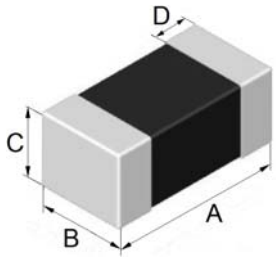
SMD Transient Voltage Suppressors TVSD0402ECAF-Series

1. Dimension



Series	A (mm)	B (mm)	C (mm)	D (mm)
0402	1.00±0.10	0.60±0.10	0.50±0.10	0.20±0.10

2. Part Numbering

TVSD 0402 ECA F 300 - 0R1 P □

A B C D E F G H

A: Series TVS Diode
B: Dimension
C: Category Code ESD Protection of Antenna
D: Product Grade General Grade
E: Voltage Code 300=Reverse Working Voltage 30V
F: Characteristic Code 0R1=Parasitic Capacitance 0.1 pF
G: Characteristic Unit Code P＝pF
H: Inner Code

3. Performance Characteristic(Ta=25℃)

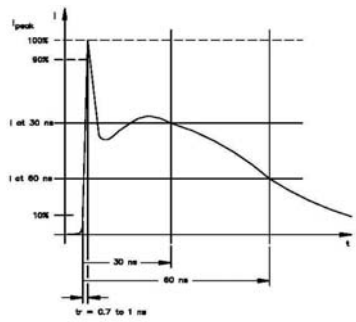
TAI-TECH Part Number	Working Voltage V_{DC}(V) max.	Typical ESD Trigger Voltage $V_{trigger}$(V) typ.	Typical ESD Clamping Voltage at 60ns V_C(V) typ.	Leakage Current (at Initial State) I_{LDC}(μA)	Leakage Current (after ESD Test) I_{LDCA}(μA)	Cap. Value at 1MHz (pF)
TVSD0402ECAF300-0R1P	30	300	30	< 0.1	< 1.0	0.05pF (max. 0.1pF)

Note:

1. The ESD clamping voltage was measured by IEC61000-4-2 level 4 and ±15KV contact, ±15KV air.
2. The leakage current was measured at V_{DC}.
3. The maximum ESD clamping voltage at 30ns can be within 100V.

3-1. Reference Data			
ITEM	Symbol	Value	Unit
Response time	T_{RISE}	<0.5	ns
Operation ambient temperature	T_{OPT}	-55~+125	℃
Storage temperature	T_{STG}	-55~+150	℃
Complies with standard	ESD	IEC61000-4-2 Level 4 and ±15KV Contact, ±15KV Air	
Body		Glass fiber epoxy resin	
End termination		Ag/Ni/Sn	
Packaging		Reel	
Complies with RoHs standard		Yes	
Lead content		<1000	ppm
Marking		None	

4. ESD Wave Form



IEC61000-4-2 Standards

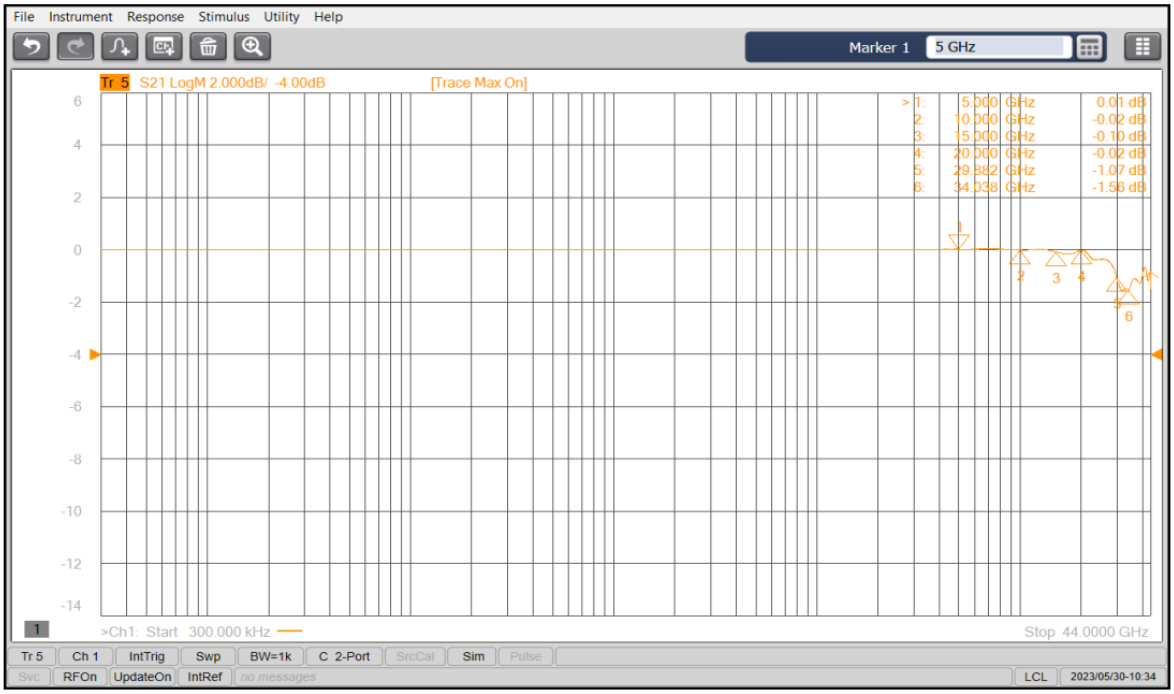
SEVERITY LEVEL	AIR DIRCHARGE	DIRECT DISCHARGE
1	2KV	2KV
2	4KV	4KV
3	8KV	6KV
4	15KV	8KV

IEC61000-4-2 compliant ESD current pulse waveform

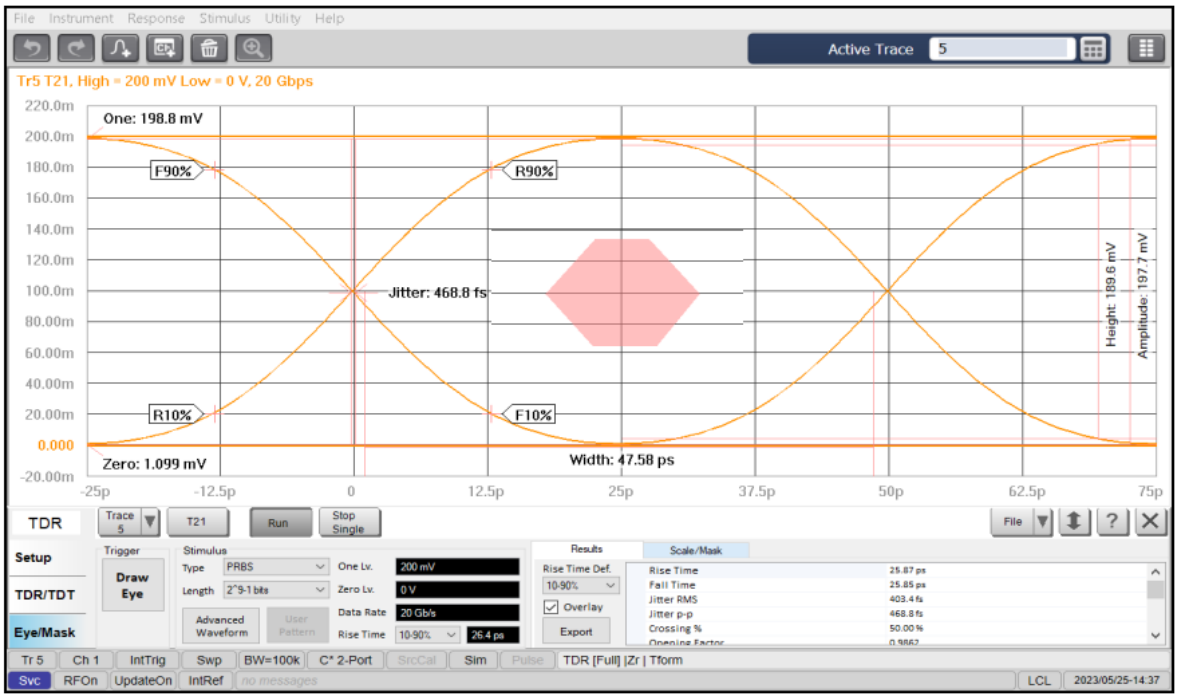
Pin Configuration

(TOP View)

5. Insertion Loss and Eye Pattern (20Gbps) Testing Results



Insertion loss



Eye pattern