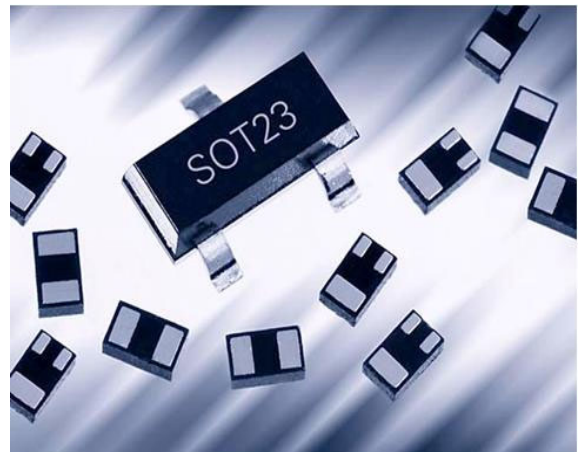


Low Capacitance TVS Diode

- ESD / transient protection of high-speed data lines in 3.3 / 5 / 12 V applications according to:
 - IEC61000-4-2 (ESD): up to ± 25 KV (contact)
 - IEC61000-4-4 (EFT): 40 A (5/50 ns)
 - IEC61000-4-5 (surge): up to 2.5 A (8/20 μ s)
- Smallest form factor down to 1.0 x 0.6 x 0.4 mm
- Max. working voltage: -8 / +14 V or +8 / -14 V
- Ultra low dynamic resistance down to **0.3 Ω**
- Very low capacitance down to 2 pF
- Very low reverse current < 1 nA typ.
- Very low series inductance down to 0.4 nH
- Pb-free (RoHS compliant) package



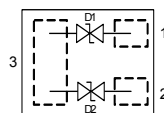
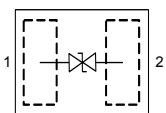
Applications

- USB 2.0, 10/100 Ethernet, Firewire, DVI
- Mobile communication
- Consumer products (STB, MP3, DVD, DSC...)
- LCD displays, camera
- Notebooks and desktop computers, peripherals



ESD8V0L1B-02EL
ESD8V0L1B-02LRH

ESD8V0L2B-03L



Type	Package	Configuration	Marking
ESD8V0L1B-02EL	TSLP-2-18	1 channel, bi-directional	E7
ESD8V0L1B-02LRH	TSLP-2-17	1 channel, bi-directional	B3
ESD8V0L2B-03L	TSLP-3-1	2 channels, bi-directional	B3

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

Parameter	Symbol	Value	Unit
ESD contact discharge ¹⁾	V_{ESD}		kV
ESD8V0L1B...		25	
ESD8V0L2B..., between all pins		15	
Peak pulse current ($t_p = 8 / 20 \mu\text{s}$) ²⁾	I_{pp}		A
ESD8V0L1B...		2.5	
ESD8V0L2B...		1	
Operating temperature range	T_{op}	-55...125	°C
Storage temperature	T_{stg}	-65...150	

¹⁾ V_{ESD} according to IEC61000-4-2

²⁾ I_{pp} according to IEC61000-4-5

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

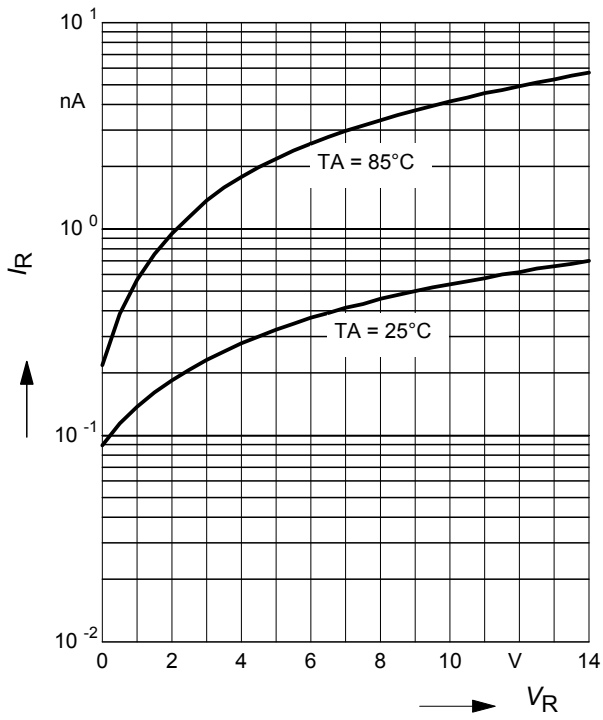
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics					
Reverse working voltage	V_{RWM}	-8	-	14	V
Breakdown voltage	$V_{(BR)}$				
$I_{(BR)} = 1 \text{ mA}$, from pin 2 to 1, ESD8V0L1B...		14.5	-	-	
$I_{(BR)} = 1 \text{ mA}$, from pin 1 to 2, ESD8V0L1B...		8.5	-	-	
$I_{(BR)} = 1 \text{ mA}$, from pin 1/2 to 3, ESD8V0L2B...		14.5	-	-	
$I_{(BR)} = 1 \text{ mA}$, from pin 3 to 1/2, ESD8V0L2B...		8.5	-	-	
$I_{(BR)} = 1 \text{ mA}$, from pin 1 to 2, ESD8V0L2B...		23	-	-	
Reverse current $V_R = 3 \text{ V}$, between all pins	I_R	-	< 1	50	nA
Clamping voltage (contact) ¹⁾	V_{CL}				V
$V_{ESD} = +15 \text{ kV}$, from pin 1 to 2, ESD8V0L1B...		-	21	-	
$V_{ESD} = -15 \text{ kV}$, from pin 1 to 2, ESD8V0L1B...		-	16	-	
$V_{ESD} = +15 \text{ kV}$, from pin 1/2 to 3, ESD8V0L2B...		-	26	-	
$V_{ESD} = -15 \text{ kV}$, from pin 1/2 to 3, ESD8V0L2B...		-	20	-	
Line capacitance ²⁾	C_T				pF
$V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, ESD8V0L1B...		-	8.5	13	
$V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$, ESD8V0L2B..., from pin 1/2 to 3		-	4	7	
from pin 1 to 2, pin 3 is not connected		-	2	4	
Dynamic resistance ($t_p=30\text{ns}$)	R_D				Ω
ESD8V0L1B...		-	0.3	-	
ESD8V0L2B...		-	0.6	-	

¹⁾ V_{ESD} according to IEC61000-4-2

²⁾Total capacitance line to ground

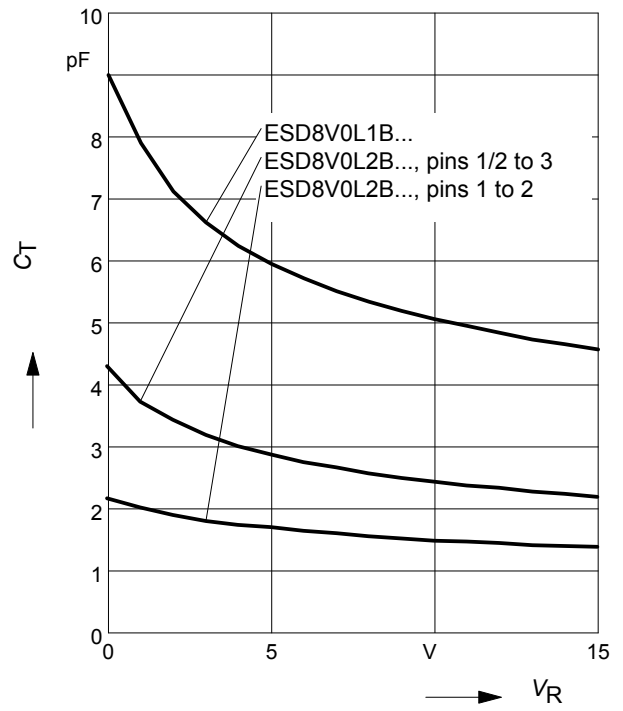
Reverse current $I_R = f(V_R)$

$T_A =$ Parameter



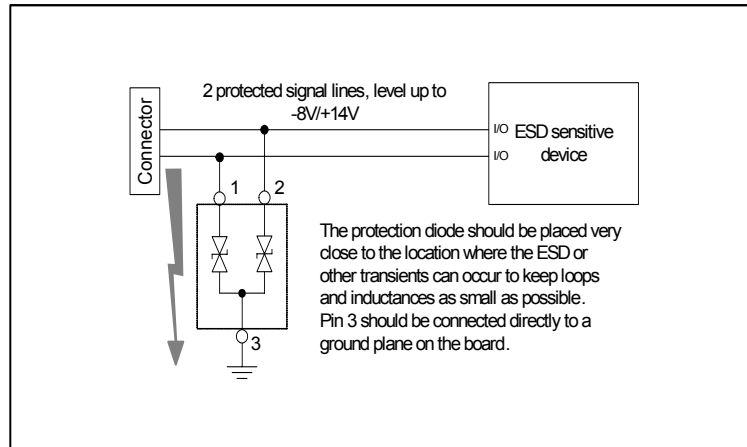
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



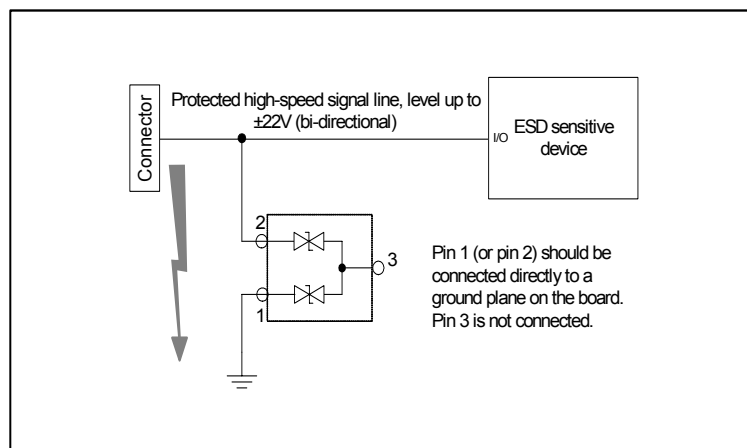
Application example ESD8V0L2B...

2 channels, bi-directional



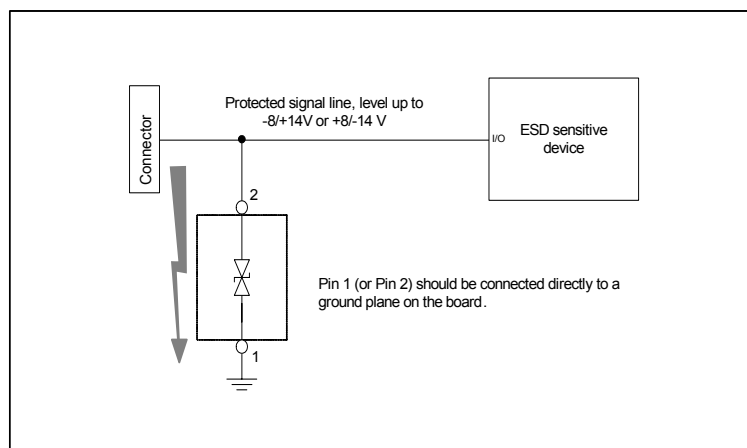
Application example ESD8V0L2B...

1 high-speed channel, bi-directional

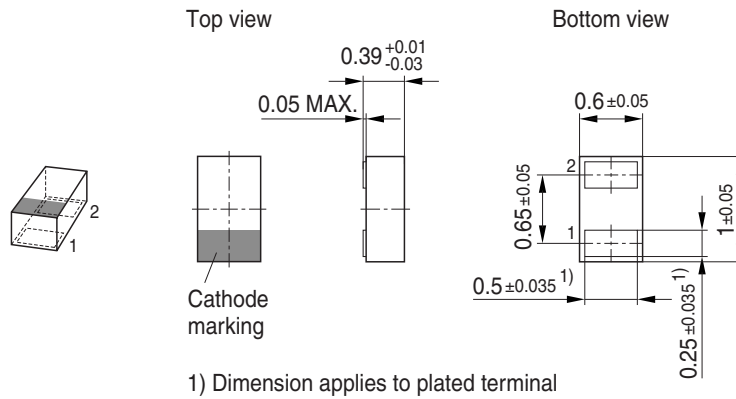


Application example ESD8V0L1B...

1 channel, bi-directional

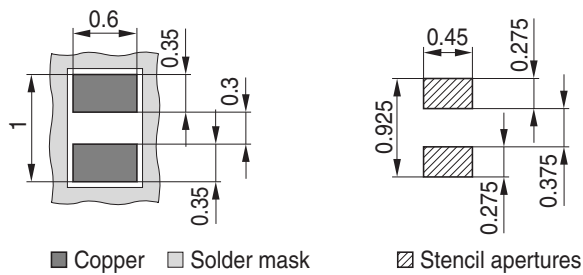


Package Outline

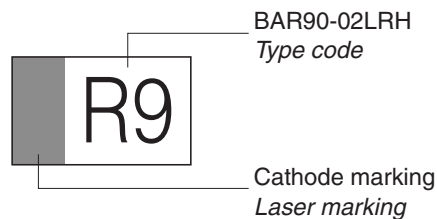


Foot Print

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



Marking Layout (Example)

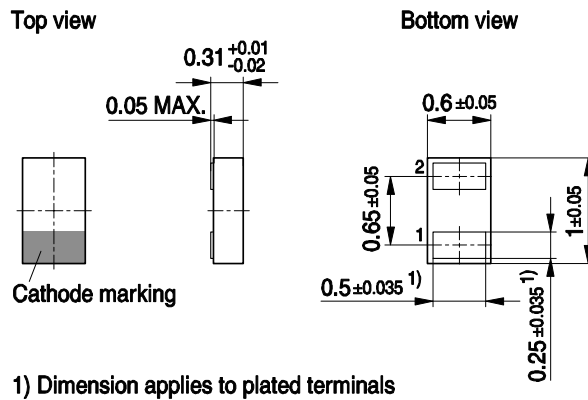


Standard Packing

Reel \varnothing 180 mm = 15.000 Pieces/Reel
 Reel \varnothing 330 mm = 50.000 Pieces/Reel (optional)

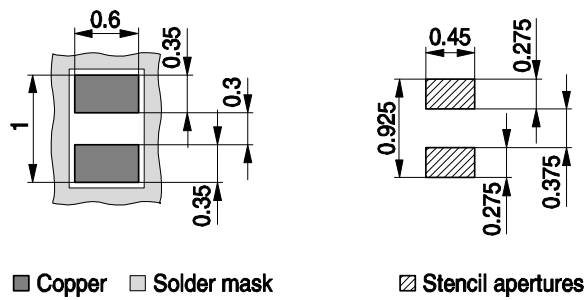


Package Outline

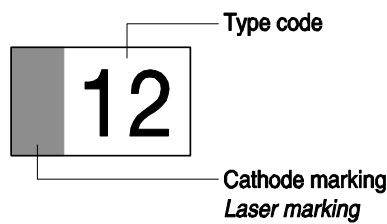


Foot Print

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

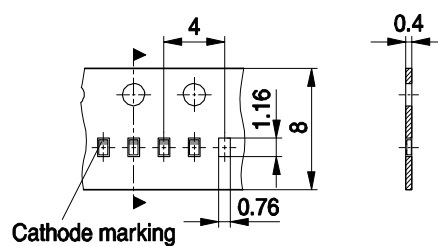


Marking Layout

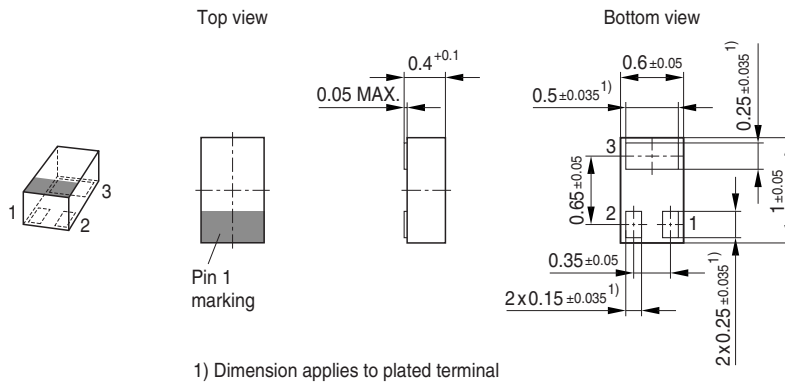


Standard Packing

Reel ø330 mm = 15.000 Pieces/Reel

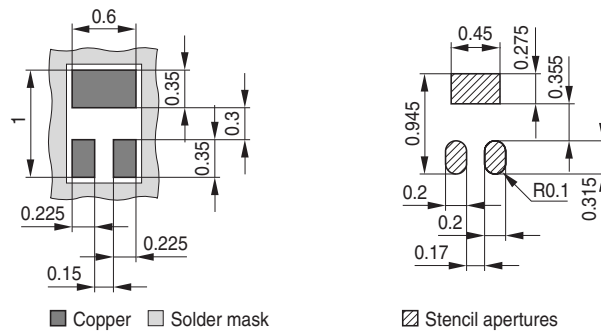


Package Outline

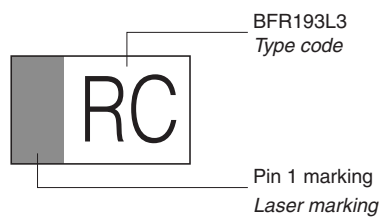


Foot Print

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

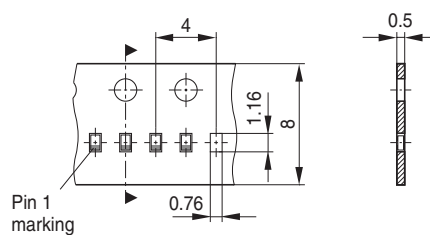


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (www.infineon.com).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Infineon](#) manufacturer:

Other Similar products are found below :

[BSM50GB60DLC](#) [FF600R17KF6C_B2](#) [DD260N12KHPSA1](#) [8500808-9](#) [DATA-94-5231](#) [FD401R17KF6C_B2](#) [FF401R17KF6C_B2](#)
[FF150R12MS4GBOSA1](#) [SPW21N50C3](#) [IRFS31N20D](#) [XMC1100T038X0064AAXUMA1](#) [FZ400R17KE3HOSA1](#) [IRF2807](#) [SPA07N60CFD](#)
[SPP04N50C3XKSA1](#) [IRL2910](#) [IRFS52N15DHR](#) [BGA231N7E6327XTSA2](#) [IRGP20B60PD](#) [TDA21310XUSA1](#) [IRF7832](#) [IRF7422D2](#)
[IRF7301](#) [IRFR3518](#) [TLE4296G V30](#) [IRFZ24N](#) [IDD05SG60C](#) [IRFP260N](#) [IRF7316](#) [IFX25001TCV10ATMA1](#) [IRFR3704](#) [IRLIZ44N](#)
[BTT6030-2EKA](#) [BSP299 H6327](#) [IFX2931GV33XUMA1](#) [XMC1301T016X0016AAXUMA1](#) [IPU60R2K0C6BKMA1](#) [IPP80N06S4L-07](#)
[BSR302N L6327](#) [IPU60R1K4C6](#) [IRF7805](#) [IRLR8103V](#) [BSL802SNH6327XTSA1](#) [IRFR3910](#) [IRFS59N10D](#) [IRFS59N10DTRR](#)
[EVALM113023645ATOBO1](#) [EVALM11302TOBO1](#) [FD1000R33HE3-K](#) [FF1200R17KE3_B2](#)