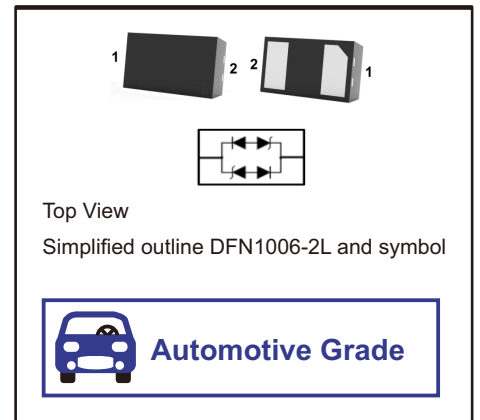




## Transient Voltage Suppressors for ESD Protection

### General Description

The AT-ESDBULC3V3DS2P3A is designed to protect voltage sensitive components that require ultra-low capacitance from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its low capacitance, it is suited for use in high frequency designs such as USB 2.0 high speed and antenna line applications



### FEATURES

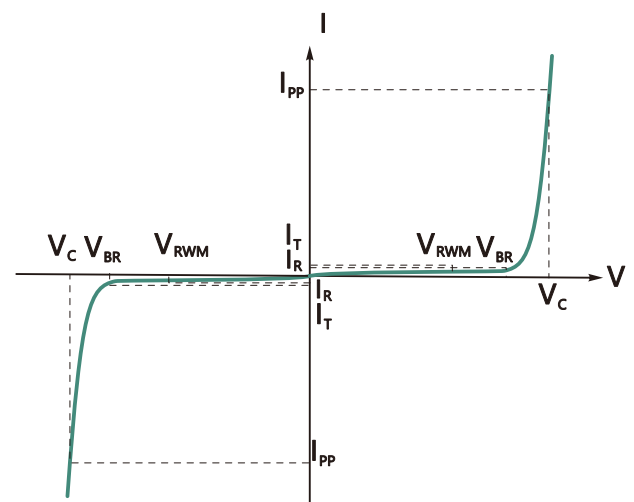
- Stand-off voltage: 3.3V Max.
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 30\text{kV}$  (contact)  $\pm 30\text{kV}$  (air)  
IEC61000-4-5(Lightning): 20A (8/20 $\mu\text{s}$ )
- Ultra-low capacitance:  $C_j = 0.6\text{pF}$  typ.
- Low leakage current
- Qualified to AEC-Q101 Standards for High Reliability

### Applications

- Computers and peripherals;
- Audio and video equipment;
- Communication systems;
- Portable electronics.

### Electronics Parameter

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





**MAXIMUM RATINGS(Ta=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μS)	Ppk	350	W
Peak Pulse Current	Ipp	20	A
ESD per IEC 61000-4-2(Air)	VESD	±30	KV
ESD per IEC 61000-4-2(Contact)		±30	
Operating Temperature Range	TJ	-40~+125	°C
Storage Temperature Range	Tstg	-55~+150	°C

**ELECTRICAL CHARACTERISTICS(Ta=25°C unless otherwise noted)**

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	VRWM				3.3	V
Breakdown Voltage	VBR	IT=1mA	4	5	6	V
Reverse Leakage Current	IR	VRWM=3.3V			0.2	μA
Clamping Voltage	VC	IPP=1A, tp=8/20μs		7	9	V
		IPP=20A, tp=8/20μs		16	20	V
Junction Capacitance	Cj	VR=0V , f=1MHz		0.6	0.9	pF



Fig 1. Junction Capacitance vs. Reverse Voltage

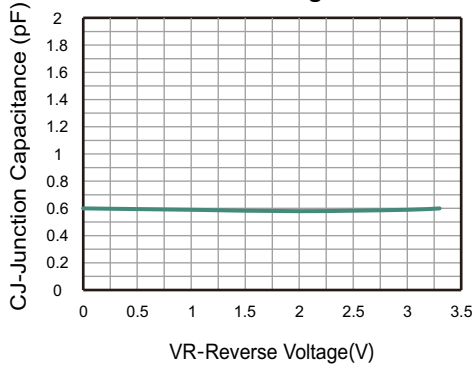


Fig 2. Clamping Voltage vs. Peak Pulse Current

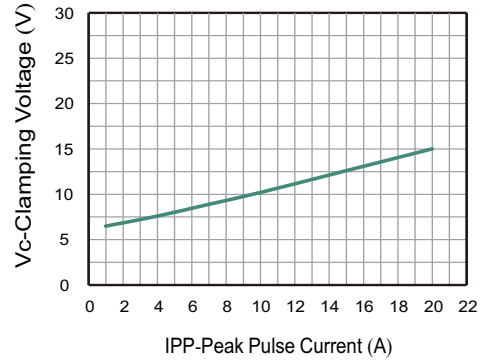


Fig 3. Peak Pulse Power vs. Pulse Time

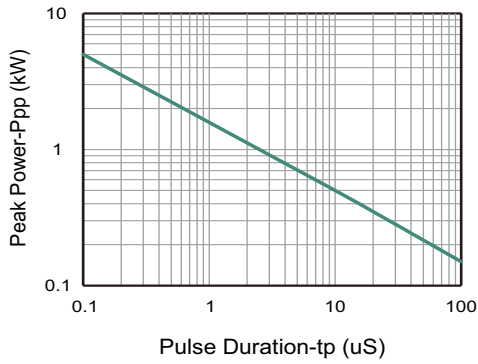


Fig 4. 8 X 20us Pulse Waveform

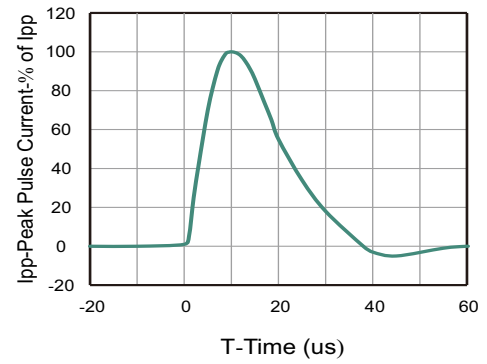
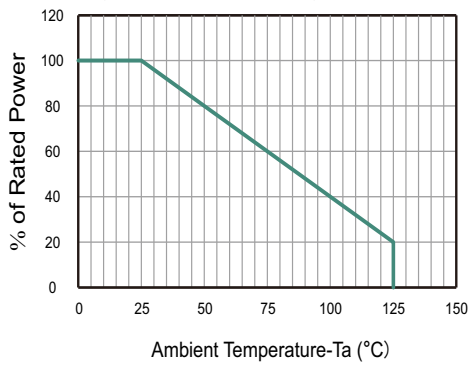
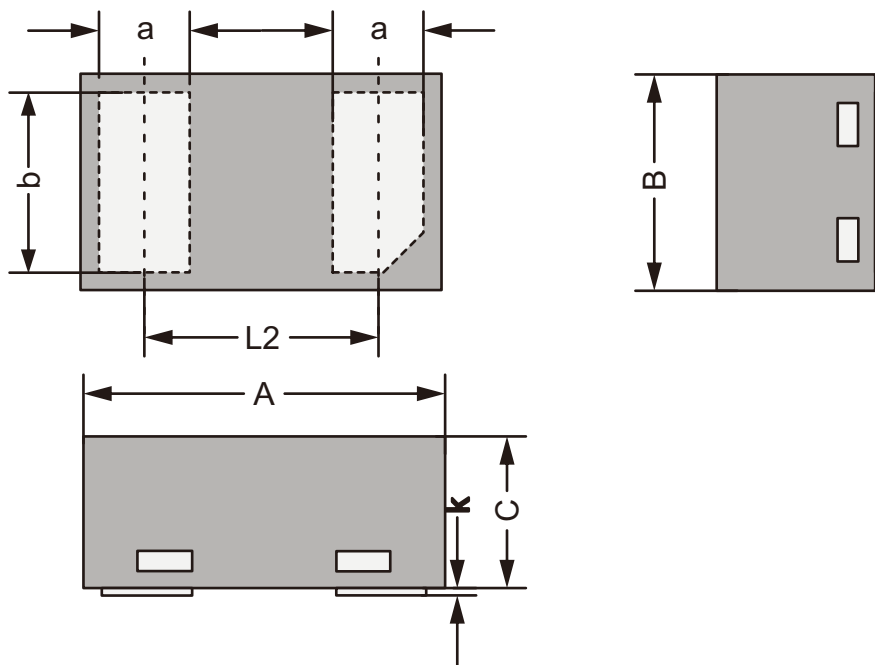


Fig 5. Power Derating Curve





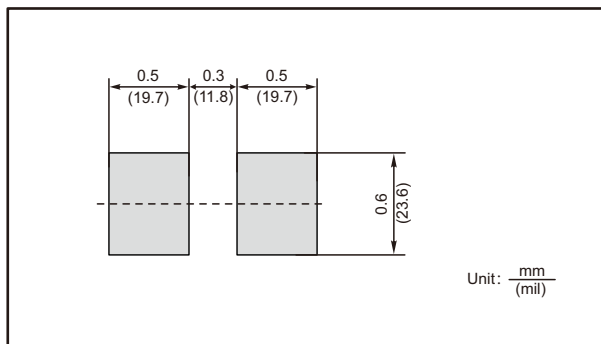
DFN1006-2L Package Outline Dimensions



DFN1006-2L mechanical data

UNIT		A	B	C	L2	a	b	k
mm	max	1.05	0.65	0.55	0.65 REF	0.29	0.54	0.03
	min	0.95	0.55	0.45		0.21	0.46	0.00
mil	max	41.34	25.59	21.65	25.59 REF	11.42	21.26	55.12
	min	37.40	21.65	17.72		8.27	18.11	1.18

The recommended mounting pad size



Marking

Type number	Marking code
ESDBULC3V3DS2P3A	LL



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