

DATA SHEET

Y1 AC Ceramic Capacitor 400VAC

Serie: 122002

Mat. Code	E	Material: B= Y5P
Voltage Code	401	Voltage: 401= 400VAC
Range Code	681	Range: 681= 680pf

										Y1 AC Ceramic Capacitor 400VAC		
										Serie No.:	122002	
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:		
APPD:	Schumi			FINISH	Jamy		Sheet 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

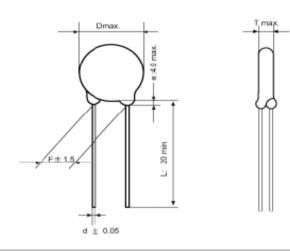
Capacitance (pf)

Y5U = ±20% ~ -55%





Lead Style Informations



Lead Code Style (A) (mm)

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

										Y1 AC Ceramic Capacitor 400VAC		
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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

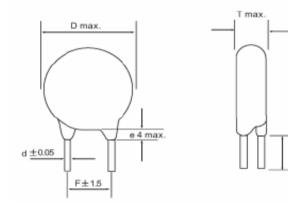
12,5

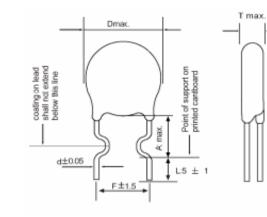
6.5

В

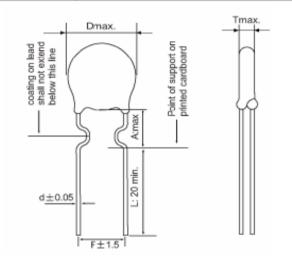
5,0

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	20mm min.							
d		0,5 or	0,6 or (),8mm				

										Y1 AC Ceramic Capacitor 400VAC	
										Part No.:	122002
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
APPD:	Schumi			FINISH	Jamy		Sheet No. 3 from		3 from 13	Cusioniei.	

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Pitch Code

F

L

d

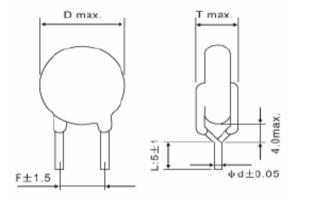
е

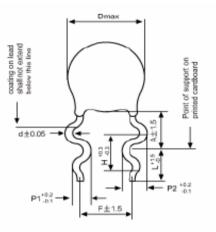
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Lead Style Informations

Lead Style Informations





Lead Code Style (H) Unit (mm)

_ead	Code	Style	(M)	Unit	(mm)	
------	------	-------	-----	------	------	--

Pitch Code		В	С	D	Е			
F	5,0 7,5 10 12,5							
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				
Н		2,6		3,3	3,3				
P1			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 ~ 30mm								
d		0,5 or 0,6 or 0,8mm							

Y1 AC Ceramic Capacitor
4001/40

400VAC

Part No.:	122002

										Fait No	122002	
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:		
APPD:	Schumi			FINISH	Jamy		Shee	t No.	4 from 13	Customer.		

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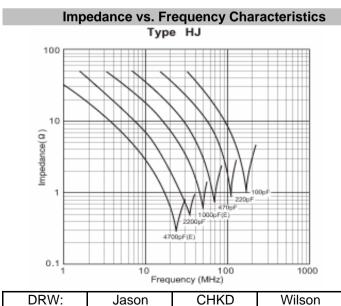


APPD:

Specification and test method

Operating Temperature range -25° C ~ $+105^{\circ}$ C But temperature range is -25% ~ $+85^{\circ}$ 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.



Schumi

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Leakage Current Characteristics

REACH

AC voltage : 60Hz

AC voltage : 60Hz

Temperature : 25°C

E332MDD

222MOL

E102MDDD

3000

Mason

4000

Sheet No.

DATE

2000

TOLERANCE

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

RoHS Lead Free

Type HJ (B char.)

Type HJ (E char.)

6.0

3.0

0.0

Wilson

Jamy

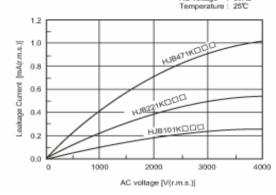
FS 5/

₩ 4.0

ටි දී 2.0

MATL:

FINISH

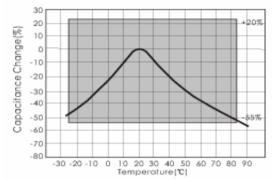


Capacitance Temperature Characteristics

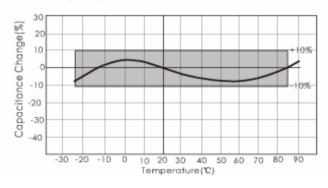
СОМРОМЕМ

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Char: B(Y5P)



		mic Capacitor	
	Part No.:	122002	
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5 from 13	Cusiomer.	Customer:	

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1000



APPD:

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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

11	1														A MEME
	ltem		S	Specification			Testing Me	thod	Item Specification ted by nacked of defect. ared with slide ted by nacked Temperature Char. Capacitance Characteristics B within ± 10° E within ± 20% - Characteristics Temperature characteristics Temperature characteristics Temperature characteristics Apperance No marked defect. I.R. 1000M Ω min. temperature the characteristics Dielectric Dielectric Dielectric Per Item 6. 	ication					
	perance and Dimensions		from ar	ted defect on appe ad dimension are v specified range.		eye	pacitor shall be irs s for visible evider sions shall be mea calipers.	nce of defe asured with	ect.		Te	emperature	В	wi	thin ± 10%
	Marking			be easily legible.		The cap	bacitor shall be irs eyes	pected by	nacked		Ch	aracteristics			
С	apacitance			in spefied tolerand		The	canacitance dissi	nation sha	ll ha				gua	rantee is	-25 to +85°C
Dissipa	ation Factor (I	D,F)	В	har. Specification = $D,F= \le 2,5\%$ = $D,F= \le 2,5\%$			ed at $25 \pm 2^{\circ}$ C wit AC1 $\pm 0,1$ V (r	h 1 ± 0,1K				Apperance		No marke	ed defect.
Insulatio	on Resistance R)	e (10000M Ω min.			lation resistance s DC 500 ± 50V with charging	in 60 ±5se				I.R.		1000M	Ω min.
	Between L wires	ead		No failure			pacitor shall not b)V (r.m.s.) are app lead wires for	lied betwe			test (1)				
Dielectric Strength	Body Insula	ation		No failure		connecte Figure ri wrapped to the dis terminal. cap insete filed w	e terminals of the c ed together. Then ght, a metal foil sh l around the body stance of about 3 . Then the acitor shall be dinto a container rith ballsof about	as shown hall be clos of the cap 4mm from	in sely bacitor each		Discharge			per It	em 6.
						AC400 for 60 capacit	ameter. Finally AC (r.m.s.) is applied Ds between the or lead wires and netal balls.								
DR	RW:	Jasc	on	CHKD	Wil	son	MATL:	Wils	son	TOLEF	RANCE	Mason	DA	Temperature cl guarantee is - No marked 1000M G	01.11.201

FINISH

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Jamy

Y1 AC Ceramic Capacitor **400VAC**

122002







ltem			Specification			Testing Me	thod		Item	Spe	cification	Testing Method
			opeenieation			. comg mo			nom			Capacitance value and D.F. are follows.
					•	layer of cheese cle round the body of		Dis	charge Trest II		loth around cpacitors t glow or flame.	Cap. Value Cd to 0,005µF 0,0051 to 0,05µF
							to be subjected to			Shan no	r giow of hame.	Cap. Value CD 0,005µF 0,05µF
						arges from a dum to a voltage that.						D.F of Cd. 0,5% max. 0,5%max.
				olaced D est. The lischarge 60Hz pot capacitor	C 5KV across the interval between e is to be 5s. AC2 tential is to applied r under test andis	capacitor under successive 40V (r.m.s.)- d across the to be maintained	Sold	erability of leads	uniformly c direction	over 3/4 of the	The lead wire of capacitor shall be dipper into molten solder of $235 \pm 5^{\circ}$ C for 2 ± 0 , The depth of immersion is up to about 1, 2,0mm from the root of lead wires.	
					for 30s. after the fouth discharge, unless circiut is opened in a shorter time by				A	No m	arket defect	
					reakdov	vn of the capacito	pacitor.The direct		Apperance	Within the	specified tolerance	
Discharge Trest II		The cheese-cloth around	p		upply is to be adju in accordance wit		stance	Capacitance	Char.	Specification	The capacitor shall firmly be soldered to supporting lead wire and vibration which 10 to 55Hz in the vibration frequency ran	
	st II	cpacitors shall not glow or flame.			Vdc=			Vibration Resistance	D, F.	BE	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							
						coil of appr. 3mH						
				F	: Plug f	use rated 30A and	I 250V					
				V	/ac.: sup	oply source rated 2	240V 60Hz 30A					Y1 AC Ceramic Capacito
						acitor under test.						400VAC
<u> </u>						p Capacitor				-		Part No.: I22002
DRW:	Jas		CHKD	Wils	on	MATL:	Wilson	TOLERANCE		DATE	01.11.2010	Customer:
APPD:	Sch	umi				FINISH	Jamy		Sho	et No.	7 from 13	0.00000000

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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 Ω 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	Char	r. Capacitance Change	
dy (Capacitance Change	В	within ± 10%	
trea	enange	E	within ± 15%	Set the capacitor for $500 \pm 12h$ at $40 \pm 2°C$
er 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)		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	Char	r. Capacitance Change	
ð	Capacitance Change	В	within ± 10%	
Humidity Loading	onango	E	within ± 15%	Apply the rated voltage for $500 \pm 12h$ at 40
Loi		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
nmi		E	D.F. ≤ 5,0%	2h at room condition.
Т	I.R.		3000M Ω min.	
	Dielectric Strength		Per Item 6	

											mic Capacitor 0VAC
										Part No.:	122002
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
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	Item	Specification	Testing Method			Item	Specif	ication	Testing Method
	Appearance	No marked defect.	Impulse Voltage						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	Fiame
Life			90 50 30 0 +T+ T2 T2 T1=1.2 μ s=1.67T T2=50 μ s	_	ess of ation	Tensile	Lead wire shall		As a figure, fix the body of capacitor apply a
	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)		Robustness of Termination	Bending	not cut off. Capacitor shall noit be broken.	Π.	tensile weight gradually to each lead wire in the radila direction of capacitor up to $10N$ and keep it for $10\pm 1s$.
			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		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 0VAC
										Part No.:	122002
DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	01.11.2010	Customer:	
APPD:	Schumi			FINISH	Jamy		Shee	t No.	9 from 13	Customer.	
www.edcon-co	omponents.con	<u>n</u>							e	email: info@edco	on-components.com





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 ± 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 **400VAC** Time Part No.: 122002 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 Appearance Capacitance Change D.F. Image: Display the second s	Sp	ecification		Testing	Metho	d	
	Appearance	-	narked defect	I defect ci.Change in \pm 10%The capacitor shall be subjected to 5 temperature cyclies, then consecutively to 2 immersion cycles.in \pm 10%Temperature cyclein \pm 20%Temperature cycleStepTemperature (°C)Time125 +0/-330minin cification2Room temperature2Room temperature3min $.\leq$ 5,0%3.+ 105 +3/030min $.\leq$ 5,0%4Room temperature3min $.\leq$ 101.+65 +/-015minClean Water 2 Room Temp.15min.Salt Waterm 6Pre-tratment: Capacitor shall be stored at 85 ±2°C for 1h, thenplaced at room conditions for 24 ± 2h.				
	Capacitanco	Char.	Capaci.Change					
	•	В	Within ± 10%	fect The capacitor shall be subjected to 5 temperature cyclies, then consecutively to 2 immersion cycles. ± 10% Temperature cycle ± 20% Temperature cycle Step Temperature (°C) Time 1 25 +0/-3 30min cation 2 Room temperature 3min 5,0% 3 .+ 105 +3/0 30min 5,0% 4 Room temperature 3min 5,0% 4 Room temperature 3min Cycle time: 5cycle Immersion cycle in. Step Temperature (°C) Time Innersion cycle Innersion cycle Immersion cycle in. Step Temperature (°C) Time Innersion cycle Innersion cycle Immersion cycle in. Step Temperature (°C) Time Innersion cycle Innersion cycle Innersion cycle in. Step Temperature (°C) Time Innersion Innersion cycle Innersion cycle in. Step Temperature (°C) Istin clean Water 2 <td></td>				
	onango	E	Within ± 20%		Tempera	or shall be subjected to 5 temperat n consecutively to 2 immersion cyci Temperature (°C) Time 25 +0/-3 30mi Room temperature 3mir . + 105 +3/0 30mi Room temperature 3mir Cycle time: 5cycle Immersion cycle Temperature (°C) Time Immersion . +65 +/-0 15min Clean W Room Temp. 15min. Salt Wa tt: Capacitor shall be stored at 85 ±	e	
				Step	Temperature	(°C)	Time	
				1	25 +0/-	3	30min	
Φ		Char.	Specification	2	Room temper	ature	3min	
Styl		В	D.F. ≤ 5,0%	3	.+ 105 +3	/0	30min	
on (D.F.	E	D.F. ≤ 5,0%	4	Room temper	ature	3min	
nd Immers				International defecti.Change i.ChangeThe capacitor shall be subjected to 5 temperature cyclies, then consecutively to 2 immersion cycles.in $\pm 10\%$ Temperature cyclein $\pm 20\%$ Temperature (°C)in $\pm 20\%$ Temperature (°C)ification2Room temperature3min $\leq 5,0\%$ 3.+ 105 +3/0 $\leq 5,0\%$ 4Room temperature $\leq 100\%$ 1Cycle time: 5cycleImmersion cycleImmersion cyclenin.StepTemperature (°C)1.+65 +/-015min2Room Temp.15min6Pre-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.	ne: 5cycle			
ature ar	I.R.	30	000M Ω min.	Step		Time	Immersion Water	
empera				1	. +65 +/-0	15min	Clean Water	
	Dielectria			2	Room Temp.	15min.	Salt Water	
			Per Item 6		•			
				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.:	122002
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APPD:	Schumi			FINISH	Jamy		Shee	t No.	11 from 13	Customer.	

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Ordering Informations

Serie	L	Range	Temperature	Voltage	Tolerance	Lead Style	Lead Length	Lead Space	ROHS	Packing		
I22002		0	Character.		Code	Code	Code	Code		Code		
	- [681	E	401	М	Α	20	D	R	BU		
	ſ	681= 680pf		401= 400VAC		A= Style A	20= 20mm	A= 2,50mm	R= ROHS Conform	BU= Bulk Ware	7	
	L		E= Y5U	100 110	M= 20%	B= Style B	05= 5mm / ±1mm	B= 5,00mm	N= NON ROHS	TA= Tape Ammo Pac		
						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						
										<u></u>		
										Y1	AC Ceramic C	anad
											400VAC	-
DRW:	Jas		KD Wils		TL: Wil	son TOLEF	RANCE Ma	son DA	TE 01.11	.2010 Cust		-

REACH



Soldering Profile Curve

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

