EDEN TECHNOLOGY CORPORATION

APPROVAL SHEET

for

Multilayer Ceramic Capacitor

For Customer:_____

Approval No.:_____

Issue Date:_____

Products for Approval:_____

Prepared by:_____

Authorized by:_____

Customer Comment/Approval:

EDEN TECHNOLOGY CORPORATION

Table of Contents

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MLCC PART NUMBER CODES

How to Order - NEW

CC	05	N	102	J	5	H	N	T
Type	**Size**	**Dielectric**	**Capacitance**	**Tolerance**	**Voltage**	**Thickness**	**Termination**	**Packing**
CC= Chip Capacitor HC= High Voltage Capacitor (Vr≧500V) RF= Microwave Capacitor	02=0402 03=0603 05=0805 06=1206 08=1808 0A=1210 OC=1812	N=NPO (COG) B=X7R D=X5R Y=Y5V	Two significant digits followed by no. of zeros. And R is in place of decimal point. e.g. : 4R7=4.7pF 104=10×10^4pF =100000pF =100nF =0.1μF	T=±0.03pF A=±0.05pF B=±0.10pF C=±0.25pF D=±0.50pF F=±1.0% G=±2.0% J=±5.0% K=±10% M=±20% Z=-20~+80%	1 = 6.3V 2 = 10V 3 = 16V 4 = 25V 5 = 50V 7 = 100V 8 = 200V 9 = 250V A = 500V C = 1KV D = 2KV E = 3KV F = 4KV	S=0.50±0.05mm (0402) S=0.55±0.05mm (others) A=0.60±0.10mm M=0.70±0.10mm P=0.80±0.12mm H=0.85±0.15mm C=0.95±0.10mm X=1.25±0.20mm F=1.50±0.20mm L=1.60±0.25mm Z=2.00±0.20mm	N=Ag/Ni/SnPb T= Lead-free	B=Bulk Tape on Reel : 1= 1K pcs 2= 2K pcs 3= 3K pcs T= 4K pcs 8= 8K pcs U= 10K pcs R= 15K pcs W= 20K pcs

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SPECIFICATION AND TEST METHOD

<table>
<tr><th>No.</th><th>Item</th><th>Test Condition</th><th>Requirements</th></tr>
<tr><td>1.</td><td>Visual & Mechanical</td><td></td><td>*No remarkable defect.
*Dimensions to conform to individual specification sheet.</td></tr>
<tr><td>2.</td><td>Capacitance</td><td>Class I : (NP0)</td><td>*Shall not exceed the limits given in the detailed spec.</td></tr>
<tr><td>3.</td><td>Q/ D.F. (Dissipation Factor)</td><td>≦1000pF 1.0±0.2Vrms，1MHz±10%
＞1000pF 1.0±0.2Vrms，1KHz±10%
For Microwave NPO,
1±100m+/-20Vrms, 1±0.1GHz

Class II : (X7R,X5R,Y5V)
C≦10μF，1.0±0.2Vrms，1KHz±10%
C＞10μF，0.5±0.2Vrms，120Hz±20%</td><td>NP0 : More than 30pF: Q≧1000 ; Less than 30pF: Q≧400+20C
For Microwave NPO, refer to page 15 for Q specification.
X7R, X5R :
<table>
<tr><th>Rated volt</th><th>D.F.≦</th><th colspan="3">Exception of D.F.≦</th></tr>
<tr><td>≧50V</td><td>2.5%</td><td>3%</td><td colspan="2">0603≧0.047μF, 0805≧0.18μF ,1206≧0.47μF</td></tr>
<tr><td>25V</td><td>3.5%</td><td>5%</td><td colspan="2">0805≧1μF</td></tr>
<tr><td>16V</td><td>3.5%</td><td>5%</td><td colspan="2">0402≧0.033μF, 0603≧0.15μF, 0805≧0.68μF, 1206≧2.2μF</td></tr>
<tr><td>10V</td><td>5.0%</td><td>---</td><td colspan="2">---</td></tr>
<tr><td>6.3V</td><td>7.5%</td><td>---</td><td colspan="2">---</td></tr>
</table>
Y5V :
<table>
<tr><th>Rated volt</th><th>D.F.≦</th><th colspan="2">Exception of D.F.≦</th></tr>
<tr><td>≧50V</td><td>5.0%</td><td>---</td><td>---</td></tr>
<tr><td>25V</td><td>5.0%</td><td>7%</td><td>0603≧0.1μF; 0805≧0.33μF; 1206≧1μF</td></tr>
<tr><td>16V(C<1.0μF)</td><td>7.0%</td><td>9%</td><td>0402≧0.068μF</td></tr>
<tr><td>16V(C≧1.0μF)</td><td>9.0%</td><td>---</td><td>---</td></tr>
<tr><td>≦10V</td><td>12.5%</td><td>---</td><td>---</td></tr>
</table></td></tr>
<tr><td>4.</td><td>Dielectric Strength</td><td>*To apply voltage(≦50V) 250%.
*Duration : 1 to 5 sec.
*Charge & discharge current less than 50mA.
*To apply voltage :
100V ≧ 3 times V DC
200V ~ 300V ≧ 2 times V DC
500V ~ 999V ≧ 1.5 times V DC
1000V ~ 4000V ≧ 1.2 times V DC
*Cut-off, set at 10mA
*TEST= 15 sec.</td><td>*No evidence of damage or flash over during test.</td></tr>
<tr><td>5.</td><td>Insulation Resistance</td><td>To apply rated voltage for max. 120sec.</td><td>10GΩ MIN. or 500Ω-F MIN. , whichever is smaller.</td></tr>
<tr><td></td><td></td><td>Rated Voltage: 100V ~ 500V — To apply rated voltage</td><td>>10GΩ</td></tr>
<tr><td></td><td></td><td>Rated Voltage: > 500V — To apply 500V*60sec</td><td>>10GΩ</td></tr>
<tr><td>6.</td><td>Temperature Coefficient</td><td>With no electrical load.
<table>
<tr><th>T.C.</th><th>Operating Temp</th></tr>
<tr><td>NP0</td><td>-55 ~ 125°C at 25°C</td></tr>
<tr><td>X7R</td><td>-55 ~ 125°C at 25°C</td></tr>
<tr><td>X5R</td><td>-55 ~ 85°C at 25°C</td></tr>
<tr><td>Y5V</td><td>-25 ~ 85°C at 20°C</td></tr>
</table></td><td>
<table>
<tr><th>T.C.</th><th>Capacitance Change</th></tr>
<tr><td>NP0</td><td>Within ±30ppm/°C</td></tr>
<tr><td>X7R</td><td>Within ±15%</td></tr>
<tr><td>X5R</td><td>Within ±15%</td></tr>
<tr><td>Y5V</td><td>Within +30% / -80%</td></tr>
</table></td></tr>
<tr><td>7.</td><td>Adhesive Strength of Termination</td><td>*Pressurizing force：
5N(≦0603) and 10N(>0603)
*Test time：10 ±1 sec (Appendix 2)</td><td>*No remarkable damage or removal of the terminations.</td></tr>
<tr><td>8.</td><td>Vibration Resistance</td><td>*Vibration frequency：10~55 Hz/min.
*Total amplitude：1.5mm
*Test time：6 hrs.(Two hrs each in three mutually perpendicular directions.)</td><td>*No remarkable damage.
*Cap change & Q/D.F. ：To meet initial spec.</td></tr>
<tr><td>9.</td><td>Solderability</td><td>*Solder temperature：235±5°C
*Dipping time：2±0.5 sec</td><td>95%MIN. coverage of all metalized area.</td></tr>
</table>

EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547

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<table>
<tr><th>No.</th><th>Item</th><th>Test Condition</th><th>Requirements</th></tr>
<tr><td>10.</td><td>Bending Test</td><td>*The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1 mm per second until the deflection becomes 1 mm and then the pressure shall be maintained for 5±1 sec.
(Appendix 1)
*Measurement to be made after keeping at room temp. for 24±2 hrs</td><td>*No remarkable damage.
*Cap change：
NP0 : ±5.0%MAX. or ±0.5pF MAX. , whichever is larger.
X7R, X5R : ≦±12.5%
Y5V : ≦±30%
(This capacitance change means the change of capacitance under specified flexure of substrate from the capacitance measured before the test.)</td></tr>
<tr><td>11.</td><td>Resistance to Soldering Heat</td><td>*Solder temperature：270±5^{0}C
*Dipping time：10±1 sec
*Preheating：120 to 150℃ for 1 minute before immerse the capacitor in a eutectic solder.
*Before initial measurement (Class II only)：Perform 150+0/-10℃ for 1 hr and then set for 48±4 hrs at room temp.
*Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).</td><td>*No remarkable damage.
*Cap change：
NP0 : ±2.5%MAX. or ±0.25pF MAX. , whichever is larger.
X7R, X5R : < ±7.5%
Y5V : < ±20%
*Q/D.F. & I.R. ＆Dielectric strength：To meet initial requirements.
*25%MAX. leaching on each edge.</td></tr>
<tr><td>12.</td><td>Temperature Cycle</td><td>* Conduct the five cycles according to the temperatures and time.
<table>
<tr><th>Step</th><th>Temp. (^{0}C)</th><th>Time (min.)</th></tr>
<tr><td>1</td><td>Min. Operating Temp. +0/-3</td><td>30±3</td></tr>
<tr><td>2</td><td>Room Temp.</td><td>2~3</td></tr>
<tr><td>3</td><td>Max. Operating Temp. +3/-0</td><td>30±2</td></tr>
<tr><td>4</td><td>Room Temp.</td><td>2~3</td></tr>
</table>
*Before initial measurement (Class II only)：Perform 150+0/-10℃ for 1 hr and then set for 48±4 hrs at room temp.
*Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).</td><td>*No remarkable damage.
*Cap change：
NP0 : ±2.5%MAX. or ±0.25pF MAX. , whichever is larger.
X7R, X5R : < ±7.5%
Y5V : < ±20%
*Q/D.F. & I.R. ＆ Dielectric strength：To meet initial requirements.</td></tr>
<tr><td>13.</td><td>Humidity (Damp Heat) Steady State</td><td>*Test temp.：40±2^{0}C
*Humidity：90~95%RH
*Test time：500+24/-0hrs.
*Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).</td><td>*No remarkable damage.
*Cap change：NP0 : ±5.0%MAX. or ±0.5pF MAX. , whichever is larger.
X7R, X5R : < ±12.5%
Y5V : < ±30%
*Q/D.F. value:
NP0 : More than 30pF Q≧350
10pF≦C<30pF Q≧275+2.5C
Less than 10pF Q≧200+10C
X7R, X5R :
<table>
<tr><th>Rated volt.</th><th>D.F.≦</th><th colspan="2">Exception of D.F.≦</th></tr>
<tr><td>≧50V</td><td>3.0%</td><td>6%</td><td>0603≧0.047μF, 0805≧0.18μF , 1206≧0.47μF</td></tr>
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<tr><td>16V</td><td>5.0%</td><td>10%</td><td>0402≧0.033μF, 0603≧0.15μF, 0805≧0.68μF, 1206≧2.2μF</td></tr>
<tr><td>10V</td><td>7.5%</td><td>15%</td><td>0402≧0.056μF, 0603≧0.33μF, 0805≧2.2μF, 1206≧2.2μF</td></tr>
<tr><td>6.3V</td><td>15.0%</td><td>---</td><td>---</td></tr>
</table>
Y5V :
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<tr><th>Rated volt.</th><th>D.F.≦</th><th colspan="2">Exception of D.F.≦</th></tr>
<tr><td>≧50V</td><td>7.5%</td><td>---</td><td>---</td></tr>
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<tr><td>16V(C<1.0μF)</td><td>10%</td><td>12.5%</td><td>0402≧0.068μF</td></tr>
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<tr><td>≦10V</td><td>15%</td><td>---</td><td>---</td></tr>
</table>
*I.R.：1GΩ MIN. or 50Ω-F MIN. , whichever is smaller.</td></tr>
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<tr><th>No.</th><th>Item</th><th>Test Condition</th><th>Requirements</th></tr>
<tr><td>14.</td><td>Humidity (Damp Heat) Load</td><td>*Test temp.：40±2^{0}C
*Humidity：90~95%RH
*Test time：500+24/-0 hrs.
*To apply voltage：rated voltage (Max. 500V)
*Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).</td><td>*No remarkable damage.
*Cap change：NP0 : ±7.5%MAX. or ±0.75pF MAX. , whichever is larger.
X7R, X5R : < ±12.5%
Y5V : < ±30%
*Q/D.F. value:
NP0 : C≧30pF Q≧200 ; C< 30pF Q≧100+10/3C
X7R, X5R :
<table>
<tr><td>Rated volt.</td><td>D.F.≦</td><td colspan="2">Exception of D.F.≦</td></tr>
<tr><td>≧50V</td><td>3.0%</td><td>6%</td><td>0603≧0.047μF, 0805≧0.18μF , 1206≧0.47μF</td></tr>
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<tr><td>6.3V</td><td>15%</td><td>---</td><td>---</td></tr>
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<tr><td>Rated volt.</td><td>D.F.≦</td><td colspan="2">Exception of D.F.≦</td></tr>
<tr><td>≧50V</td><td>7.5%</td><td>---</td><td>---</td></tr>
<tr><td>25V</td><td>7.5%</td><td>10%</td><td>0603≧0.1μF;0805≧0.33μF;1206≧1μF</td></tr>
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<tr><td>16V(C≧1.0μF)</td><td>12.5%</td><td>---</td><td>---</td></tr>
<tr><td>≦10V</td><td>15%</td><td>---</td><td>---</td></tr>
</table>
*I.R.：500MΩ MIN. or 25Ω-F MIN. , whichever is smaller.</td></tr>
<tr><td>15.</td><td>High Temperature Load (Endurance)</td><td>*Test temp.：
NP0, X7R : 125±3^{0}C
X5R, Y5V : 85±3^{0}C
*To apply voltage：
(1) V<500V：200% of rated voltage.
(2) 500V≦V<1000V：150% of rated voltage.
(3) V≧1000V：120% of rated voltage. (Max.4400V)
*Test time：1000+24/-0 hrs.
*Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).</td><td>*No remarkable damage.
*Cap change：NP0 : ±3.0%MAX. or ±0.3pF MAX. , whichever is larger.
X7R, X5R : < ±12.5%
Y5V : < ±30%
*Q/D.F. value:
NP0 : More than 30pF Q≧350
10pF≦C<30pF Q≧275+2.5C
Less than 10pF Q≧200+10C
X7R, X5R :
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<tr><td>6.3V</td><td>15%</td><td>---</td><td>---</td></tr>
</table>
Y5V :
<table>
<tr><td>Rated vol.</td><td>D.F.≦</td><td colspan="2">Exception of D.F.≦</td></tr>
<tr><td>≧50V</td><td>7.5%</td><td>---</td><td>---</td></tr>
<tr><td>25V</td><td>7.5%</td><td>10%</td><td>0603≧0.1μF;0805≧0.33μF;1206≧1μF</td></tr>
<tr><td>16V(C<1.0μF)</td><td>10%</td><td>12.5%</td><td>0402≧0.068μF</td></tr>
<tr><td>16V(C≧1.0μF)</td><td>12.5%</td><td>---</td><td>---</td></tr>
<tr><td>≦10V</td><td>15%</td><td>---</td><td>---</td></tr>
</table>
*I.R.：1GΩ MIN. or 50Ω-F MIN. , whichever is smaller.</td></tr>
</table>

■ Specification of particular production and up-to-date version and is in accordance with relevant datasheet.

****
EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
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Microwave NP0 Characteristics

Frequency Characteristic for 0402 series

Fig.1 Q vs. Frequency

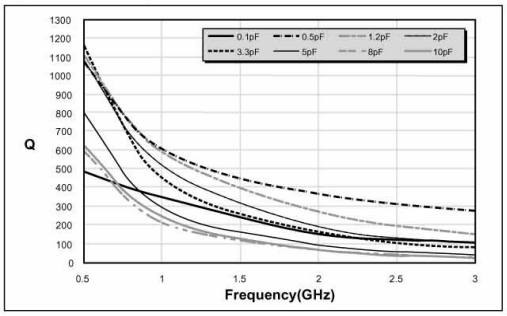


Fig.2-1 Rs(ESR) vs. Frequency

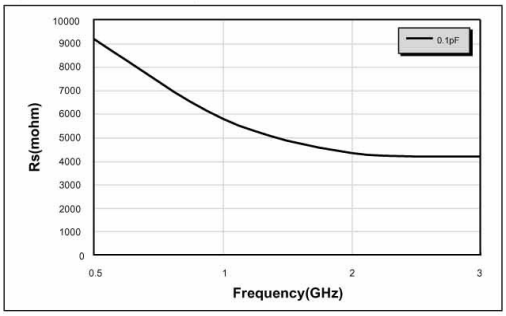


Fig.2-2 Rs(ESR) vs. Frequency

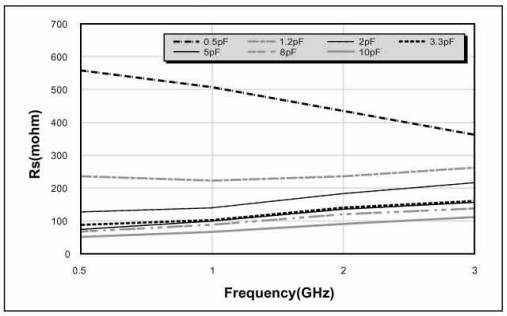


Fig.3 Capacitance vs. Frequency

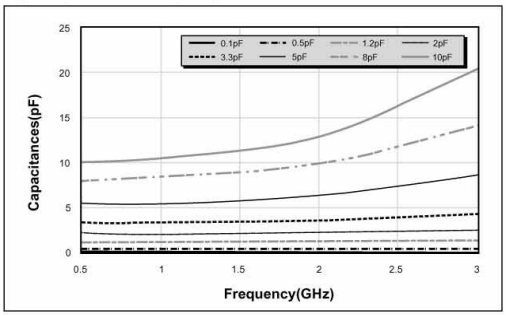


Fig.4-1 Impedance vs. Frequency

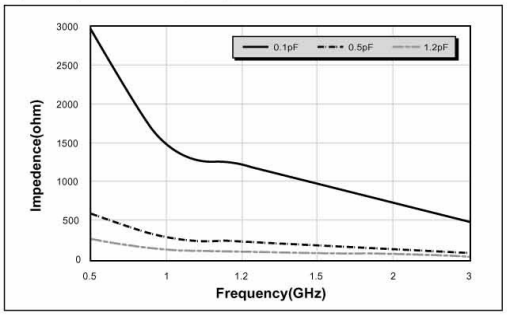


Fig.4-2 Impedance vs. Frequency

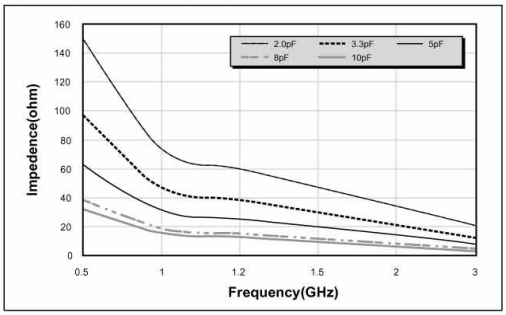


Fig.5 Bias to capacitance variation

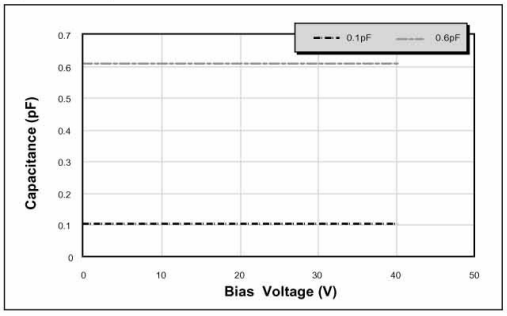
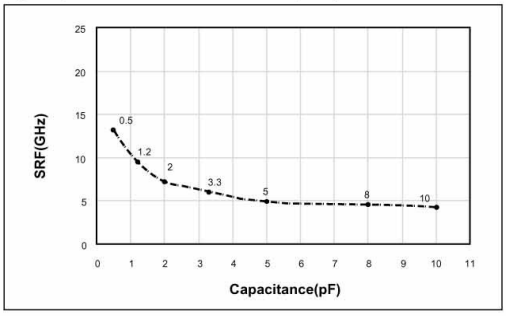


Fig.6 Capacitor's SRF(Series resonance frequency)



Microwave NP0 Characteristics

Fig.7 Z on Smith Chart—S11

Fig.7-1 RF02NR02—0.2pF

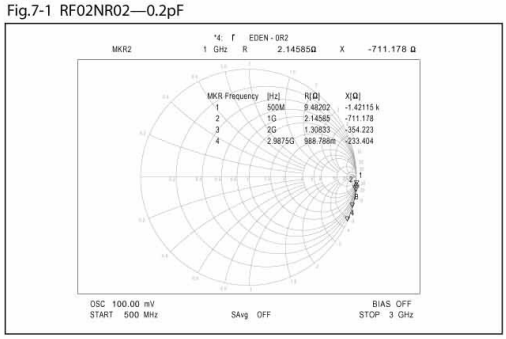


Fig.7-2 RF02N1R0—1.0pF

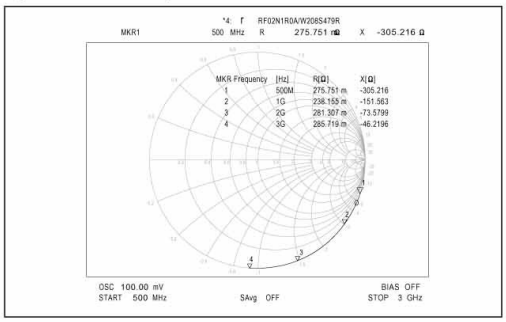


Fig.7 Z on Smith Chart—S11

Fig.7-3 RF02N7R5—7.5pF

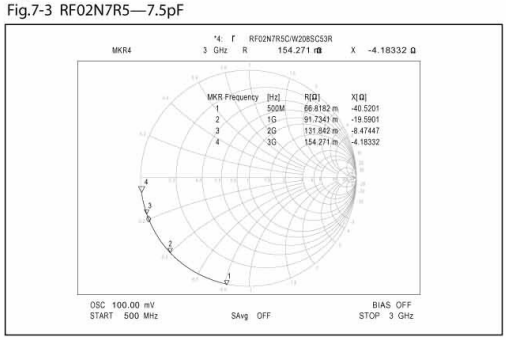
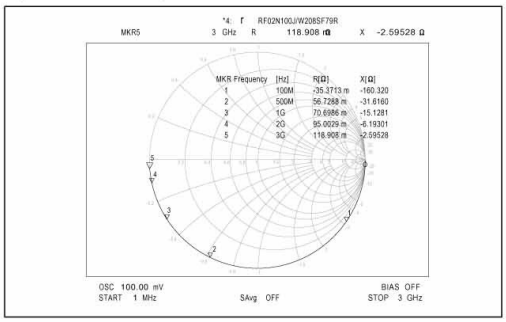


Fig.7-4 RF02N100—10pF



Measuring OSC level : 100 mV rms
Measured by Agilent E4991A &16197A
All devices operation temperature range : -55℃ ~ +125℃
Temperature coefficient : ±125 ppm Max.

Microwave NP0 Characteristics

Frequency Characteristic for 0603 series

Fig.1 Q vs. Frequency

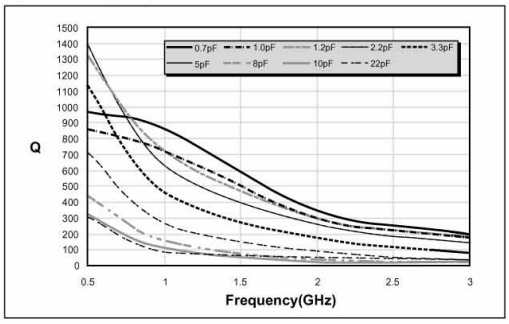


Fig.2 Rs(ESR) vs. Frequency

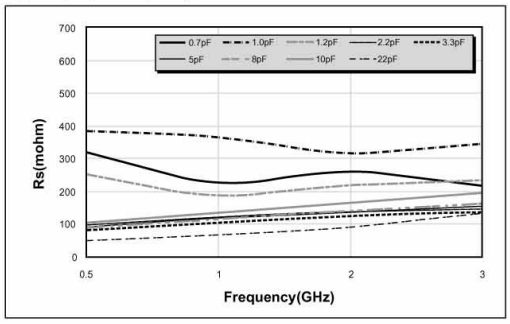


Fig.3 Capacitance vs. Frequency

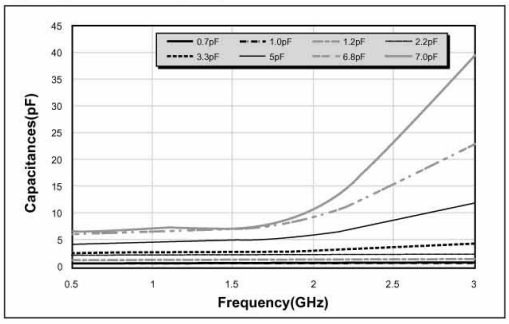


Fig.4 Impedance vs. Frequency

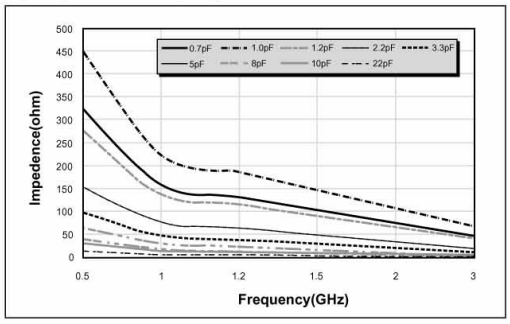


Fig.5 Capacitor's SRF(Series resonance frequency)

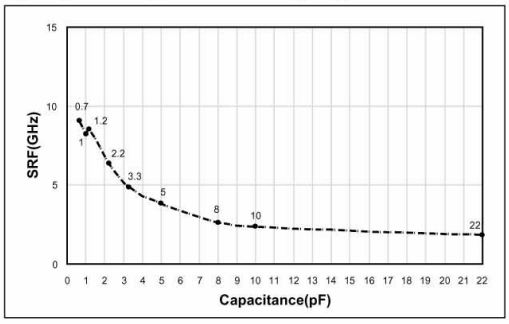


Fig.6 Z on Smith Chart—S11

Fig.6-1 RF02N1R0—1.0pF

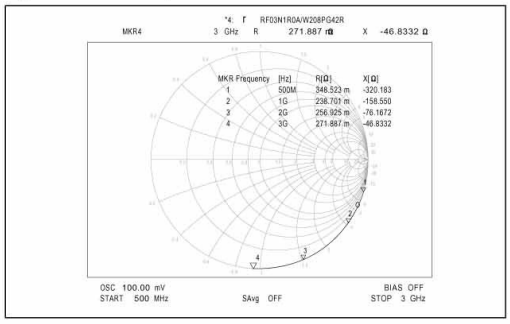


Fig.6-2 RF02N7R0—7.0pF

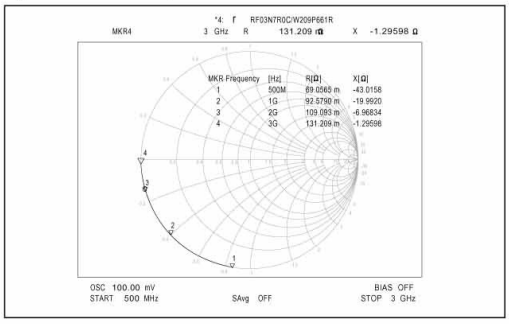
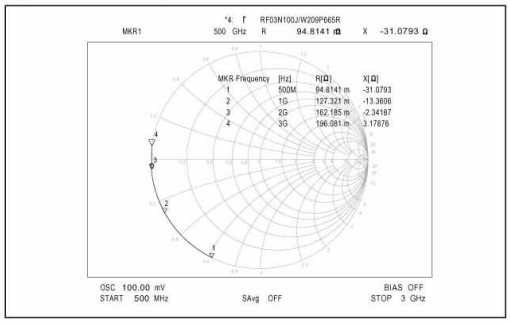


Fig.6-3 RF02N100—10pF



Measuring OSC level : 100 mV rms
Measured by Agilent E4991A &16197A

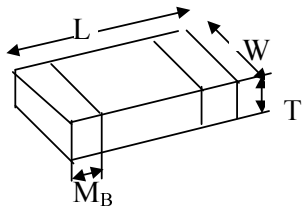
All devices operation temperature range : -55℃ ~ +125℃
Temperature coefficient : ±125 ppm Max.

EDEN TECHNOLOGY CORPORATION

DIMENSION SPECIFICATION

Unit: mm

Size	Length	Width	Thickness / Symbol		M_B
0402	1.00±0.05	0.50±0.05	0.50±0.05	S	0.25±0.10
0603	1.60±0.15	0.80+0.15/-0.12	0.80+0.15/-0.12	P	0.25~0.60
0805	2.00±0.20	1.25±0.20	0.60±0.10	A	0.50±0.20
			0.70±0.10	M	
			0.85±0.15	H	
			1.25±0.20	X	
1206	3.20±0.20	1.60±0.20	0.70±0.10	M	0.55±0.25
			0.85±0.15	H	
			0.95±0.10	C	
			1.25±0.20	X	
	3.20+0.3/-0.10	1.60+0.3/-0.10	1.60±0.25	L	
1210	3.20±0.30	2.50±0.20	0.95±0.10	C	0.75±0.25
			1.25±0.20	X	
	3.20±0.40	2.50±0.30	1.60±0.25	L	
			2.00±0.20	Z	
1808	4.50±0.30	2.00±0.20	1.25±0.20	X	0.70±0.30
			1.50±0.20	F	
			2.00±0.20	Z	
1812	4.50±0.30	3.20±0.30	1.25±0.20	X	0.70±0.30
			1.50±0.20	F	
			2.00±0.20	Z	



EDEN TECHNOLOGY CORPORATION

GENERAL NPO

DIELECTRIC		NP0																									
SIZE	EIA CAP	0402				0603				0805				1206				1210				1812			
VDCW	CODE	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V
0.2pF	0R2	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
0.5	0R5	S	S	S	S	P	p	P	P	M	M	M	M	M	M	M	M								
1	1R0	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
1.2	1R2	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
1.5	1R5	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
1.8	1R8	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
2.2	2R2	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
2.7	2R7	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
3.3	3R3	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
3.9	3R9	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
4.7	4R7	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
5.6	5R6	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
6.8	6R8	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
8.2	8R2	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
10pF	100	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
12	120	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
15	150	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
18	180	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M								
22	220	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
27	270	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
33	330	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
39	390	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
47	470	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
56	560	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
68	680	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
82	820	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
100pF	101	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
120	121	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
150	151	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
180	181	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
220	221	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
270	271	S	S	S	S	P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
330	331	S	S			P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
390	391	S	S			P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
470	471	S	S			P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
560	561					P	P	P	P	M	M	M	M	M	M	M	M	C	C	C	C				
680	681					P	P	P	P	H	H	H	H	M	M	M	M	C	C	C	C				
820	821					P	P	P	P	H	H	H	H	M	M	M	M	C	C	C	C				
1000pF	102					P	P	P	P	H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
1200	122					P	P	P	P	H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
1500	152					P	P	P	P	H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
1800	182					P	P			H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
2200	222					P	P			H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
2700	272					P	P			H	H	H	H	M	M	M	M	C	C	C	C	X	X	X	X
3300	332					P	P			X	X	X	X	M	M	M	M	C	C	C	C	X	X	X	X
3900	392									X	X	X	X	H	H	H	H	C	C	C	C	X	X	X	X
4700	472									X	X	X	X	H	H	H	H	C	C	C	C	X	X	X	X
5600	562									X	X			H	H	H	H	C	C	C	C	X	X	X	X
6800	682									X	X			H	H	H	H	C	C	C	C	X	X	X	X
8200	822									X	X			X	X	X	X	C	C	C	C	X	X	X	X
0.01μF	103									X	X			X	X	X	X	C	C	C	C	X	X	X	X
.012	123									X	X			X	X			C	C	X	X	X	X	X	X
.015	153													X	X			C	C	X	X	X	X	X	X
.018	183													X	X			C	C			X	X	X	X
.022	223													X	X			C	C			X	X	X	X
.027	273													X	X			C	C			X	X	X	X
.033	333													X	X			C	C			X	X	X	X
.039	393													L	L			C	C			X	X		
.047	473																	X	X			X	X		
.056	563																	X	X			X	X		
.068	683																					X	X		
.082	823																					X	X		
0.1	104																					X	X		

▪ Other size, thickness, capacitance, and voltage are available upon customer's request.

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

****
EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
****

EDEN TECHNOLOGY CORPORATION

MIDDLE & HIGH VOLTAGE NPO

DIELECTRIC		NP0																													
SIZE	EIA CAP	0402	0603	0805					1206						1210						1808				1812							
VDCW	CODE	100	100	100	200	250	500	1000	100	200	250	500	1000	2000	100	200	250	500	1000	2000	1000	2000	3000	4000	100	200	250	500	1000	2000	3000	4000
0.2pF	0R2	s	P	M	M	M			M	M	M																				
0.5	0R5	s	P	M	M	M	A		M	M	M																				
1	1R0	s	P	M	M	M	A		M	M	M																				
1.2	1R2	s	P	M	M	M	A		M	M	M																				
1.5	1R5	s	P	M	M	M	A		M	M	M	H	H	H																	
1.8	1R8	s	P	M	M	M	A		M	M	M	H	H	H																	
2.2	2R2	s	P	M	M	M	A		M	M	M	H	H	H																	
2.7	2R7	s	P	M	M	M	A		M	M	M	H	H	H																	
3.3	3R3	s	P	M	M	M	A		M	M	M	H	H	H																	
3.9	3R9	s	P	M	M	M	A		M	M	M	H	H	H							F	F	F	F							
4.7	4R7	s	P	M	M	M	A		M	M	M	H	H	H							F	F	F	F							
5.6	5R6	s	P	M	M	M	A		M	M	M	H	H	H							F	F	F	F							
6.8	6R8	s	P	M	M	M	A		M	M	M	H	H	H							F	F	F	F							
8.2	8R2	s	P	M	M	M	A		M	M	M	H	H	H							F	F	F	F							
10pF	100	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
12	120	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
15	150	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
18	180	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
22	220	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
27	270	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
33	330	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
39	390	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
47	470	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	C	F	F	F	F	X	X	X	F	F	F	F	F
56	560	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	X	F	F	F	F	X	X	X	F	F	F	F	F
68	680	s	P	M	M	M	H	H	M	M	M	H	H	H	C	C	C	C	C	X	F	F	F	F	X	X	X	F	F	F	F	F
82	820	s	P	M	M	M	H	H	M	M	M	H	H	X	C	C	C	C	C	X	F	F	F	F	X	X	X	F	F	F	F	F
100pF	101	s	P	M	M	M	X	X	M	M	M	H	H	X	C	C	C	C	C	X	F	F	F	F	X	X	X	F	F	F	F	F
120	121	s	p	M	M	M	X	X	M	M	M	H	H	X	C	C	C	C	C	X	F	F	F		X	X	X	F	F	F	F	F
150	151	s	p	M	M	M	X	X	M	M	M	H	H	X	C	C	C	C	C	X	F	F	F		X	X	X	F	F	F	F	F
180	181		p	M	M	M	X	X	M	M	M	H	H	X	C	C	C	C	C	X	F	F	F		X	X	X	F	F	F	F	F
220	221		p	M	M	M	X		M	M	M	H	X	L	C	C	C	C	C	X	F	F	F		X	X	X	F	F	F	F	
270	271		p	M	M	M	X		M	M	M	H	X		C	C	C	C	C		F	F	F		X	X	X	F	F	F	F	
330	331		p	M	H	H	X		M	M	M	X	X		C	C	C	C	X		F	F	F		X	X	X	F	F	F	F	
390	391		p	M	H	H	X		M	M	M	X	X		C	C	C	C	X		F	F			X	X	X	F	F	F	F	
470	471		p	M	H	H			M	M	M	X	X		C	C	C	C	X		F	F			X	X	X	F	F	F	F	
560	561		p	M	X	X			M	M	M	X	X		C	C	C	C			F	F			X	X	X	F	F	F	F	
680	681			H	X	X			M	H	H	X	X		C	C	C	C			F	Z			X	X	X	F	F	F		
820	821			H	X	X			M	H	H	X	X		C	C	C	C			F				X	X	X	F	F	F		
1000pF	102			H	X	X			M	H	H	X	X		C	C	C	C			F				X	X	X	F	F	F		
1200	122			H	X	X			H	H	H	X	X		C	X	X	X			F				X	X	X	F	F			
1500	152			H	X	X			H	H	H				C	X	X	X			F				X	X	X	F	F			
1800	182			H					H	H	H				C	X	X	X			F				X	X	X	F	F			
2200	222			H					H	X	X				C	X	X				F				X	X	X	F	F			
2700	272			X					H	X	X				C	X	X				F				X	X	X	F	F			
3300	332			X					H	X	X				C	X									X	X	X	F	F			
3900	392			X					H	X	X				C	X									X	X	F	F	F			
4700	472								H						C										X	X	F	F	F			
5600	562								H						C										X	X						
6800	682								C						C										X	X						
8200	822								C						C										X							
0.01 μF	103														C										X							
.012	123														X										X							
.015	153														X										X							
.018	183																								X							
.022	223																								X							
.027	273																								X							
.033	333																								X							

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

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EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
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EDEN TECHNOLOGY CORPORATION

MICROWAVE NPO

0402				0603			
Capacitance (pF)	Part Number code	Capacitance Tolerance	Q Value (min.) @1GHz	Capacitance (pF)	Part Number code	Capacitance Tolerance	Q Value (min.) @1GHz
0.1	RF02NR10□5SNU	±0.03/ ±0.05 pF	300	0.4	RF03NR40□5PNT	±0.03/ ±0.05 pF	300
0.15	RF02NR15□5SNU	±0.03/ ±0.05 pF	300	0.5	RF03NR50□5PNT	±0.03/ ±0.05 pF	300
0.2	RF02NR20□5SNU	±0.03/ ±0.05 pF	300	0.6	RF03NR60□5PNT	±0.05/ ±0.10 pF	300
0.25	RF02NR25□5SNU	±0.03/ ±0.05 pF	300	0.7	RF03NR70□5PNT	±0.05/ ±0.10 pF	300
0.3	RF02NR30□5SNU	±0.03/ ±0.05 pF	300	0.75	RF03NR75□5PNT	±0.05/ ±0.10 pF	300
0.35	RF02NR35□5SNU	±0.03/ ±0.05 pF	300	0.8	RF03NR80□5PNT	±0.05/ ±0.10 pF	300
0.4	RF02NR40□5SNU	±0.03/ ±0.05 pF	300	0.9	RF03NR90□5PNT	±0.05/ ±0.10 pF	300
0.45	RF02NR45□5SNU	±0.03/ ±0.05 pF	300	1	RF03N1R0□5PNT	±0.05/ ±0.10 pF	300
0.5	RF02NR50□5SNU	±0.05/ ±0.10 pF	300	1.2	RF03N1R2□5PNT	±0.05/ ±0.10 pF	250
0.55	RF02NR55□5SNU	±0.05/ ±0.10 pF	300	1.5	RF03N1R5□5PNT	±0.05/ ±0.10 pF	250
0.6	RF02NR60□5SNU	±0.05/ ±0.10 pF	300	1.8	RF03N1R8□5PNT	±0.05/ ±0.10 pF	200
0.65	RF02NR65□5SNU	±0.05/ ±0.10 pF	300	2	RF03N2R0□5PNT	±0.05/ ±0.10 pF	100
0.7	RF02NR70□5SNU	±0.05/ ±0.10 pF	300	2.2	RF03N2R2□5PNT	±0.10/ ±0.25 pF	100
0.75	RF02NR75□5SNU	±0.05/ ±0.10 pF	300	2.4	RF03N2R4□5PNT	±0.10/ ±0.25 pF	100
0.8	RF02NR80□5SNU	±0.05/ ±0.10 pF	300	2.7	RF03N2R7□5PNT	±0.10/ ±0.25 pF	100
0.9	RF02NR90□5SNU	±0.05/ ±0.10 pF	300	3	RF03N3R0□5PNT	±0.10/ ±0.25 pF	100
1	RF02N1R0□5SNU	±0.05/ ±0.10 pF	300	3.3	RF03N3R3□5PNT	±0.10/ ±0.25 pF	100
1.2	RF02N1R2□5SNU	±0.05/ ±0.10 pF	250	3.6	RF03N3R6□5PNT	±0.10/ ±0.25 pF	100
1.5	RF02N1R5□5SNU	±0.05/ ±0.10 pF	250	3.9	RF03N3R9□5PNT	±0.10/ ±0.25 pF	100
1.8	RF02N1R8□5SNU	±0.05/ ±0.10 pF	200	4	RF03N4R0□5PNT	±0.10/ ±0.25 pF	100
2	RF02N2R0□5SNU	±0.05/ ±0.10 pF	200	4.3	RF03N4R3□5PNT	±0.10/ ±0.25 pF	100
2.2	RF02N2R2□5SNU	±0.10/ ±0.25pF	100	4.7	RF03N4R7□5PNT	±0.10/ ±0.25 pF	100
2.4	RF02N2R4□5SNU	±0.10/ ±0.25pF	100	5	RF03N5R0□5PNT	±0.10/ ±0.25 pF	80
2.7	RF02N2R7□5SNU	±0.10/ ±0.25pF	100	5.1	RF03N5R1□5PNT	±0.10/±0.25/±0.50pF	80
3	RF02N3R0□5SNU	±0.10/ ±0.25pF	100	5.6	RF03N5R6□5PNT	±0.10/±0.25/±0.50pF	80
3.3	RF02N3R3□5SNU	±0.10/ ±0.25pF	100	6	RF03N6R0□5PNT	±0.10/±0.25/±0.50pF	80
3.6	RF02N3R6□5SNU	±0.10/ ±0.25pF	100	6.2	RF03N6R2□5PNT	±0.10/±0.25/±0.50pF	80
3.9	RF02N3R9□5SNU	±0.10/ ±0.25pF	100	6.8	RF03N6R8□5PNT	±0.10/±0.25/±0.50pF	80
4	RF02N4R0□5SNU	±0.10/ ±0.25pF	100	7	RF03N7R0□5PNT	±0.10/±0.25/±0.50pF	80
4.3	RF02N4R3□5SNU	±0.10/ ±0.25pF	100	7.5	RF03N7R5□5PNT	±0.10/±0.25/±0.50pF	80
4.7	RF02N4R7□5SNU	±0.10/ ±0.25pF	100	8	RF03N8R0□5PNT	±0.10/±0.25/±0.50pF	80
5	RF02N5R0□5SNU	±0.10/ ±0.25pF	100	8.2	RF03N8R2□5PNT	±0.10/±0.25/±0.50pF	80
5.1	RF02N5R1□5SNU	[illegible]	80	9	RF03N9R0□5PNT	±0.10/±0.25/±0.50pF	80
5.6	RF02N5R6□5SNU	[illegible]	80	10	RF03N100□5PNT	[illegible]	80
6	RF02N6R0□5SNU	[illegible]	80	12	RF03N120□5PNT	[illegible]	70
6.2	RF02N6R2□5SNU	[illegible]	80	15	RF03N150□5PNT	[illegible]	60
6.8	RF02N6R8□5SNU	[illegible]	80	18	RF03N180□5PNT	[illegible]	50
7	RF02N7R0□5SNU	[illegible]	80	20	RF03N200□5PNT	[illegible]	30
7.5	RF02N7R5□5SNU	[illegible]	80	22	RF03N220□5PNT	[illegible]	30
8	RF02N8R0□5SNU	[illegible]	80				
8.2	RF02N8R2□5SNU	[illegible]	80				
9	RF02N9R0□5SNU	[illegible]	80				
9.1	RF02N9R1□5SNU	[illegible]	80				
10	RF02N100□5SNU	±0.10/±0.25/±	80				

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
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EDEN TECHNOLOGY CORPORATION

GENERAL X7R

DIELECTRIC		X7R																							
SIZE	EIA CAP	0402				0603				0805				1206				1210				1812			
VDCW	CODE	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V
100pF	101	S	S	S	S	p	p	p	p	H	H	H	H												
120	121	S	S	S	S	p	p	p	p	H	H	H	H												
150	151	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
180	181	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
220	221	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
270	271	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
330	331	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
390	391	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
470	471	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
560	561	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
680	681	S	S	S	S	p	p	p	p	H	H	H	H	H^	H^	H^	H^								
820	821	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H								
1000pF	102	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
1200	122	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
1500	152	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
1800	182	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
2200	222	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
2700	272	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
3300	332	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
3900	392	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
4700	472	S	S	S	S	p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
5600	562	S	S	S		p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
6800	682	S	S	S		p	p	p	p	H	H	H	H	H	H	H	H	C^	C^	C^	C^	X^	X^	X^	X^
8200	822	S	S	S		p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.01μF	103	S	S	S		p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.012	123	S	S			p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.015	153	S	S			p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.018	183	S	S			p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.022	223	S	S			p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.027	273	S				p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.033	333	S				p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.039	393	S				p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.047	473	S				p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.056	563					p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.068	683					p	p	p	p	H	H	H	H	H	H	H	H	C	C	C	C	X^	X^	X^	X^
0.082	823					p	p	p	p	H	H	H	X	H	H	H	H	C	C	C	C	X	X	X	X
0.1μF	104					p	p	p	p	H	H	H	X	H	H	H	H	C	C	C	C	X	X	X	X
0.12	124					p				H	H	H	X	H	H	H	H	C	C	C	C	X	X	X	X
0.15	154					p				X	X	X	X	C	C	C	C	C	C	C	C	X	X	X	X
0.18	184					p				X	X	X		C	C	C	C	C	C	C	C	X	X	X	X
0.22	224					p				X	X	X		C	C	C	C	C	C	C	C	X	X	X	X
0.27	274									X	X	X		C	C	C	X	C	C	C	C	X	X	X	X
0.33	334									X	X	X		C	C	C	X	C	C	C	X	X	X	X	X
0.39	394									X	X			C	C	C	X	C	C	C	X	X	X	X	X
0.47	474									X	X			X	X	X		C	C	C	X	X	X	X	X
0.56	564									X	X			X	X	X						X	X	X	X
0.68	684									X				X	X	X						X	X	X	Z
0.82	824									X				X	X							X	X	X	Z
1μF	105									X				X	X							X	X	X	Z

■ Other size , thickness , capacitance , and voltage are available upon customer's request.
■ [^] : The said items are made by NME(Noble Metal Electrode) and the other is BME(Base Metal Electrode).
■ : The said items highlighted in grey color means new production or under developing, plesae contact any of our offices to check future specification.

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

****
EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
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EDEN TECHNOLOGY CORPORATION

MIDDLE & HIGH VOLTAGE X7R

DIELECTRIC		X7R																												
SIZE	EIA CAP	0603	0805				1206							1210					1808				1812							
VDCW	CODE	100	100	200	250	500	100	200	250	500	1000	1500	2000	100	200	250	500	1000	1000	1500	2000	3000	100	200	250	500	1000	2000	3000
100pF	101	P	H	H^	H^	H^																								
120	121	P	H	H^	H^	H^																								
150	151	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	H^						X^	X^	X^									
180	181	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	H^						X^	X^	X^									
220	221	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	H^						X^	X^	X^									
270	271	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	H^						X^	X^	X^						X^	X^		
330	331	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	H^						X^	X^	X^						X^	X^		
390	391	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	C^						X^	X^	X^						X^	X^		
470	471	P	H	H^	H^	H^	H^	H^	H^	H^	H^	H^	C^						X^	X^	X^						X^	X^		
560	561	P	H	H^	H^	H^	H^	H^	H^	H^	H^	C^	C^						X^	X^	X^	Z^					X^	X^		
680	681	P	H	H^	H^	H^	H^	H^	H^	H^	H^	C^	C^						X^	X^	X^	Z^					X^	X^	Z^	
820	821	P	H	H^	H^	H^	H	H^	H^	H^	H^	L^	L^						X^	X^	X^	Z^					X^	X^	Z^	
1000pF	102	P	H	H^	H^	H^	H	H^	H^	H^	H^	L^	L^	C^	C^	C^	C^	C^	X^	X^	Z^	Z^	X^	X^	X^	X^	X^	X^	Z^	
1200	122	P	H	H^	H^	H^	H	H^	H^	H^	H^	L^		C^	C^	C^	C^	C^	X^	X^	Z^		X^	X^	X^	X^	X^	X^		
1500	152	P	H	H^	H^	H^	H	H^	H^	H^	C^	L^		C^	C^	C^	C^	C^	X^	X^	Z^		X^	X^	X^	X^	X^	X^		
1800	182	P	H	H^	H^	H^	H	H^	H^	H^	C^	L^		C^	C^	C^	C^	C^	X^	X^	Z^		X^	X^	X^	X^	X^	X^		
2200	222	P	H	H^	H^	H^	H	H^	H^	H^	X^	L^		C^	C^	C^	C^	C^	X^	X^	Z^		X^	X^	X^	X^	X^	X^		
2700	272	P	H	H^	H^	H^	H	H^	H^	H^	L^			C^	C^	C^	C^	C^	X^	X^			X^	X^	X^	X^	X^	X^		
3300	332	P	H	H^	H^		H	H^	H^	H^	L^			C^	C^	C^	C^	X^	X^	Z^			X^	X^	X^	X^	X^	Z^		
3900	392	P	H	H^	H^		H	H^	H^	H^	L^			C^	C^	C^	C^		X^				X^	X^	X^	X^	X^	Z^		
4700	472	P	H	H^	H^		H	H^	H^	H^				C^	C^	C^	C^		X^				X^	X^	X^	X^	X^	Z^		
5600	562	P	H	X^	X^		H	H^	H^	H^				C^	C^	C^	C^		Z^				X^	X^	X^	X^	X^			
6800	682	P	H	X^	X^		H	H^	H^	H^				C^	C^	C^	C^		Z^				X^	X^	X^	X^	X^			
8200	822	P	H	X^	X^		H	H^	H^	C^				C	C^	C^	C^		Z^				X^	X^	X^	X^	X^			
0.01 μF	103	P	H	X^	X^		H	H^	H^	C^				C	C^	C^	C^		Z^				X^	X^	X^	X^	X^			
0.012	123		H	X^	X^		H	H^	H^	X^				C	C^	C^	C^						X^	X^	X^	X^	Z^			
0.015	153		H	X^	X^		H	C^	C^	X^				C	C^	C^	C^						X^	X^	X^	X^	Z^			
0.018	183		H	X^	X^		H	C^	C^	X^				C	C^	C^	C^						X^	X^	X^	X^				
0.022	223		H	X^	X^		H	C^	C^	L^				C	C^	C^	X^						X^	X^	X^	X^				
0.027	273		X				H	C^	C^	L^				C	C^	C^	L^						X^	X^	X^	X^				
0.033	333		X				H	L^	L^	L^				C	C^	C^	L^						X^	X^	X^	X^				
0.039	393						H	L^	L^					C	C^	C^	L^						X^	X^	X^	X^				
0.047	473						H	L^	L^					C	X^	X^	L^						X^	X^	X^	X^				
0.056	563						H							C	X^	X^	L^						X^	X^	X^	Z^				
0.068	683						H							C									X^	X^	X^	Z^				
0.082	823						X							C									X	X^	X^	Z^				
0.1 μF	104						X							C									X	X^	X^	Z^				
0.12	124													C									X	X^	X^					
0.15	154													X									X	Z^	Z^					
0.18	184													X									X	Z^	Z^					
0.22	224													X									X	Z^	Z^					
0.27	274																						X							
0.33	334																						X							
0.39	394																						X							
0.47	474																						Z							
0.56	564																						Z							
0.68	684																						Z							
0.82	824																													
1 μF	105																													

■ Other size , thickness , capacitance , and voltage are available upon customer's request.
■ [^] : The said items are made by NME(Noble Metal Electrode), and the other is BME(Base Metal Electrode).

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

****
EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
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EDEN TECHNOLOGY CORPORATION

GENERAL X5R

DIELECTRIC		X5R							
SIZE	EIA CAP	0402			0603		0805	1206	
VDCW	CODE	6.3V	10V	16V	6.3V	10V	6.3V	6.3V	10V
0.01 μF	103								
0.027	273			S					
0.033	333			S					
0.039	393			S					
0.047	473			S					
0.056	563		S						
0.068	683		S						
0.082	823		S						
0.1 μF	104	S	S						
0.15	154								
0.22	224								
0.33	334								
0.47	474				P	P			
0.68	684								
1 μF	105				P	P			
1.5	155								
2.2	225						X		L
3.3	335								
4.7	475						X	L	L
6.8	685								
10 μF	106						X	L	L
22 μF	226								
47 μF	476								
100 μF	107								

■ Other size , thickness , capacitance , and voltage are available upon customer's request.
■ [^] : The said items are made by NME(Noble Metal Electrode), and the other is BME(Base Metal Electrode).
■ : The said items highlighted in grey color means new production or under developing, plesae contact any of our offices to check future specification.

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547

EDEN TECHNOLOGY CORPORATION

GENERAL Y5V

DIELECTRIC		Y5V																							
SIZE	EIA CAP	0402				0603				0805				1206				1210				1812			
VDCW	CODE	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V	10V	16V	25V	50V
1000pF	102																								
1500	152																								
2200	222																								
3300	332																								
4700	472																								
6800	682																								
0.01 μF	103	S	S	S	S	P	P	P	P	A	A	A	A	H	H	H	H								
0.015	153	S	S	S	S	P	P	P	P	A	A	A	A	H	H	H	H								
0.022	223	S	S	S	S	P	P	P	P	A	A	A	A	H	H	H	H								
0.033	333	S	S	S	S	P	P	P	P	A	A	A	A	H	H	H	H								
0.047	473	S	S	S		P	P	P	P	A	A	A	A	H	H	H	H								
0.068	683	S	S			P	P	P	P	A	A	A	A	H	H	H	H								
0.1 μF	104	S	S			P	P	P	P	A	A	A	A	H	H	H	H	C	C	C	C	X	X	X	X
0.15	154	S				P	P	P	P	A	A	A	A	H	H	H	H	C	C	C	C	X	X	X	X
0.22	224	S				P	P	P		A	A	A	A	H	H	H	H	C	C	C	C	X	X	X	X
0.33	334					P	P	P		H	H	H	H	H	H	H	H	C	C	C	C	X	X	X	X
0.47	474					P	P			H	H	H		H	H	H	H	C	C	C	C	X	X	X	X
0.68	684					P	P			H	H	X		H	H	H	H	C	C	C	C	X	X	X	X
1 μF	105					P	P			H	H	X		C	C	C	C	C	C	C	C	X	X	X	X
1.5	155					P				X	X			C	C	C		C	C	C		X	X	X	X
2.2	225					P				X	X			C	C	C		C	C	C		X	X	X	X
3.3	335									X				X	X	X		C	C	C		X	X	X	X
4.7	475									X	X			X	X	X		C	C	X		X	X	X	X
6.8	685													X				C	C			X	X	X	X
10 μF	106									X				X	L			X	X	L		X	X	X	
22 μF	226													L				Z							
47 μF	476																								
100 μF	107																								

■ Other size , thickness , capacitance , and voltage are available upon customer's request.

■ : The said items highlighted in grey color means new production or under developing, plesae contact any of our offices to check future specification.

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

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S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

****
EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
****

EDEN TECHNOLOGY CORPORATION

MIDDLE VOLTAGE Y5V

DIELECTRIC		Y5V											
SIZE	EIA CAP	0805			1206			1210			1812		
VDCW	CODE	100	200	250	100	200	250	100	200	250	100	200	250
0.01 μF	103	H	H	H	H	H	H	C	C	C	X	X	X
0.015	153	H	H	H	H	H	H	C	C	C	X	X	X
0.022	223	H	H	H	H	H	H	C	C	C	X	X	X
0.033	333	H	H	H	H	H	H	C	C	C	X	X	X
0.047	473	H	H	H	H	H	H	C	C	C	X	X	X
0.068	683	H	H	H	H	H	H	C	C	C	X	X	X
0.1 μF	104	H			H	H	H	C	C	C	X	X	X
0.15	154				C	C	C	C	C	C	X	X	X
0.22	224				C			C			X	X	X
0.33	334							C			X	X	X
0.47	474										X	X	X
0.68	684										X	X	X
1 μF	105										X		

■ Other size , thickness , capacitance , and voltage are available upon customer's request.

▪ [Table of Tape and Reel] : Gray area means reflow soldering only.

size unit : inch(mm)	0402(1005)	0603(1608)	0805(2012)	1206(3216)	1210(3225)	1808(4520)	1812(4532)
S=0.50±0.05	PAPER 10Kp/REEL	—	—	—	—	—	—
A=0.60±0.1	—	—	PAPER 4Kp/REEL	—	—	—	—
P=0.80±0.12	—	PAPER 4Kp/REEL	—	—	—	—	—
M=0.70±0.10	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—	—
H=0.85±0.15	—	—	PAPER 4Kp/REEL	PAPER 4Kp/REEL	PAPER 4Kp/REEL	—	—
C=0.95±0.10	—	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	—	—
X=1.25±0.20	—	—	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 3Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL
F=1.50±0.20	—	—	—	—	—	—	PLASTIC 1Kp/REEL
L=1.60±0.20	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	—	—
Z=2.00±0.20	—	—	—	—	PLASTIC 2Kp/REEL	PLASTIC 2Kp/REEL	PLASTIC 1Kp/REEL

****
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No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547
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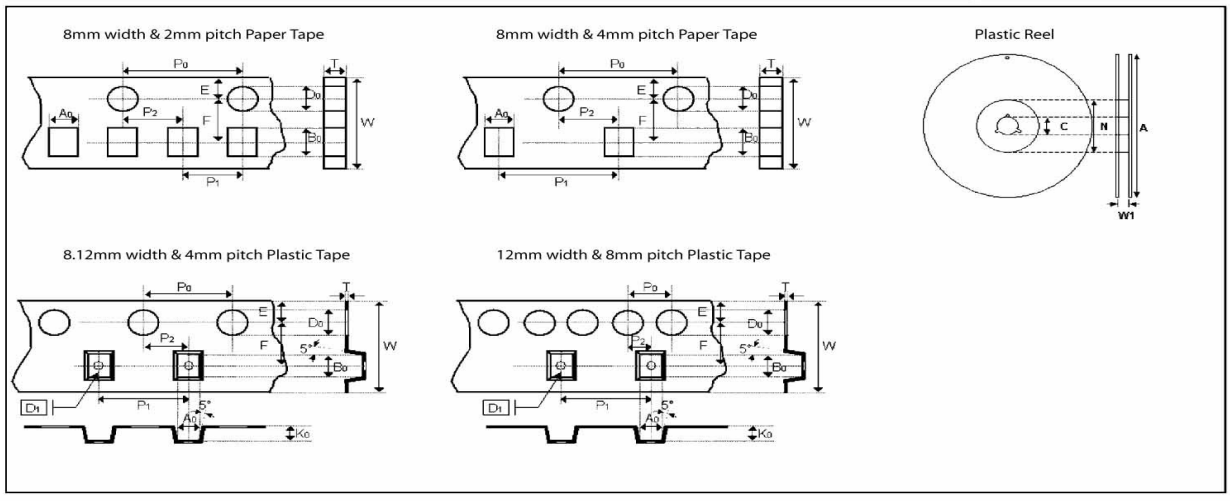
Chip Capacitor on Tape and Reel

Chip Capacitor on Tape and Reel

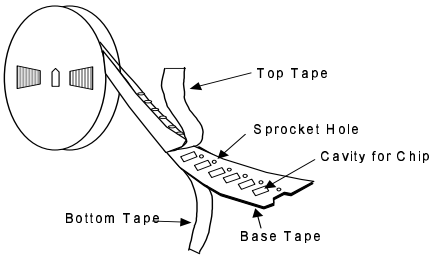
Taping Methods \ Chip Dimensions		0402	0603		0805				1206			1210			1808		1812
		S	P		A	H,M	C	X	H,M	C,X	L	C,X	L	Z	F,X	Z	F,X,Z
Paper Tape	T (7"x8mm)	10 kp	4 kp	-	4 kp	4 kp	-	-	4 kp	-	-	-	-	-	-	-	-
	R (7"x8mm)	-	-	10 kp	-	-	-	-	-	-	-	-	-	-	-	-	-
	Q (10"x8mm)	-	10 kp	-	10 kp	10 kp	-	-	10 kp	-	-	-	-	-	-	-	-
	G (13"x8mm)	50 kp	15 kp	-	15 kp	15 kp	-	-	15 kp	-	-	-	-	-	-	-	-
Plastic Tape	P (7"x8mm)	-	-	-	-	-	3 kp	3 kp	-	3 kp	2 kp	3 kp	2 kp	1 kp	-	-	-
	P (7"x12mm)	-	-	-	-	-	-	-	-	-	-	-	-	-	2 kp	1 kp	1 kp
	K (10"x8mm)	-	-	-	-	-	5 kp	5 kp	-	5 kp	-	5 kp	-	-	-	-	-
	L (13"x8mm)	-	-	-	-	-	10 kp	10 kp	-	10 kp	-	10 kp	-	-	-	-	-
Bulk Cassette	C (Cassette)	50 kp	15 kp		10 kp	-	-	5 kp	-	-	-	-	-	-	-	-	-

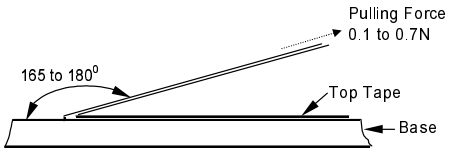
Reel Dimension (unit : mm)			
C	W1	A	H
13.0 +0.5/-0.2	8.4 +1.5/-0	178.0 +/-1.0	60.5 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	178.0 +/-1.0	60.5 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	250.0 +/-1.0	100.0 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	330.0 +/-1.0	100.0 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	178.0 +/-1.0	60.5 +/-1.0
13.0 +0.5/-0.2	12.4 +2.0/-0	178.0 +/-1.0	80.0 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	250.0 +/-1.0	100.0 +/-1.0
13.0 +0.5/-0.2	8.4 +1.5/-0	330.0 +/-1.0	100.0 +/-1.0
-	-	-	-

Tape Dimension (unit: mm)																	
	A0	0.62 +/-0.05	1.02 +/-0.05	1.02 +/-0.05	1.50 +/-0.10	1.50 +/-0.10	< 1.57	< 1.57	2.00 +/-0.10	< 1.85	< 1.95	< 2.97	< 2.97	< 2.97	< 2.35	< 2.35	< 3.81
	B0	1.12 +/-0.05	1.82 +/-0.05	1.82 +/-0.05	2.30 +/-0.10	2.30 +/-0.10	< 2.40	< 2.40	3.50 +/-0.10	< 3.46	< 3.67	< 3.73	< 3.73	< 3.73	< 4.98	< 5.00	< 5.30
	T	0.60 +/-0.05	0.95 +/-0.05	0.95 +/-0.05	0.75 +/-0.05	0.95 +/-0.05	0.23 +/-0.05	0.23 +/-0.05	0.95 +/-0.05	0.23 +/-0.05	0.23 +/-0.05	0.23 +/-0.05	0.23 +/-0.05	0.23 +/-0.05	0.25 +/-0.05	0.25 +/-0.05	0.25 +/-0.05
	K0	-	-	-	-	-	< 2.50	< 2.50	-	< 2.50	< 2.50	< 2.50	< 2.50	< 2.50	< 2.50	< 2.50	< 2.50
	W	8.00 +/-0.10	8.00 +/-0.10	8.00 +/-0.10	8.00 +/-0.10	8.00 +/-0.10	8.00 +/-0.20	8.00 +/-0.20	8.00 +/-0.10	8.00 +/-0.20	8.00 +/-0.20	8.00 +/-0.20	8.00 +/-0.20	8.00 +/-0.20	12.00 +/-0.20	12.00 +/-0.20	12.00 +/-0.20
	P0	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10
	10xP0	40.00 +/-0.10	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20	40.00 +/-0.20
	P1	2.00 +/-0.05	4.00 +/-0.10	2.00 +/-0.05	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	4.00 +/-0.10	8.00 +/-0.10
	P2	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05	2.00 +/-0.05
	D0	1.55 +/-0.05	1.55 +/-0.05	1.55 +/-0.05	1.55 +/-0.05	1.55 +/-0.05	1.50 +0.10/-0	1.50 +0.10/-0	1.55 +/-0.05	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0	1.50 +0.10/-0
	D1	-	-	-	-	-	1.00 +/-0.10	1.00 +/-0.10	-	1.00 +/-0.10	1.00 +/-0.10	1.00 +/-0.10	1.00 +/-0.10	1.00 +/-0.10	1.50 +/-0.10	1.50 +/-0.10	1.50 +/-0.10
	E	1.75 +/-0.05	1.75 +/-0.05	1.75 +/-0.05	1.75 +/-0.05	1.75 +/-0.05	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.05	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10	1.75 +/-0.10
	F	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	3.50 +/-0.05	5.50 +/-0.05	5.50 +/-0.05	5.50 +/-0.05



Appearance of Taping





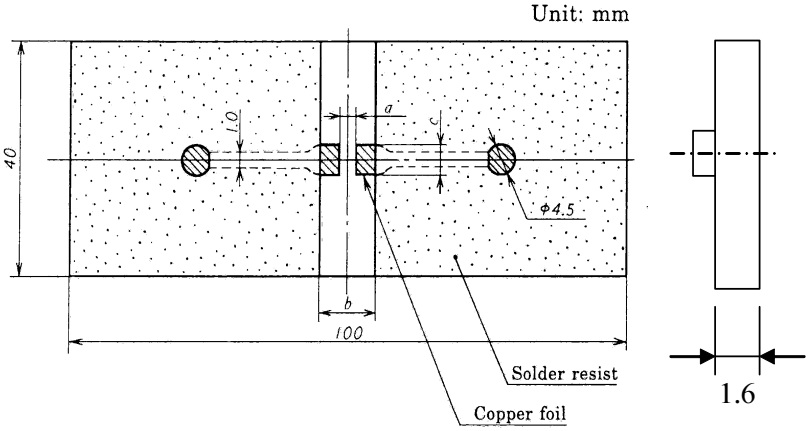
- The component does not protrude beyond either surface of the base tape.
- No bottom tape adhesion force, chip capacitor is free condition without sticking on bottom and top side tape.
- In case of turning the base tape over without shock or vibration, the chip capacitor is easily dropped by capacitor's weight itself.
- [Peeling off force] 0.1 to 0.7N in the direction shown as above sketch.

■ APPENDIX 1 BENDING TEST

1. Testing Substrate:

The testing substrate shall the testing substrate A given in Fig.1, the substrate shall be that of class GE4 specified in JIS C6484 or at least the equivalent, the thickness shall be 1.6mm and thickness of copper foil be 0.035mm.

Fig. 1. Testing printed wiring board A
(for use in test for resistance of board to bending)



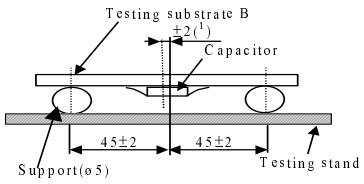
External Size of Capacitor		Dimensions of Pattern (Unit : mm)		
Symbol	W*L	a	b	c
0402	0.5*1.0	0.4	1.5	0.5
0603	0.8*1.6	1.0	3.0	1.2
0805	1.25*2.0	1.2	4.0	1.65
1206	1.6*3.2	2.2	5.0	2.0
1210	2.5*3.2	2.2	5.0	2.9
1812	3.2*4.5	3.5	7.0	3.7

2. Testing Method:

2.1 The capacitor shall be soldered to testing substrate A.

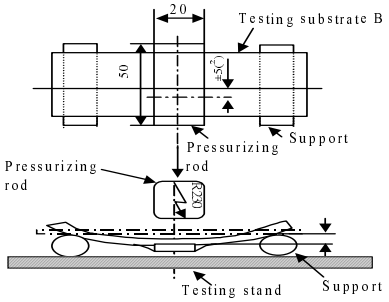
2.2 The substrate shall be so placed with it's surface on which capacitor is mounted downwards that the center of capacitor coincides with the center of supports as illustrated in Fig2.(Flexural test of substrate).

(a) Supporting Condition of Substrate (Unit :



Discrepancy between center of supports and center of substrate.

(b) Testing Condition (Unit: mm)



Discrepancy between center of testing substrate A and center of pressurizing rod.

■ APPENDIX 2 ADHESIVE STRENGTH OF TERMINATION

1. Testing Substrate:

The testing substrate shall be the testing substrate A illustrated in Fig.1.

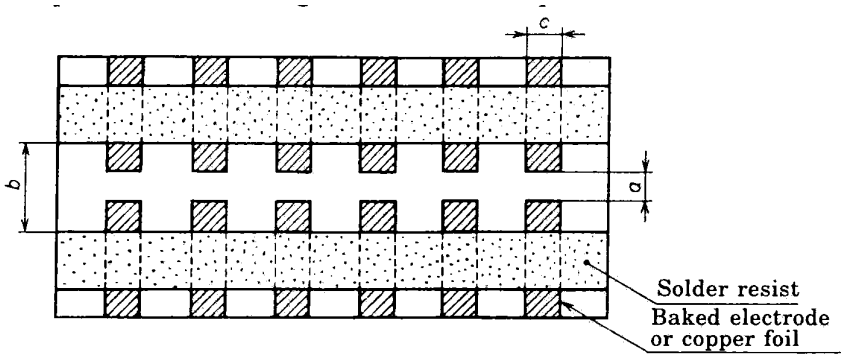


Fig.1 Testing substrate A

External Size of Capacitor		Dimensions of Pattern (Unit : mm)		
Symbol	W*L	a	b	c
0402	0.5*1.0	0.4	1.5	0.5
0603	0.8*1.6	1.0	3.0	1.2
0805	1.25*2.0	1.2	4.0	1.65
1206	1.6*3.2	2.2	5.0	2.0
1210	2.5*3.2	2.2	5.0	2.9
1812	3.2*4.5	3.5	7.0	3.7

Remark : Material of substrate shall be alumina or glass fabric base epoxy resin.

Alumina : purity 95% or more, thickness 0.6mm or more.

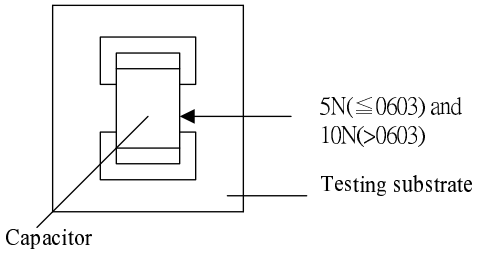
Glass fabric base epoxy resin : Class GE4 specified in JIS C6484 or the equivalent.

Thickness 1.6mm and copper foil thickness 0.035mm.

2. Testing Method:

The pressurizing force shall be gradually applied to the center side surface of capacitor in the capacitor in the direction horizontal and parallel to the testing substrate as shown in Fig.2.

Fig.2 Direction of Pressurizing



EDEN TECHNOLOGY CORPORATION

■ APPENDIX 3 NOTICE

1. Storage and Handling Conditions:

(1) Products are recommended to be used up within one year. Check solderability in case shelf life extension is needed.

(2) Storage Condition:

Temperature : 5 to 40°C
Humidity : 20 to 70% relative humidity

(3) Caution:

a. Don't store products in a corrosive environment such as sulfur, Chlorine gas, or acid. It may cause oxidization of electrode, which easily results in poor soldering.

b. To store products on the shelf and avoid exposure to moisture.

c. Don't expose products to excessive shock, vibration, direct sunlight and so on.

2. Recommendation of Soldering Profile

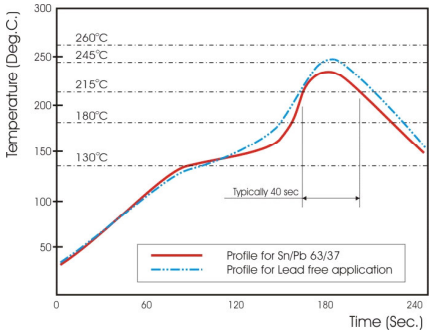


Figure. Reflow soldering

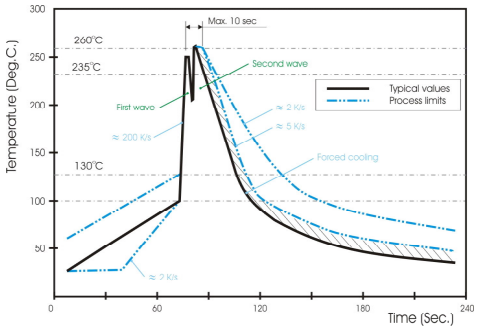


Figure. Wave soldering

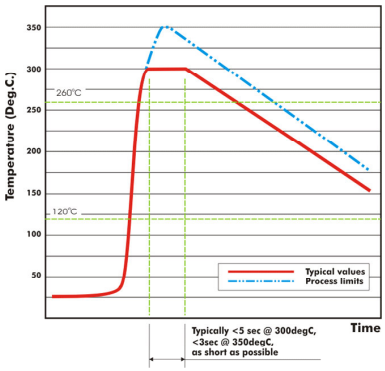
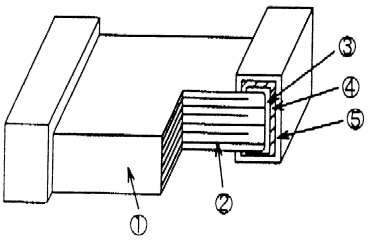


Figure. Manual soldering

(soldering gun)

■ Construction of MLCC

No.	Name		Class I	Class II	
1	Ceramic material		Titanium oxide	Barium titanate group	
2	Inner electrode		NME	NME	BME
			Pd, PdAg	Pd, PdAg	Ni
3	Termination	Inner layer	NME	NME	BME
			Ag	Ag	Cu
4		Middle layer	Ni		
5		Outer layer	Sn		



EDEN Technology Corporation
No. 8~3, Shin-Kai-Fa Road, N.E.P.Z. Kaohsiung, Taiwan R.O.C.
Tel: +886-7-365-0546 Fax: +886-7-365-0547