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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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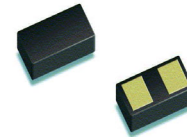
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**Ultra-Low Capacitance TVS Diode**

- Avalanche diode with low clamping / trigger voltage designed for replacement of polymer suppressor devices
- ESD / transient protection of high-speed data lines exceeding IEC61000-4-2 (ESD): 16 kV (contact)  
IEC61000-4-4 (EFT): 2.5 kV / 50 A (5/50 ns)
- No degradation or shifting of characteristics even after 1000 ESD pulses and lower peak voltage than polymer devices  
(see curve on page 4)
- Very low capacitance: 0.2 pF typ. @ 1.8 GHz
- Smallest form factor: 0.6 x 0.3 x 0.3 mm
- Working voltage: 5 V (can be extended to 60 V)
- Response time typ. < 0.5 ns @ 8 kV
- Pb-free (RoHS) compliant) package

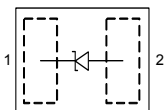


**Applications**

- 10/100/1000 Ethernet
- HDMI & DVI Interfaces
- Mobile communication and LCD displays
- Consumer products ( STB, MP3, DVD, DSC...)
- Notebooks and desktop computers, peripherals



**ESD5V0H1U-02LS**



Type	Package	Configuration	Marking
ESD5V0H1U-02LS	TSSLP-2-1	1 line, uni-directional	P

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
ESD contact discharge <sup>1)</sup>	$V_{\text{ESD}}$	16	kV
Operating temperature range	$T_{\text{op}}$	-55...125	°C
Storage temperature	$T_{\text{stg}}$	-65...150	

**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**Characteristics**

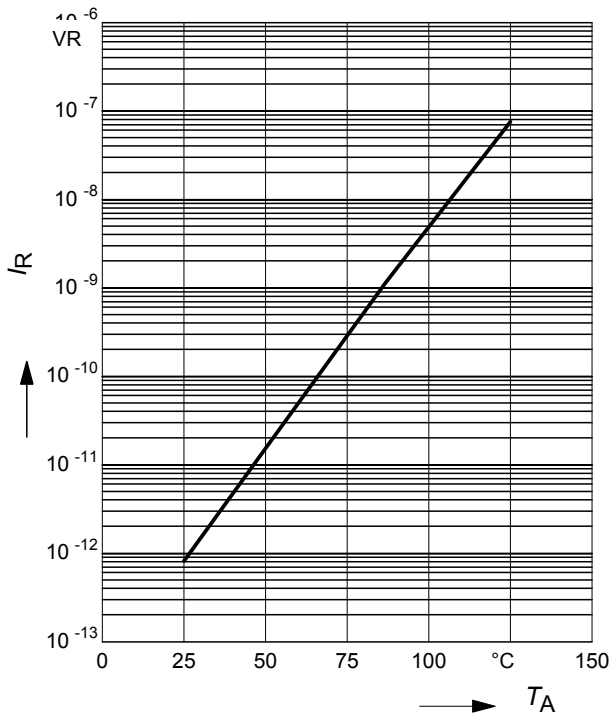
Reverse working voltage	$V_{\text{RWM}}$	-	-	5	V
Avalanche breakdown voltage $I_{(\text{BR})} = 1 \text{ mA}$ , from pin 2 to 1	$V_{(\text{BR})}$	-	200	-	
Reverse current $V_{\text{R}} = 5 \text{ V}$	$I_{\text{R}}$	-	-	0.1	$\mu\text{A}$
Clamping voltage <sup>1)</sup> after 30 ns $V_{\text{ESD}} = 8 \text{ kV}$ , contact, from pin 2 to 1	$V_{\text{CL}}$	-	40	-	V
Line capacitance <sup>2)</sup> $V_{\text{R}} = 0 \text{ V}$ , $f = 1.8 \text{ GHz}$ $V_{\text{R}} = 0 \text{ V}$ , $f = 1 \text{ MHz}$	$C_{\text{T}}$	-	0.2	0.4	pF
		-	0.27	0.42	
Series inductance	$L_{\text{S}}$	-	0.2	-	nH

<sup>1)</sup> $V_{\text{ESD}}$  according to IEC61000-4-2

<sup>2)</sup>Total capacitance line to ground

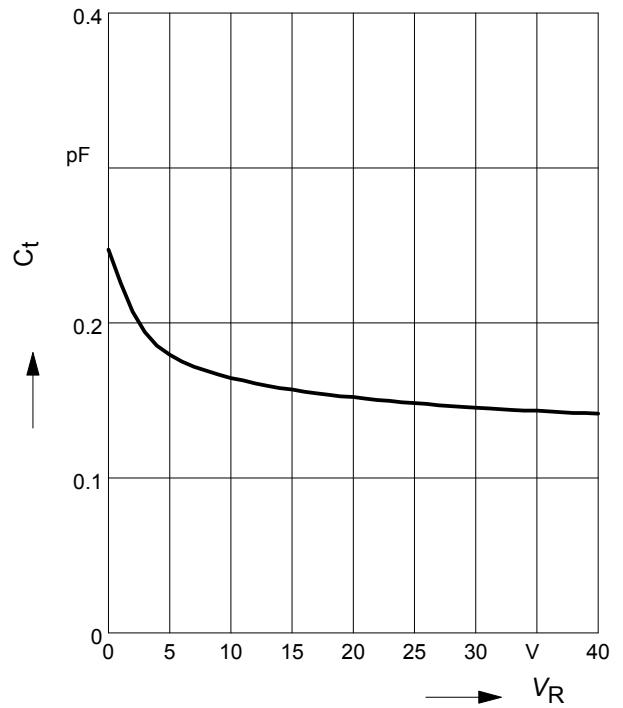
**Reverse current  $I_R = f(T_A)$**

$V_R = 5\text{ V}$



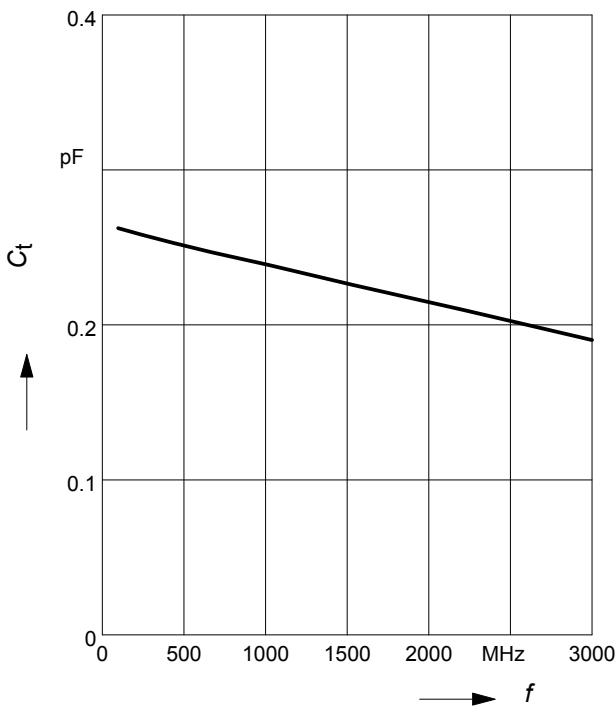
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{ GHz}$

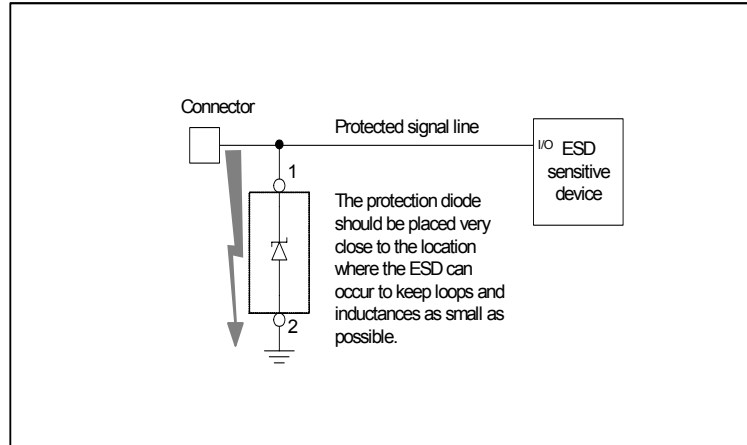


**Line capacitance  $C_T = f(f)$**

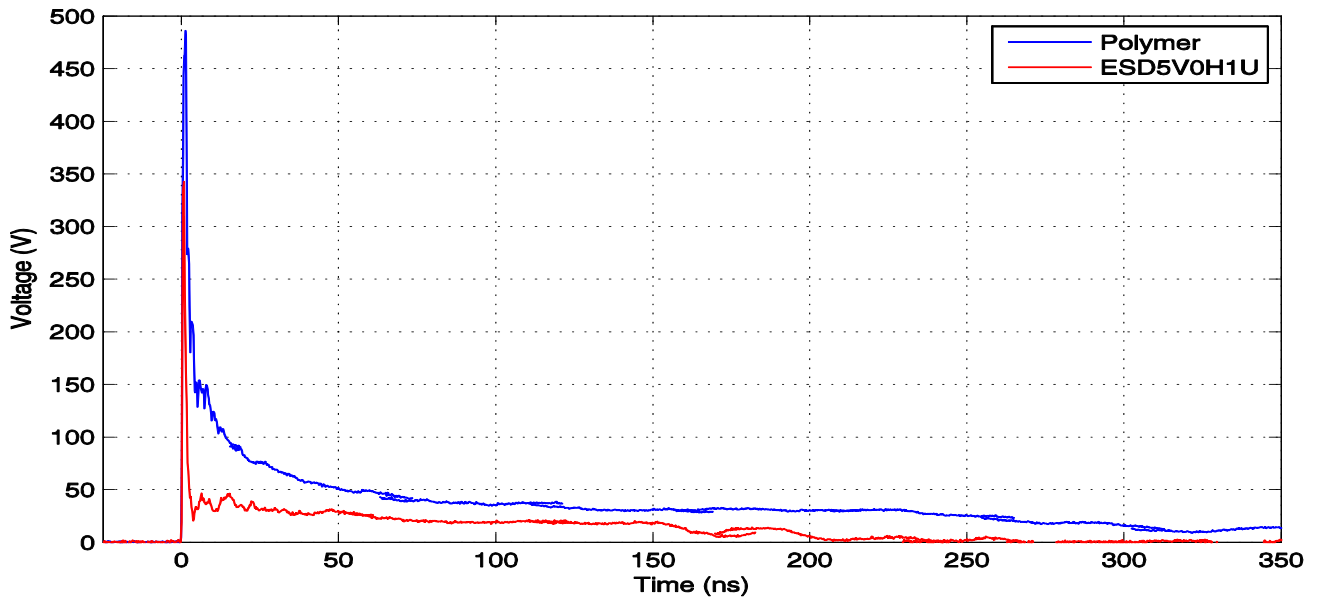
$V_R = 0\text{ V}$



**Application example**  
single channel, uni-directional

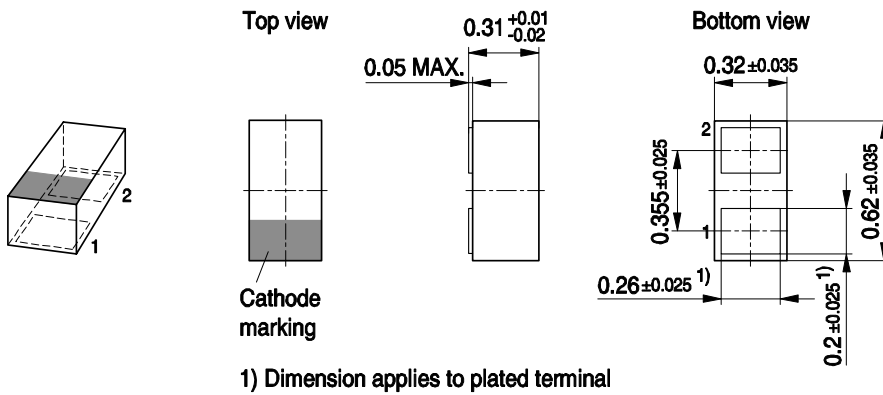


Clamping voltage at real ESD event according to IEC61000-4-2, 8 kV  
contact discharge: comparison with polymer suppressor.  
ESD gun: C=150pF/R=330Ω... with 6 GHz oscilloscope (50Ω)



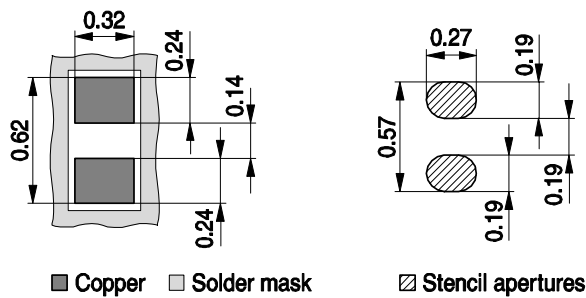


### Package Outline

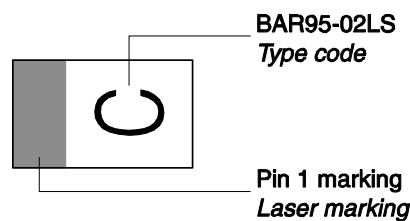


### Foot Print

For board assembly information please refer to Infineon website "Packages"

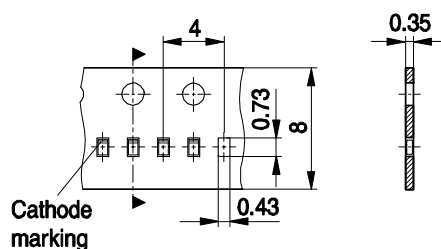


### Marking Layout (Example)



### Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel



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