KUUE033N062AZBCF

ESD Protection Diode

Features

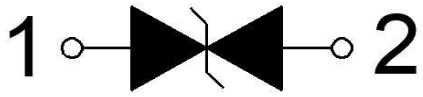
- 2-pin lead-less package
- Junction capacitance (Typ value: 0.09pF)
- Peak Pulse Current (8/20μs):5A
- IEC61000-4-2 (ESD) ±20kV (air), ±15kV (contact)
- Low clamping voltage
- Low leakage current
- Working voltages:3.3V
- RoHS Compliant

Mechanical Characteristics

- Package: DFN0603
- Lead Finish:Matte Tin
- Case Material: “Green” Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Tape Reel :15000pcs

Appearance & Symbol



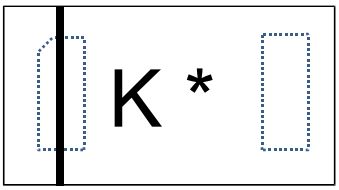


Bi-directional

Applications

- Antenna
- High-speed signal transmission port
- Notebooks and Handhelds, Audio Players, Peripherals
- Personal Digital Assistants, Portable Instrumentation
- Keypads, Side Keys, LCD Displays

Marking Information



K =Marking Code
* =Date Code

Absolute Maximum Ratings (T=25ºC, RH=45%-75%, unless otherwise noted)

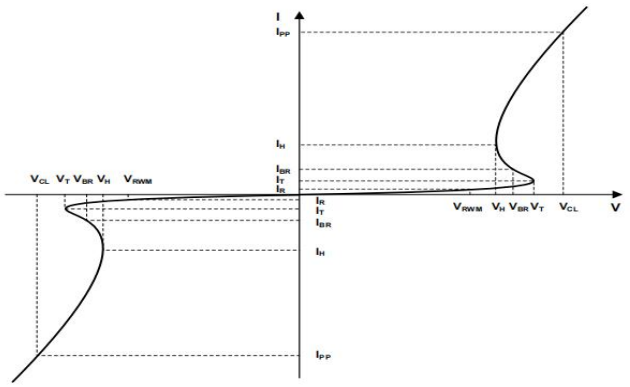
Parameters	Symbol	Value	Unit
Peak Pulse Current (8/20μs)	I_{PP}	5	A
ESD follow IEC 61000−4−2 (Air) ESD follow IEC 61000−4−2 (Contact)	V_{ESD}	±20 ±15	KV
Operating Temperature Range	T_J	−55 to +125	℃
Storage Temperature Range	Tstg	−55 to +150	℃

Electrical Characteristics (T=25ºC, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				±3.3	V
Reverse Breakdown Voltage	V_{BR}	I_R = 1mA	5.5		9	V
Reverse Leakage Current	I_R	V_R = 3.3V			0.1	uA
Holding Voltage	V_H	I_H= 100mA	5.2			V
Clamping voltage	V_C	I_{PP} = 1A,T_P=8/20us		6.5	8	V
Clamping voltage	V_C	I_{PP} = 5A,T_P=8/20us		8	12	V
Junction capacitance	C_J	V_R =0V,f = 1MHz		0.09	0.125	pF

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power



Typical Characteristics

FIG1：Power rating derating curve

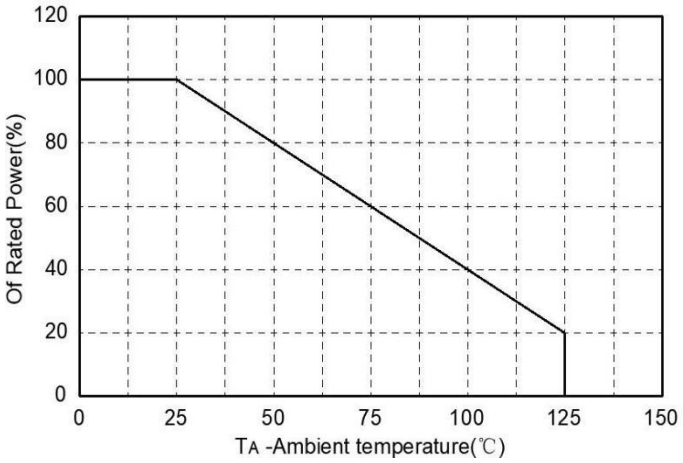
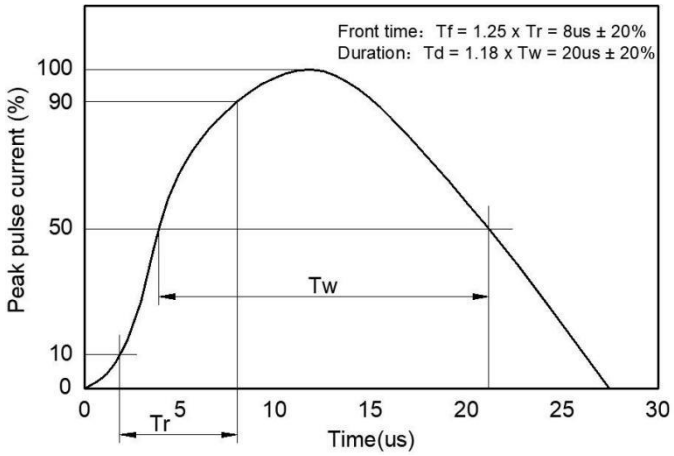
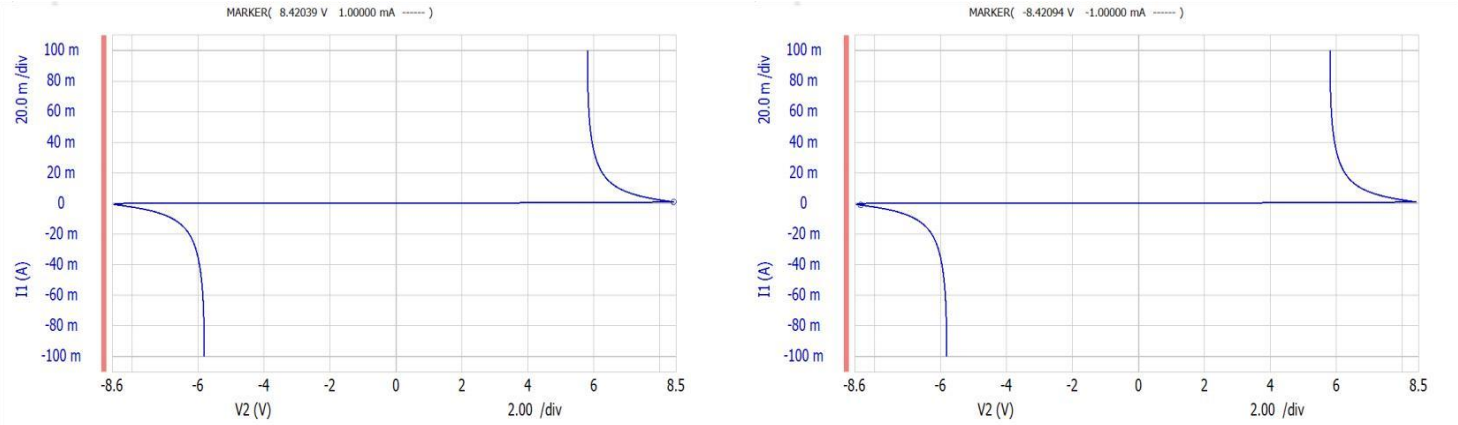
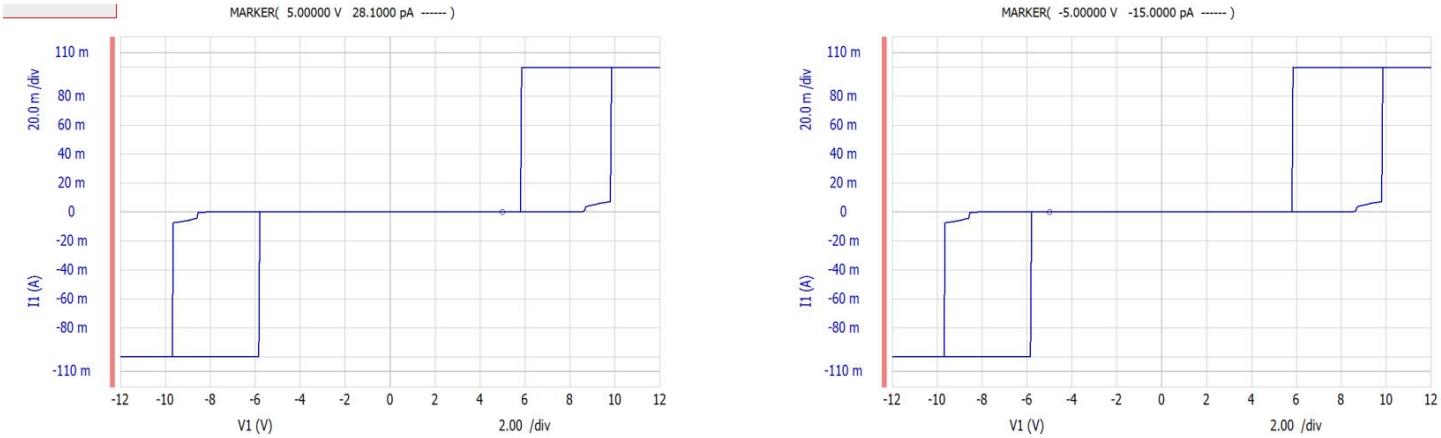


FIG2： pulse Waveform





I-V Curve current sweep from -100mA to 100mA

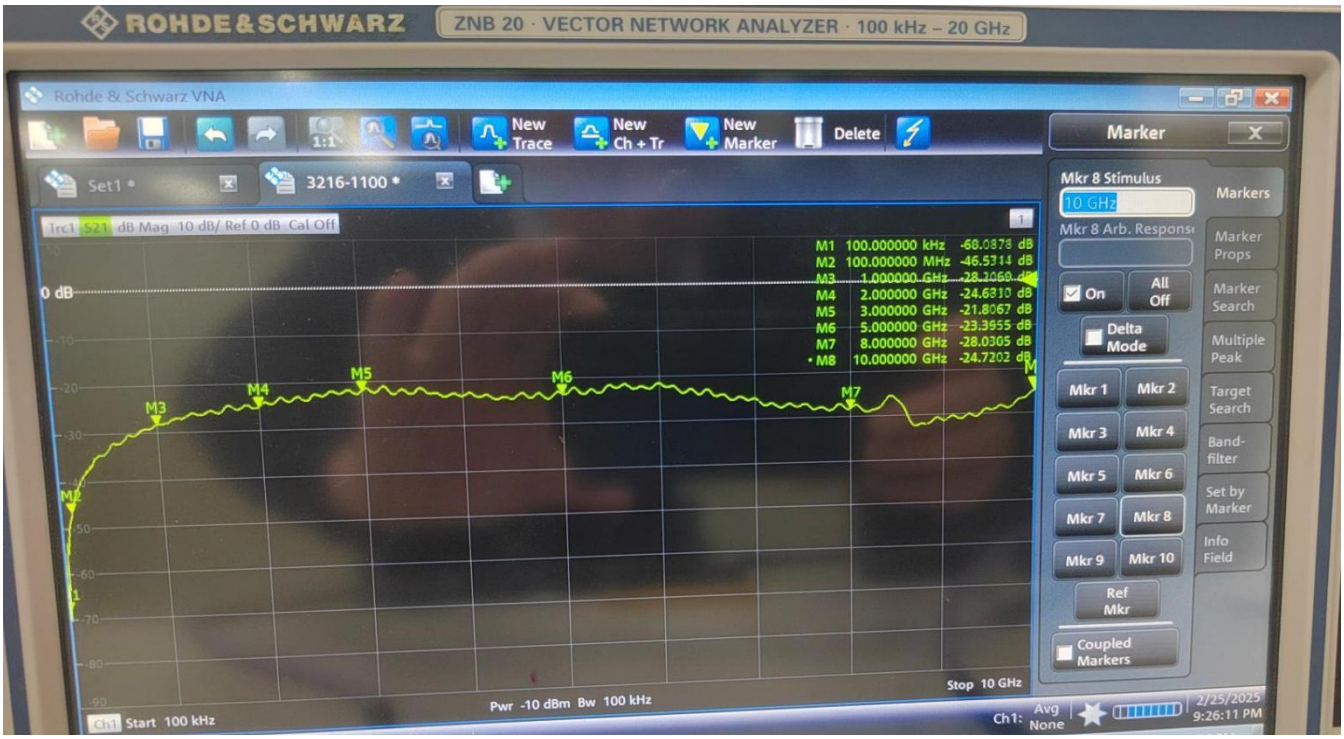


I-V Curve voltage sweep from -12V to 12V

Typical Characteristics



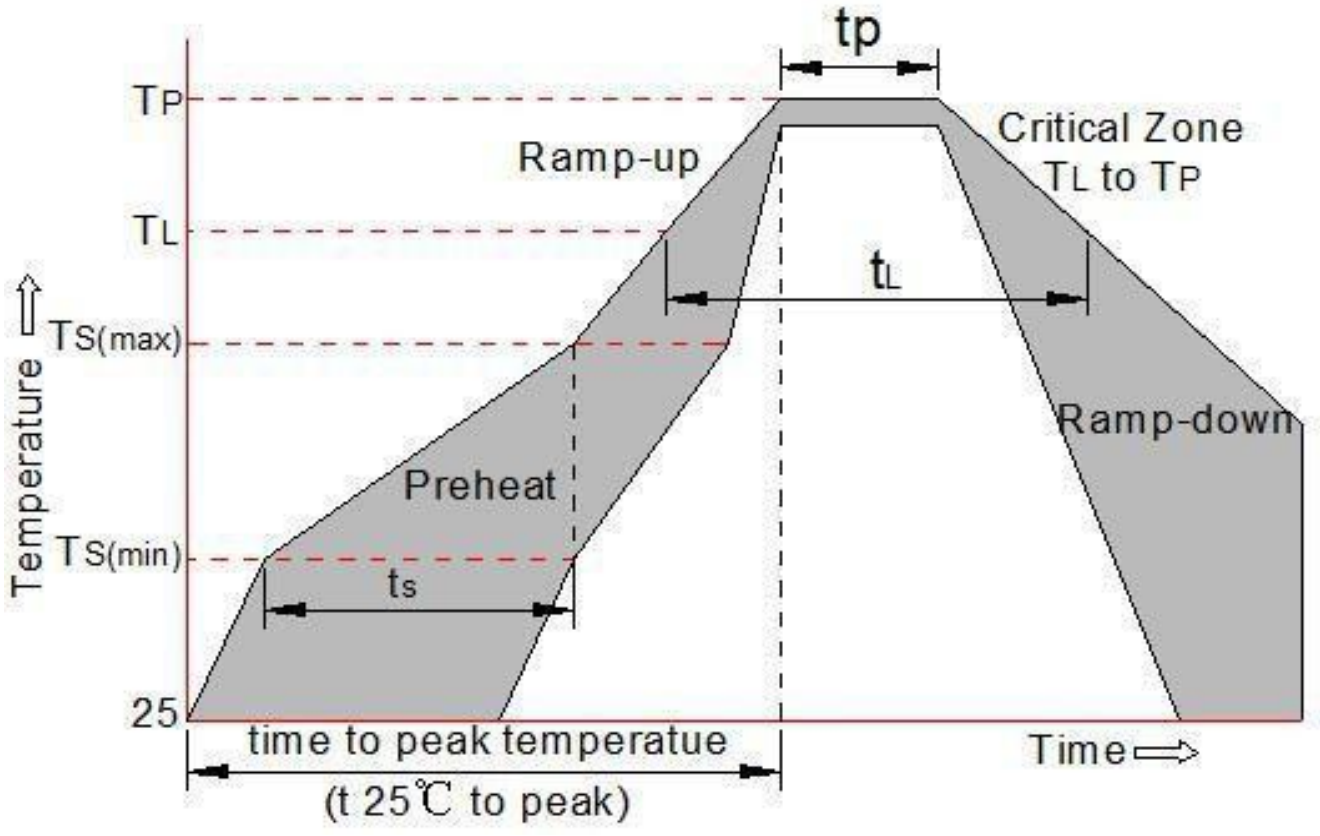
Test at 1.0 to 3.0 GHz



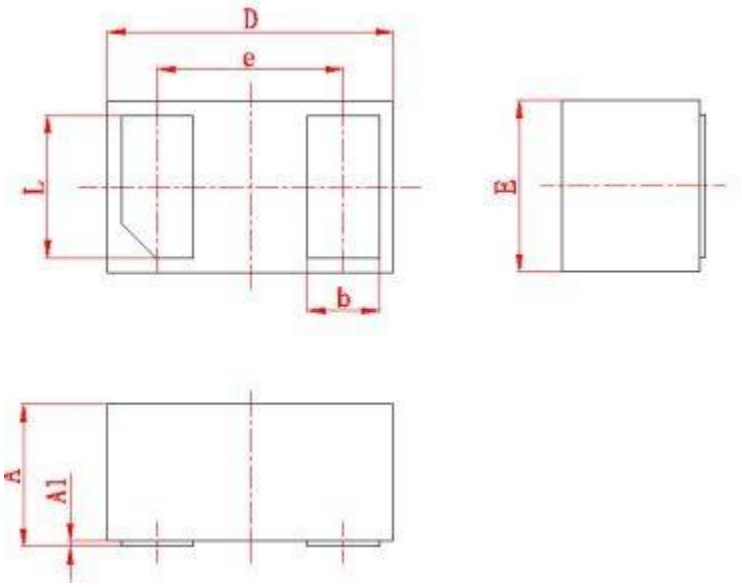
Insertion loss test at 100KHz to 10.0 GHz

Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃ of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

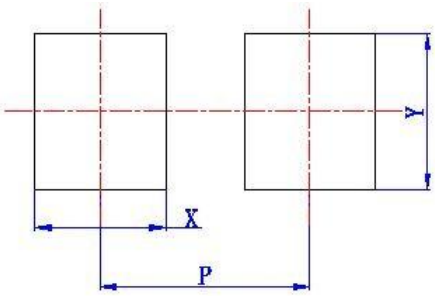


Package mechanical data



Symbol	Dimension in Millimeters	
	min	max
A	0.27	0.37
A1	0	0.05
D	0.55	0.65
E	0.25	0.36
e	(0.4)	
b	0.09	0.2
L	0.17	0.25

Suggested Land Pattern



Symbol	Dimension in Millimeters
	typ
X	(0.32)
Y	(0.40)
P	(0.47)