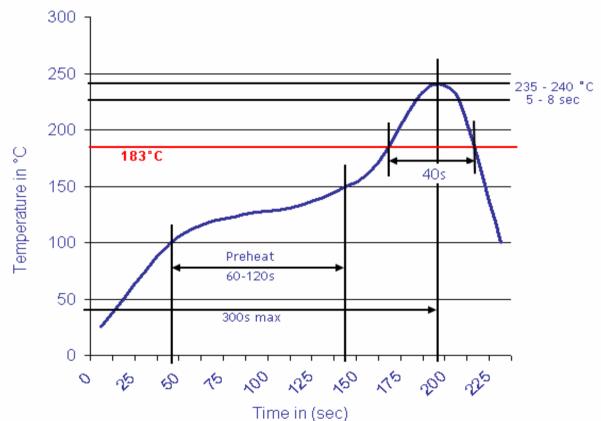






#### **Soldering Profile Curve**

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



	Part No.:
1.2010	Customor:
10	Customer:

1.11.2010	Cust
3 from 13	Cusi

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

Y1 AC Ceramic Capacitor **250VAC** 

I22001