

Data Sheet

- ITEM : ESD Suppressor
- PART NO : ULCE0505A015FR
- CONDITION : 1. _____
2. _____
3. _____
4. _____

ITEM	P/N	Page
ESD SUPPRESSOR	ULCE0505A015FR	2

1. SCOPE

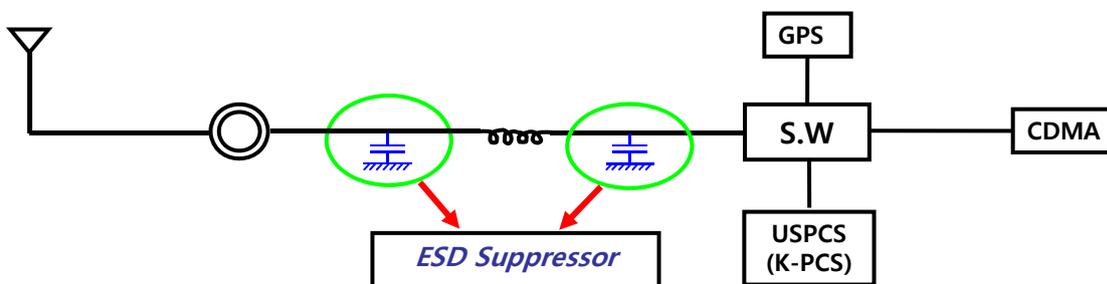
- ◆ This specification applies to chip (named ESD Suppressor) for use in RF electronic equipment. It can be possible to change the specification under document agreement between design engineers of each party.

2. FEATURES

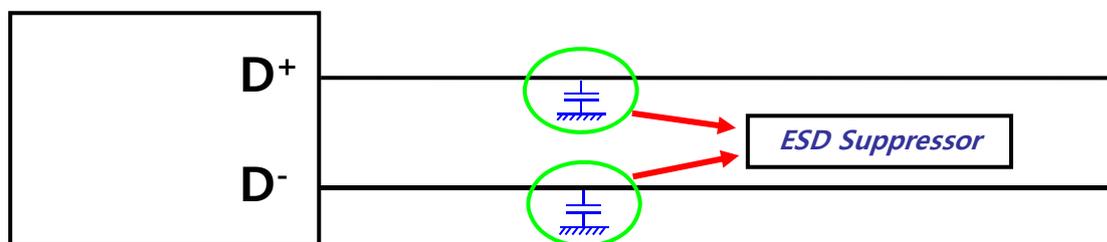
- ◆ The ICT ESD Suppressor provide excellent application reliability as a result of their fine ceramic process and terminal electrodes with Sn electro plating (Pb free).
- ◆ Very fast response time to ESD impulse which is included in RF signal due to very low capacitance (< 0. 5pF) and low ESL (Equivalent Series Inductance)

3. APPLICATION

- ◆ Antenna port
- ◆ USB port
- ◆ High speed data transmission line

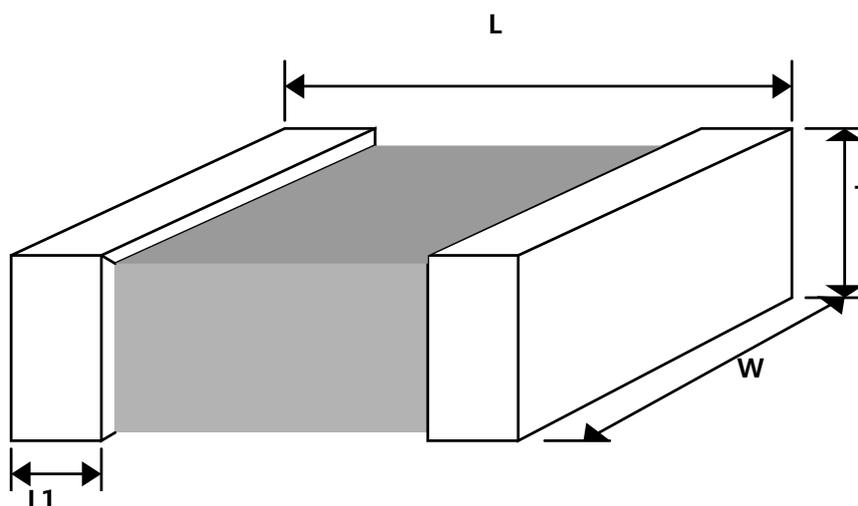


- Switch in Antenna



- USB 2.0

4. CONFIGURATION and DIMENSIONS



Unit : mm

CODE	DIMENSION (mm)			
	L	W	T	L1
05	1.0 ±0.05	0.5 ±0.05	0.5 ±0.05	0.2 +0.15/-0.1
10	1.6 ±0.1	0.8 ±0.1	0.8 ±0.1	0.3 ± 0.2
21	2.0 ± 0.1	1.25 ± 0.1	1.35 MAX	0.5 + 0.2/-0.3

5. PART NUMBER CODE

ULCE **05** **05** **A** **015** **F** **R**
 ① ② ③ ④ ⑤ ⑥ ⑦

① SERIES NAME

CODE	Product Name
ULCE	Ultra Low Capacitance ESD Suppressor

② SIZE DESIGNATOR

CODE	SIZE (mm)
05	1.0 * 0.5
10	1.6 * 0.8
21	2.0 * 1.25

③ WORKING VOLTAGE

CODE	VOLTAGE (VDC)
05	5

④ TRIGGER VOLTAGE

CODE	VOLTAGE (V)
A	300
B	500
C	1000

⑤ CAPACITANCE

CODE	Capacitance (pF, Typ.)@MHz
015	0.15
030	0.30
050	0.50
100	1.00

⑥ TERMINATION

CODE	TYPE
F	Electroplate (Pb-free)

⑦ PACKING TYPE

CODE	TYPE
R	Tape & Reel pack

6. NOMINAL SPECIFICATIONS

■ ESD Suppressor (ULCE)

- Ultra Low capacitance(<0.5pF) is required for very high-speed data transmission or Antenna port.
- Low leakage current (I_L) is necessary for battery operated equipment

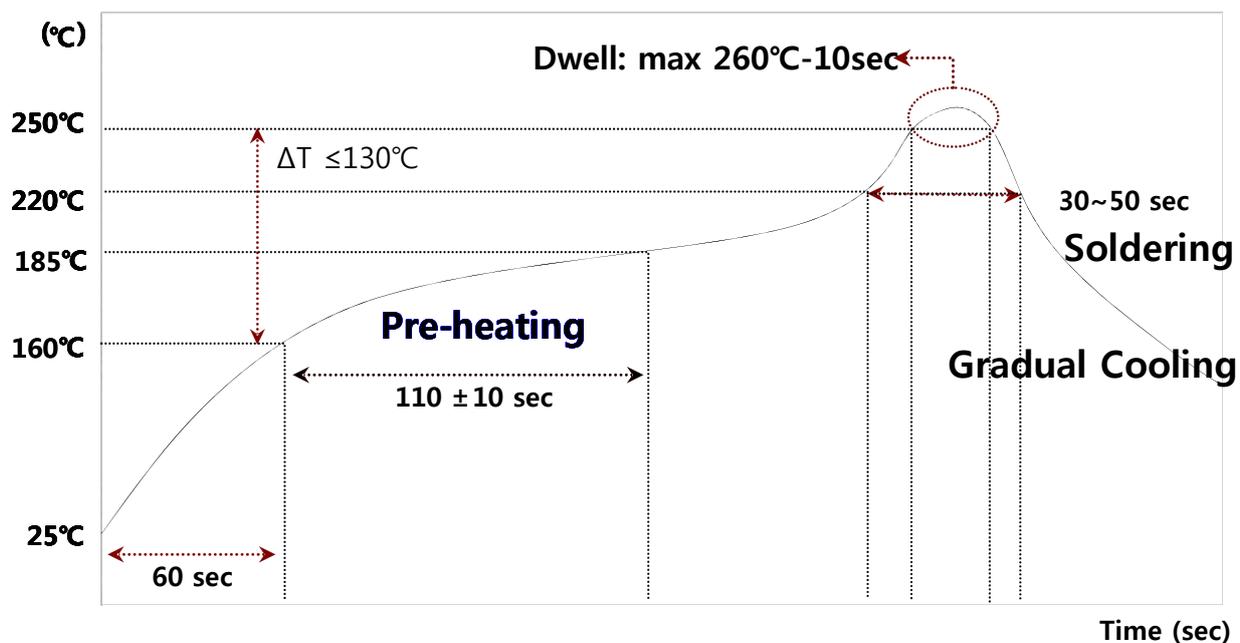
Characteristics	Unit	Typical	Max.
Clamping Voltage (V_c)	V	30	100
Capacitance, @1MHz (C_p)	pF	-	0.5
Response time	ns	0.6	1
ESD voltage capability Contact discharge mode	Kv	-	8
ESD voltage capability Air discharge mode	Kv	-	15
RF-Power testing, 0-2GHz	dBm	-	35
Insertion loss, 0-2GHz	dB	-	0.05
ESD pulse withstand	pulses	100	-
Continuous operating voltage	V	-	5
Leakage current (I_L)	μ A	-	1
Trigger voltage (V_T)	V	300	-

■ TERMINOLOGY

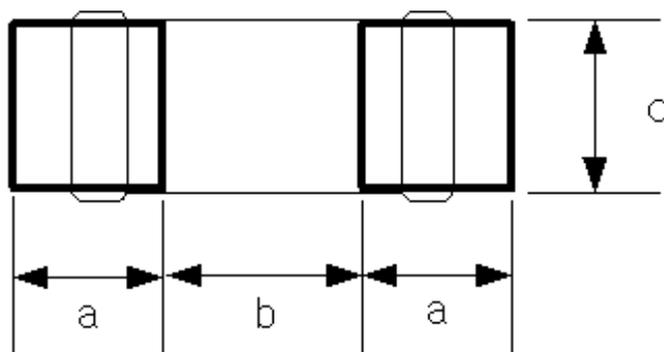
- V_c : Per IEC 61000-4-2, 30A@8kV, level 4, clamp measurement made 30ns after initiation of pulse, all test in contact discharge mode.
- C_p : Device capacitance measured with zero volt bias 1Vrms and 1MHz

7. Reflow condition

7. 1 Recommended soldering profile (Lead-free condition)



7. 2 Recommended foot print

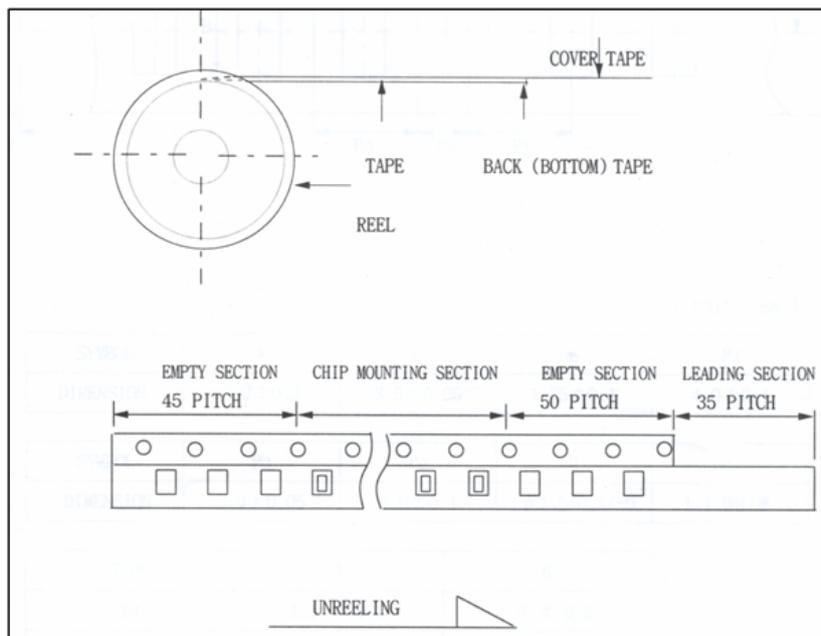


Size	a	b	c
1005	0.4~0.6	0.4~0.5	0.4~0.6

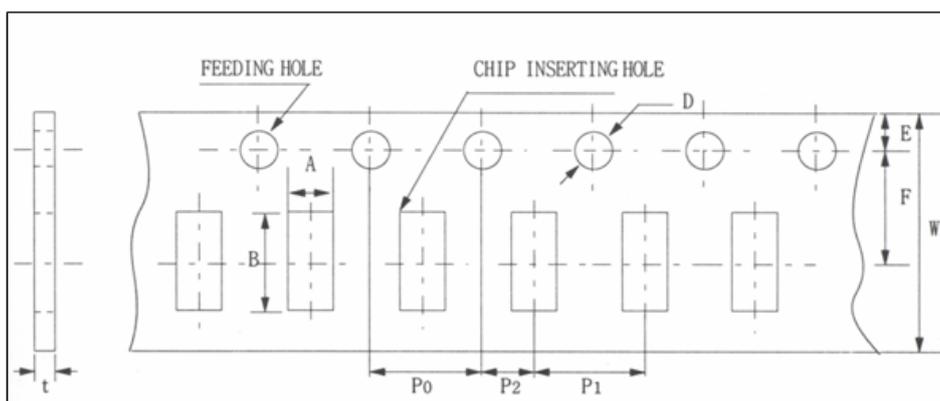
ITEM	P/N	Page
ESD SUPPRESSOR	ULCE0505A015FR	7

8. Packing Specification

8.1 Taping figure



8.2 Carrier tape and Dimensions

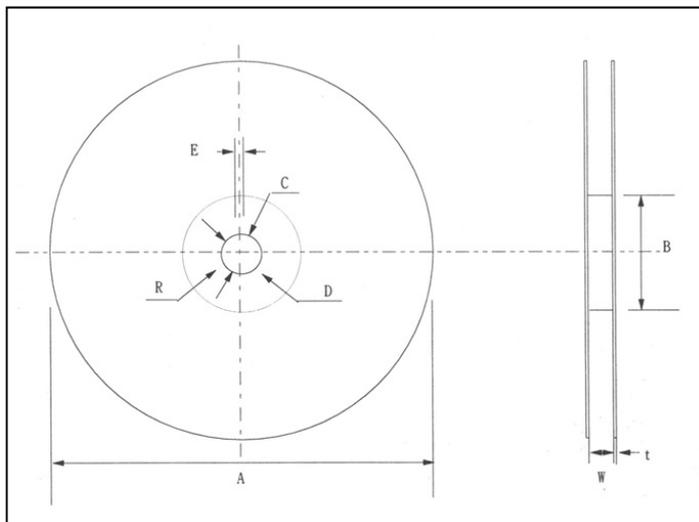


Unit : mm

SYMBOL	A	B	W	F	E	P_1	P_2	P_0	D	t	
DIMENSION	05	0.65 +0.05 -0.10	1.15 +0.05 -0.10	8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.1	2.0 ± 0.05	2.0 ± 0.05	4.0 ± 0.1	1.5 ± 0.1	0.6 ± 0.05

ITEM	P/N	Page
ESD SUPPRESSOR	ULCE0505A015FR	8

8.3 Reel Dimensions



- Taping

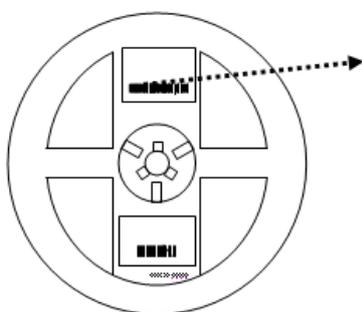
- Standard Packing Quantity per Reel($\phi 178$)
- Paper Tape : 10,000 pcs /reel

-Reel Dimensions

Unit : mm

CODE	A	B	C	D
DIMENSION	$\phi 178 \pm 2$	Min. $\phi 50$	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$
CODE	E	W	t	R
DIMENSION	2.0 ± 0.5	10 ± 1.5	0.8 ± 0.2	1.0

- (1) Reel material : Polystyrene
- (2) Label



INNOCHIPS TECHNOLOGY

P/N : ULCE0505C015FR
L/N : E01084GA DATE:070401
C/N : Q'TY : 10,000
SPEC : 1005, 5[Vdc], 0.15pF, 300V



MADE IN KOREA

P/N : Part Number

L/N : Lot Number

C/N : Company Number

SPEC : Size & Working Voltage & Capacitance & Trigger voltage

DATE : Date code

Q'TY : Quantity

