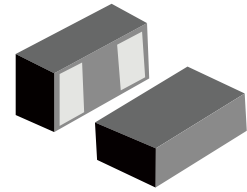
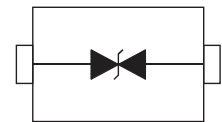


## FEATURES

- | ESD protection for high speed data lines to IEC61000-4-2
- | ESD contact discharge typical 8KV, max 15KV
- | ESD air discharge typical 15KV, max 25KV
- | Surface mount
- | Extremely low capacitance
- | Very low leakage current
- | Fast response time
- | Bi-directional ESD protection
- | Lead free solder termination
- | The best ESD protection for high frequency, low voltage applications



0402



Schematic Symbol

## APPLICATIONS

- | High Definition Multi-Media Interface (HDMI)
- | Digital Visual Interface (DVI)
- | Display Port Interface (DP)
- | Unified Display Interface (UDI)
- | Mobile Display Digital Interface (MDDI)
- | Gigabit Ethernet
- | USB2.0 and USB3.0
- | IEEE1394 interface

## CAUTION

- | This component is designed for signal line protection only, Not intended to be used under bias, not for application with a power line.

## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003

## ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
-	Maximum Contact discharge voltage Per IEC61000-4-2	15KV	V
-	Maximum Air discharge voltage Per IEC61000-4-2	25KV	V
T <sub>OPER</sub>	Maximum Operating temperature	-40 to +90	°C
T <sub>STG</sub>	Maximum Storage temperature	-55 to +125	°C
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C

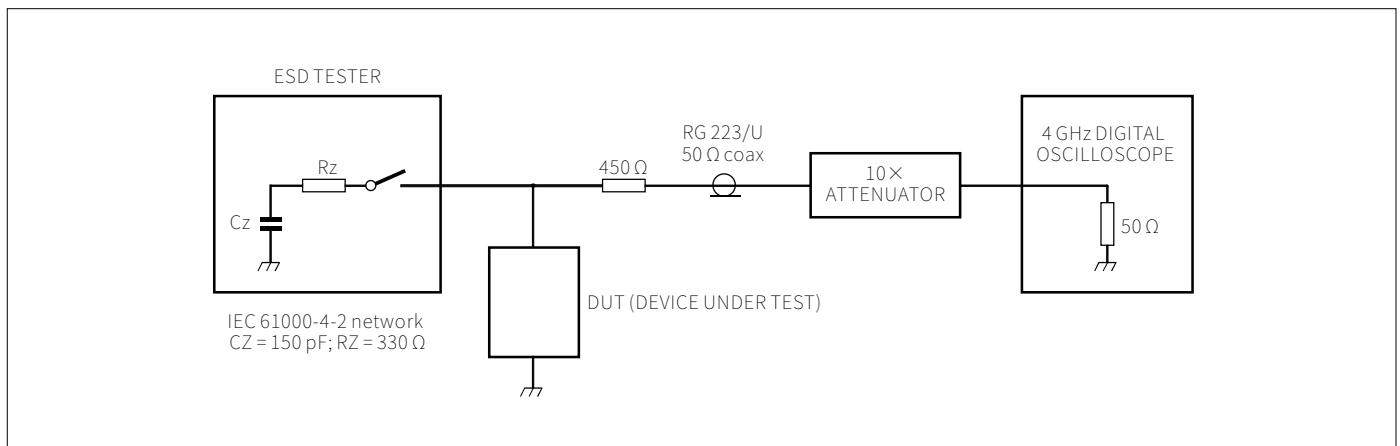
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V <sub>R</sub>	Rated Voltage	-	-	-	9	V
V <sub>T</sub>	Trigger Voltage	IEC61000-4-2 8KV contact discharge	-	300	-	V
V <sub>C</sub>	Clamping Voltage	IEC61000-4-2 8KV contact discharge	-	35	-	V
I <sub>L</sub>	Leakage Current	DC 5V shall be applied on component	-	-	0.10	μA
C <sub>P</sub>	Capacitance	V <sub>R</sub> = 0V, f = 1MHz	-	0.05	-	pF

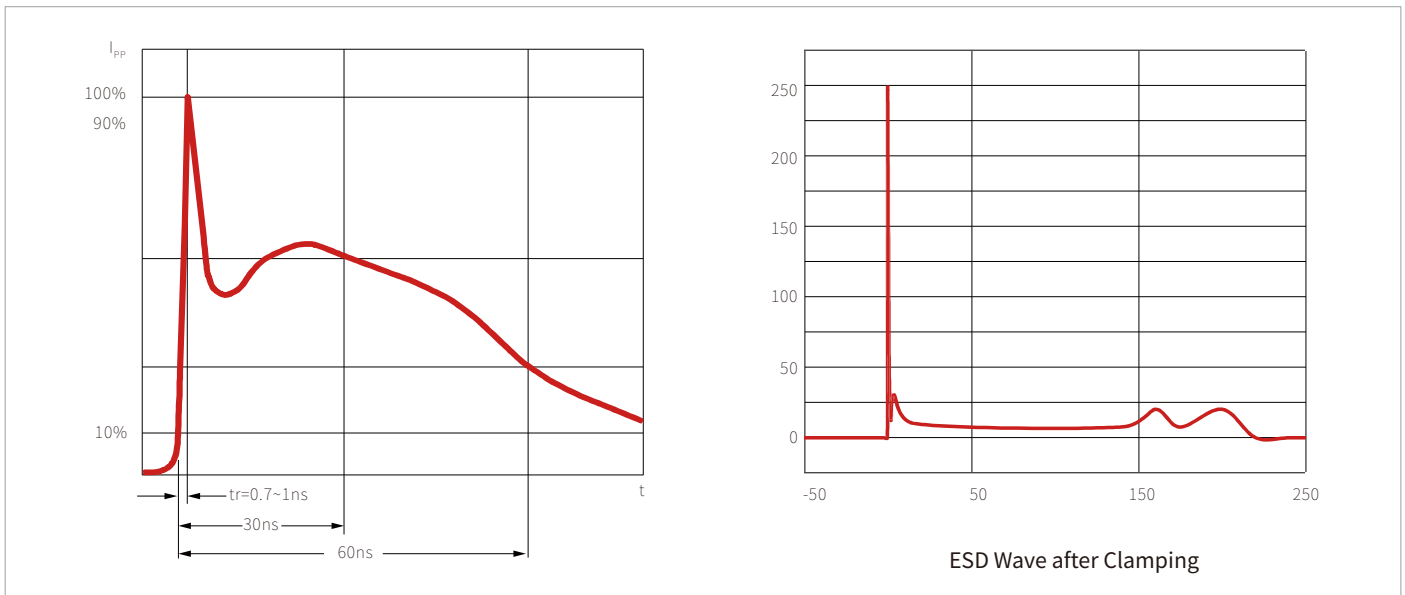
Note:

1. Trigger and clamping voltage are measured per IEC 61000-4-2, 8KV contact discharge method.
2. After reliability tests such as high temp storage, temp cycles, continuous ESD strike etc, the maximum leakage current is less than 10uA.

## ESD CLAMPING TEST

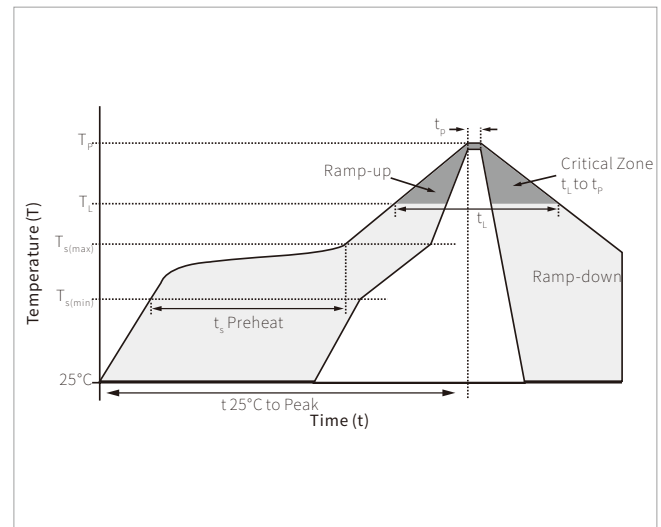


## CHARACTERISTIC CURVES

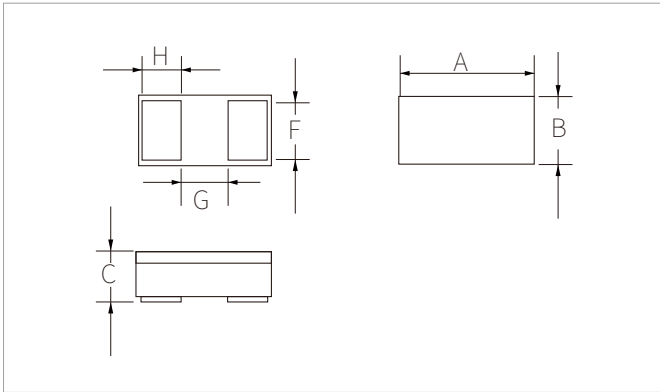


## SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Max ( $T_{s(\text{min})}$ )	150°C
	Temperature Max ( $T_{s(\text{max})}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(\text{max})}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_l$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_p$ )		8 minutes max.
Do not exceed		260°C

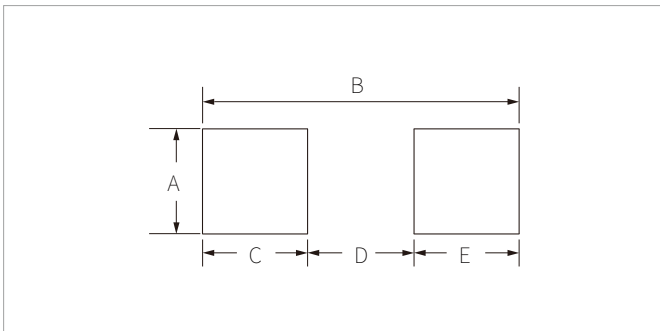


## PACKAGE INFORMATION



Ref.	Dimension			Unit
	Min.	Typ.	Max.	
A	0.95	1.0	1.05	mm
B	0.45	0.50	0.55	
C	0.32	0.36	0.40	
H	0.28	0.30	0.32	
F	0.41	0.43	0.45	
G	0.32	0.34	0.36	

## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Dimension	Unit
A	0.55	mm
B	1.05	
C	0.40	
D	0.25	
E	0.40	

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SAE0402B9.0UA	0402	10000PCS	7"

**Headquarters**

No.3387 Shendu Road  
Pujiang I&E Park  
Minhang Shanghai China  
201000

**Hotline**

400-021-5756

**Web**

<https://www.semiware.com>

**Sales Center**

Tel: 86-21-3463-7458  
Email: [sales18@semiware.com](mailto:sales18@semiware.com)

**Customer Service**

Tel: 86-21-5484-1001  
Email: [sales17@semiware.com](mailto:sales17@semiware.com)

**Technical Support**

Tel: 86-21-3463-7654  
Email: [fae01@semiware.com](mailto:fae01@semiware.com)

**Complaint & Suggestions**

Tel: 86-21-3463-7172  
Ext: 8868  
Email: [cs03@semiware.com](mailto:cs03@semiware.com)

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