

Kunde / customer :

Artikelnummer / part number : **823 06 120 029**

Datum / Date : **2013-01-16**

Bezeichnung :

description : **0603 ESD Suppressor WE-VE "ULC"**

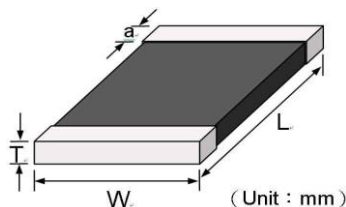
SMD size: **0603**

ROHS Compliant

**A Mechanische Abmessungen / dimensions :**

SIZE (Unit : mm)

SISE	W	L	T	a
0402	0.5	1.0	0.38	0.25
0603	0.8	1.6	0.5	0.3



**B Elektrische Eigenschaften / electrical properties :**

TECHNICAL DATA

Part Number	Working Voltage	Max. Clamping Voltage	Trigger Voltage	Leakage Current	ESD Pulse Withstand	ESD Voltage air discharge	Capacitance
	DC	V (*1)	V	µA (*2)		kV (*3)	pF (*4)
<b>82306120029</b>	<b>12</b>	<b>30 typ.</b>	<b>150</b>	<b>0.01</b>	<b>&gt;100</b>	<b>+/-15</b>	<b>0.2</b>

\* 1 Max. Clamping Voltage is measured 30ns after ignition of EN61000-4-2 pulse; contact discharge mode

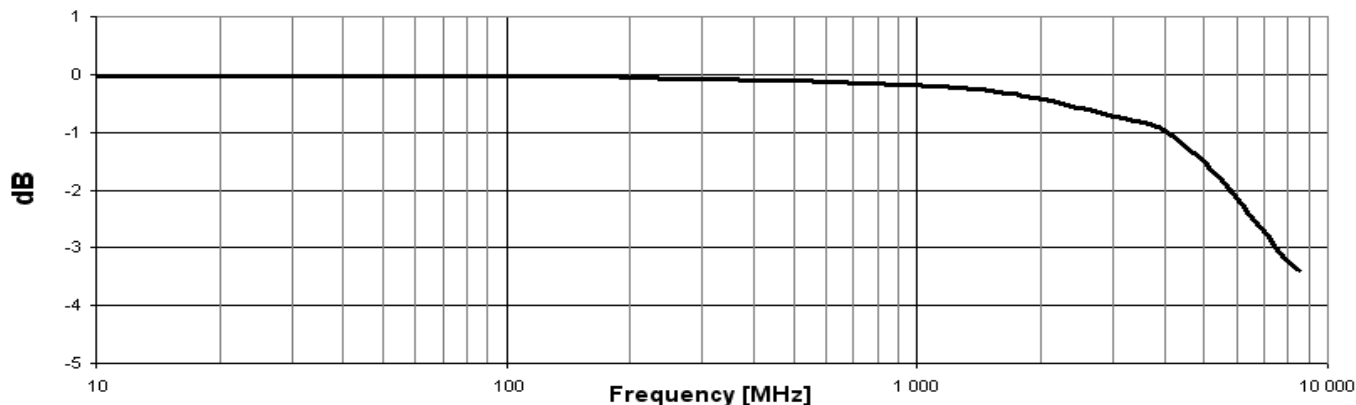
\* 2 Leakage Current at max working voltage. For 0.05pf types the leakage current is measured at 6 VDC.

\* 3. ESD Typ. Withstands Voltage design and method guarantee this property

\* 4. Tolerance of capacitance is ± 0.05pF for 0.05pF types

Capacitance measured at: **1MHz**

Typical insertion loss WE-VE "ULC"



Design and Specifications are subject to change without notice

REFERENCE DATA

Response time	$T_{rise}$	<	1	ns
Operating ambientg temperature			-40 ~ +85	°C
Storage temperature			-50 ~ +125	°C
Max. temperature solder			260/10s	°C

OTHER DATA

Body	Ceramic
End termination	Ag/Ni/Sn
Packaging	Reel
Complies with Standard	IEC61000-4-2
Marking	None

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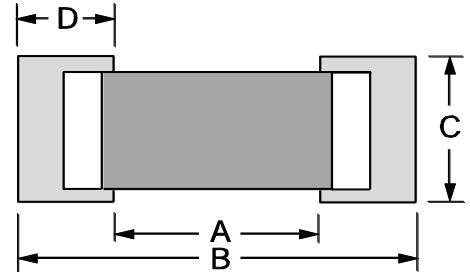
SMD size: **0603**

## C Lötpad / soldering spec. :

### RECOMMENDED SOLDER PAD LAYOUT

(Unit : mm)

SISE	A	B	C	D
<b>402</b>	0.4~0.6	1.0~1.8	0.6~0.7	0.6~1.2
<b>603</b>	0.8~1.2	1.7~3.0	1.2~1.6	0.9~1.8
<b>805</b>	1.0~1.5	2.1~3.8	1.5~2.1	1.1~2.3
<b>1206</b>	1.8~2.5	3.0~5.8	1.8~2.6	1.2~3.3
<b>1210</b>	1.8~2.5	3.2~6.1	2.8~3.8	1.3~3.5
<b>1812</b>	2.5~3.5	4.0~7.3	3.3~4.5	1.5~3.8
<b>2220</b>	3.5~4.6	5.0~8.5	5.2~6.2	1.5~3.9
<b>3220</b>	5.2~6.4	9.5~10.8	5.6~6.0	2.0~2.8

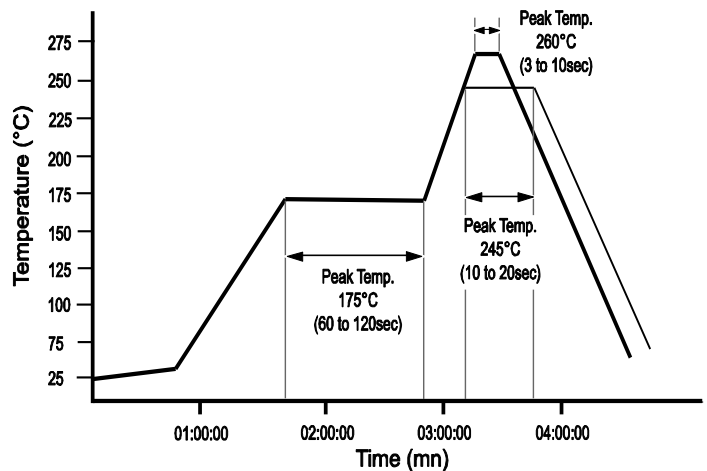


- 1 - The solder paste shall be printed in a thickness of 150 to 200µm.
- 2 - The SIR test of the solder paste shall be done ( Based on JIS-Z-3284 )
- 3 - IR reflow Pb Free Process suggestin profile (Based on J-STD-020-C):

Rapid heating, partial heating or rapid cooling will easily cause defect of the component. So preheating and gradual cooling process is suggested. IR soldering has the highest yields due to controlled heating rates and solder liquidus times. Make sure that the element is not subjected to a thermal gradient steeper than 3 degrees per second. 2 degrees per second is the ideal gradient. During the soldering process, pre- heating to within 175 degrees of the solders peak temperature is essential to minimize thermal shock.

Soldering recommend paste is Sn 96.5/Ag 3.5

- Preheat
    - 1.The temperature rising speed is suggested to be 2~3°C/s.
    - 2.Appropriate preheat time will be from 60 to 120 seconds.
    - 3.Temp. maintain at 175 +/-25°C 120 seconds.
  - Heating
    - 1.Careful about sudden rise in temperature as it may worsen the solder ability.
    - 2.Set the peak temperature in 235°C 10~20s or 260°C 3~10s.
  - Cooling
    - 1.Ramp down rate 6°C/s max.
- ※Perform adequate test in advance as the reflow temperature profile will vary according to the conditions of the manufacturing process, and the specification of the reflow furnace



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Bezeichnung :

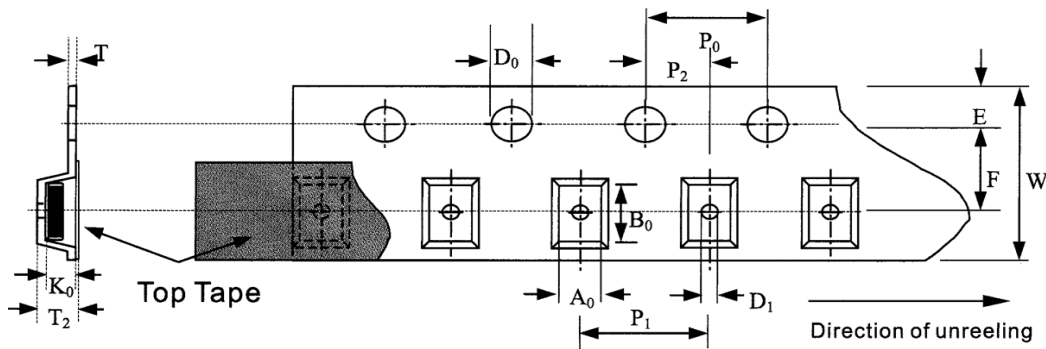
description : **0603 ESD Suppressor WE-VE "ULC"**

SMD size: **0603**

**D Rollenspezifikation / tape and reel specification :**

- 1 - Carrier tape and transparent cover tape should be heat-sealed to carry the products, and the reel should be used to reel the carrier tape.
- 2 - The adhesion of the heat-sealed cover tape shall be 40 + 20/ - 15grams.
- 3 - Both the head and the end portion of the taping shall be empty for reel package and SMT auto-pickup machine.  
And a normal paper tape shall be conected in the head of taping for the operator to handle.

(Unit : mm)



TAPE SPECIFICATION

(Unit : mm)

Symbol	A <sub>0</sub> ±0.10	B <sub>0</sub> ±0.10	K <sub>0</sub> ±0.10	T <sub>2</sub> ±0.05	T ±0.05	D <sub>0</sub> +0.10 -0.00	D <sub>1</sub> ±0.05	P <sub>1</sub> ±0.10	P <sub>2</sub> ±0.05	P <sub>0</sub> ±0.05	W ±0.20	E ±0.10	F ±0.05
<b>0402</b>	0.85	1.25	0.65	0.22	0.10	1.50	1.00	4.00	2.00	4.00	8.00	1.75	3.50
<b>0603</b>	1.05	1.88	0.95	0.22	0.10	1.50	1.00	4.00	2.00	4.00	8.00	1.75	3.50
<b>0805</b>	1.42	2.30	1.04	0.22	0.10	1.50	1.00	4.00	2.00	4.00	8.00	1.75	3.50

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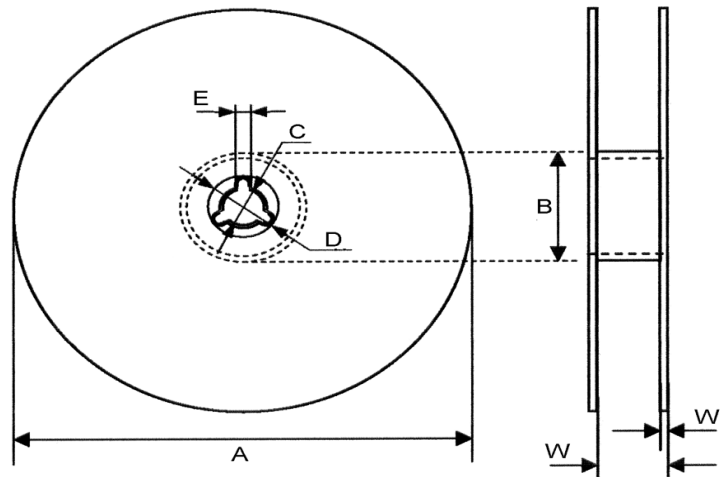
Bezeichnung :

description : 0603 ESD Suppressor WE-VE "ULC"

SMD size: 0603

**D Rollenspezifikation / tape and reel specification :**

(Unit : mm)



REEL DIMENSION

(Unit : mm)

Symbol	A	B	C	D	E	W	W <sub>1</sub>
0402	178.0±1.0	60.0±0.5	13.0±0.2	21.0±0.2	2.0±0.5	9.0±0.50	1.5±0.15
0603	178.0±1.0	60.0±0.5	13.0±0.2	21.0±0.2	2.0±0.5	9.0±0.50	1.5±0.15
0805	178.0±1.0	60.0±0.5	13.0±0.2	21.0±0.2	2.0±0.5	9.0±0.50	1.5±0.15

Type	0402	0603	0603 @ 0.05pF
Pcs/reel	10 000	5 000	4 000

Freigabe erteilt / general release:	Kunde / customer			
Datum / date	Unterschrift / signature			
	Würth Elektronik			
Geprüft / checked	2006-07-31	Kontrolliert / approved	JB	
				RoD
				Correction of Dimensions
				2013-01-16
				JB
				Version 1
				2008-04-14
				Name
				Änderung / modification
				Datum / date

**Würth Elektronik eiSos GmbH & Co.KG - Radialex department**