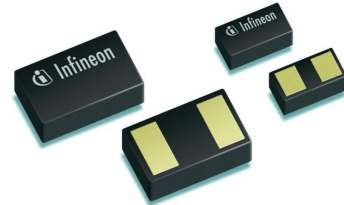
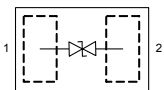


Bi-directional Ultra Low Capacitance TVS Diode

- ESD / transient protection of RF signal lines according to:
IEC61000-4-2 (ESD): $\pm 20\text{kV}$ (contact)
IEC61000-4-4 (EFT): 40 A (5 / 50 ns)
IEC61000-4-5 (Surge): 3 A (8 / 20 μs)
- Extremely small form factor down to 0.62 x 0.32 x 0.31 mm³
- Very low dynamic resistance
- Max. working voltage: $\pm 5.3\text{ V}$
- Extremely low capacitance: 0.2 pF typ.
- Very low reverse current < 1 nA typ.
- Very low series inductance down to 0.2 nH typ.
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


Applications

- ESD protection of sensitive RF signal lines
- RF antenna protection, frontend module
- GPS, mobile TV, FM radio, RKE, UWB


ESD0P2RF-02LRH
ESD0P2RF-02LS


Type	Package	Configuration	Marking
ESD0P2RF-02LRH	TSLP-2-17	1 line, bi-directional	T
ESD0P2RF-02LS	TSSLP-2-1	1 line, bi-directional	T

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

Parameter	Symbol	Value	Unit
ESD contact discharge ¹), contact	V_{ESD}	20	kV
Peak pulse current ($t_p = 8 / 20 \mu\text{s}$) ²)	I_{pp}	3	A
Operating temperature range	T_{op}	-55...125	°C
Storage temperature	T_{stg}	-55...150	

¹ V_{ESD} according to IEC61000-4-2

² I_{pp} according to IEC61000-4-5

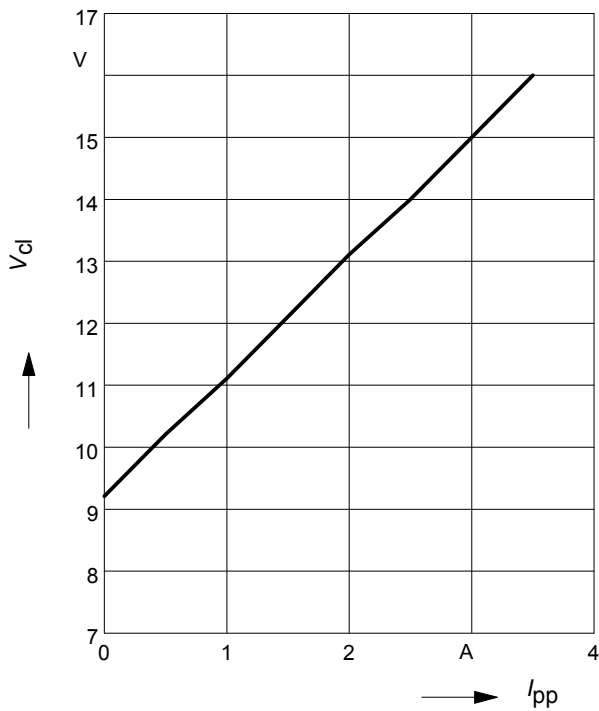
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Characteristics -					
Reverse working voltage	V_{RWM}	-5.3	-	5.3	V
Breakdown voltage	$V_{(\text{BR})}$				
$I_{(\text{BR})} = 1 \text{ mA}$, from pin 2 to 1		7	-	-	
$I_{(\text{BR})} = 1 \text{ mA}$, from pin 1 to 2		7	-	-	
Reverse current $V_R = 5.3 \text{ V}$	I_R	-	<1	50	nA
Clamping voltage	V_{CL}				V
$I_{\text{PP}} = 1 \text{ A}$, $t_p = 8/20 \mu\text{s}$ ¹)		-	11	17	
$I_{\text{PP}} = 3 \text{ A}$, $t_p = 8/20 \mu\text{s}$ ¹)		-	15	21	
Diode capacitance	C_T				pF
$V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$		-	0.23	0.4	
$V_R = 0 \text{ V}$, $f = 1 \text{ GHz}$		-	0.2	0.4	
Dynamic resistance ($t_p=30\text{ns}$)	R_D	-	1	-	Ω
Series inductance	L_S				nH
ESD0P2RF-02LS		-	0.2	-	
ESD0P2RF-02LRH		-	0.4	-	

¹ I_{pp} according to IEC61000-4-5

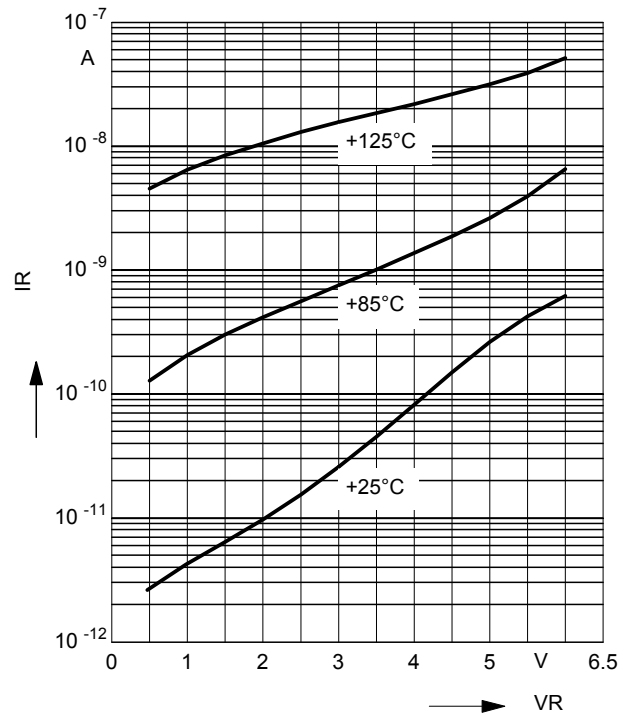
Clamping voltage, $V_{cl} = f(I_{pp})$

$t_p = 8 / 20 \mu s$



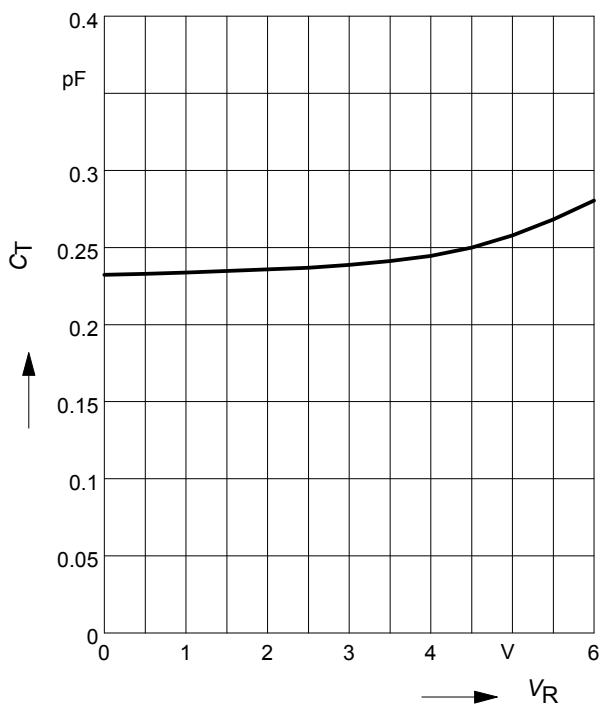
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



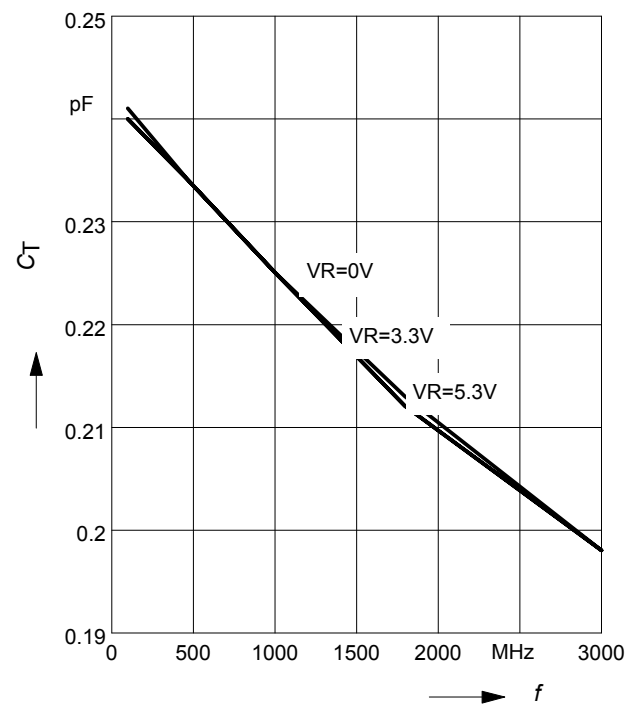
Diode capacitance $C_T = f(V_R)$

$f = 1 \text{ MHz}$



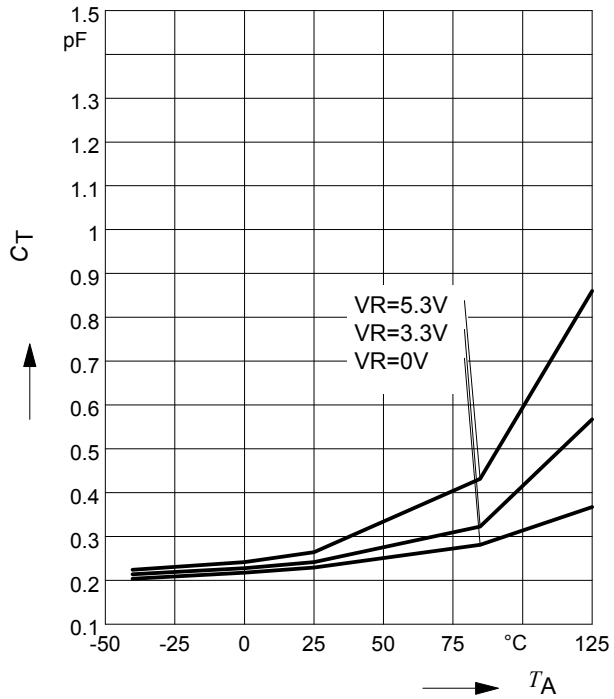
Line capacitance $C_T = f(f)$

$V_R = \text{Parameter}$



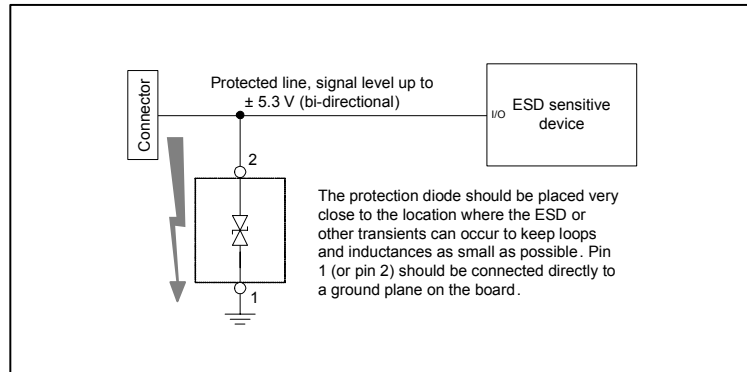
Line capacitance $C_T = f(T_A)$

$V_R =$ Parameter, $f = 1$ MHz

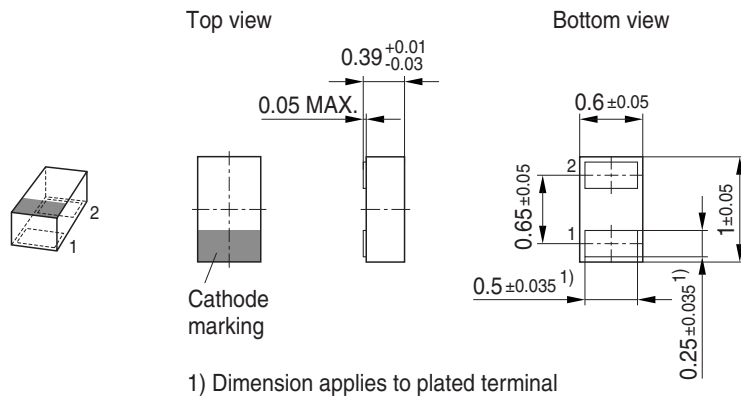


Application example ESD0P2RF...

1 line, bi-directional

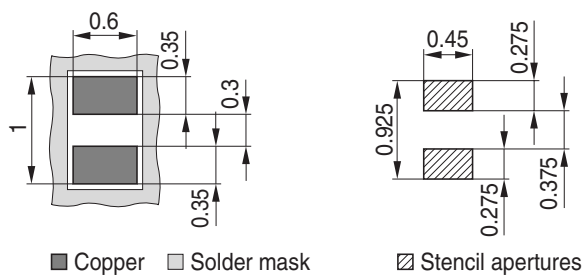


Package Outline

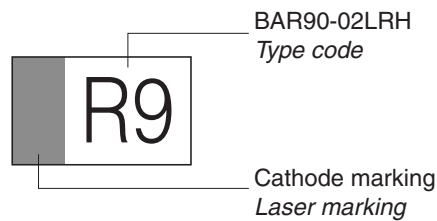


Foot Print

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

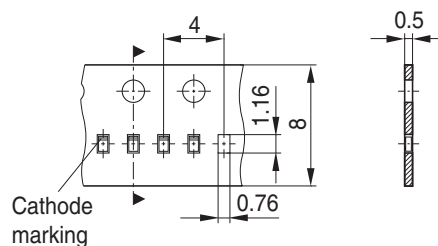


Marking Layout (Example)

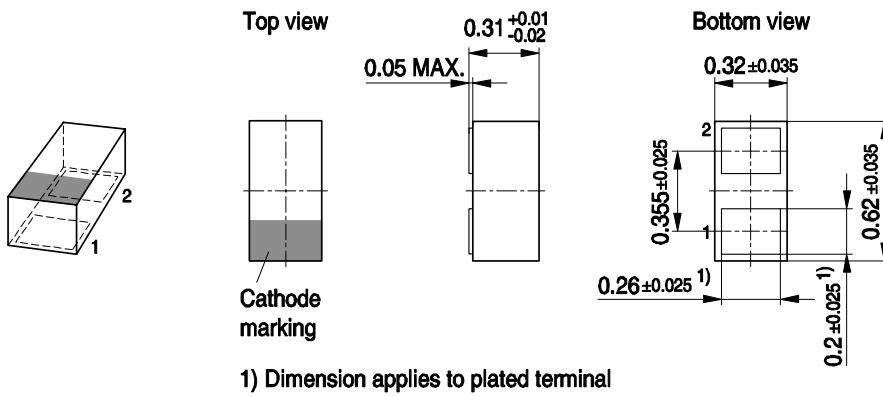


Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
 Reel ø330 mm = 50.000 Pieces/Reel (optional)

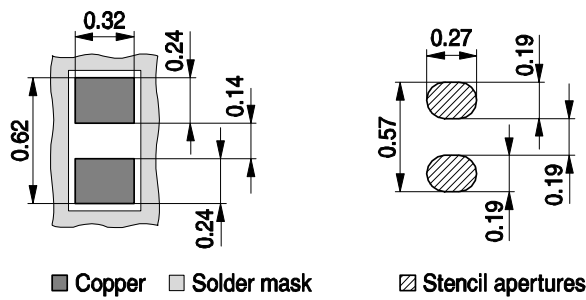


Package Outline

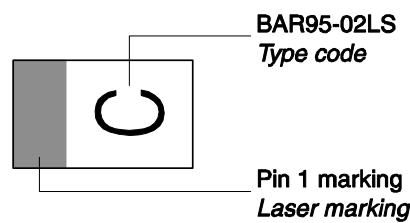


Foot Print

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

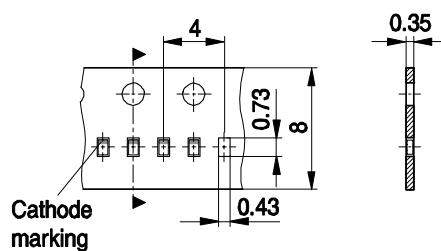


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel



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