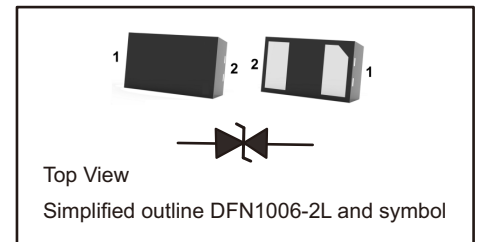


Transient Voltage Suppressors for ESD Protection

FEATURES

- Stand-off voltage: 4.5V 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): 100A (8/20 μs)
- Low leakage current



Applications

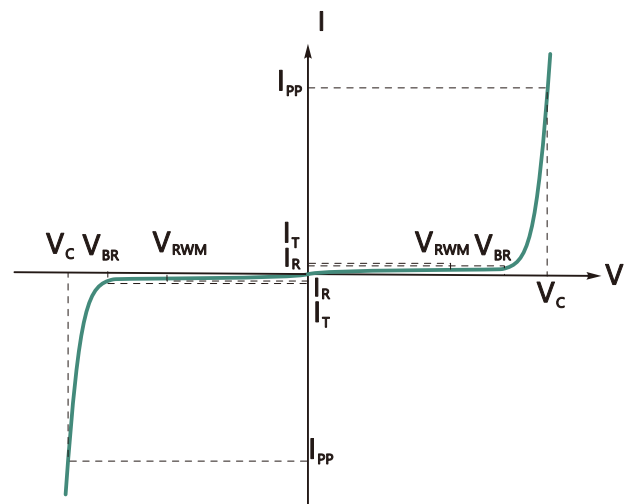
- Computers and peripherals;
- Audio and video equipment;
- Communication systems;
- Portable electronics.

General Description

The ESDB4V5DS2PA 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

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	900	W
Peak Pulse Current	Ipp	100	A
ESD per IEC 61000-4-2(Air)	VESD	±30	KV
ESD per IEC 61000-4-2(Contact)		±30	
Operating Temperature Range	TJ	-55~+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				4.5	V
Breakdown Voltage	VBR	IT=1mA	4.8	5.3	6.3	V
Reverse Leakage Current	IR	V=VRWM, Ta=25°C			0.5	μA
Clamping Voltage	VC	IPP=50A, tp=8/20μs		7.0	8.5	V
		IPP=100A, tp=8/20μs		8.5	10.5	
Junction Capacitance	Cj	VR = 0V, f = 1MHz		200	300	pF



Typical Characteristics

Fig.1 Clamping Voltage vs. Peak Pulse Current

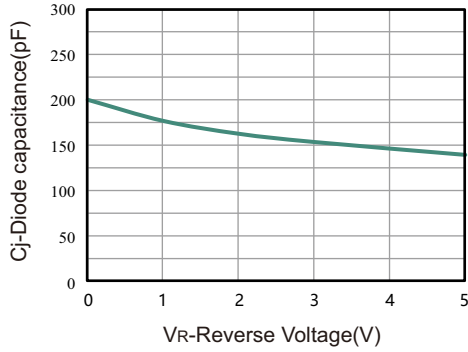


Fig.2 Clamping Voltage vs. Peak Pulse Current

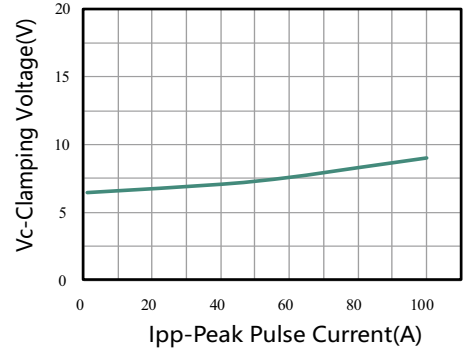


Fig.4 Non-repetitive peak pulse power vs. Pulse time

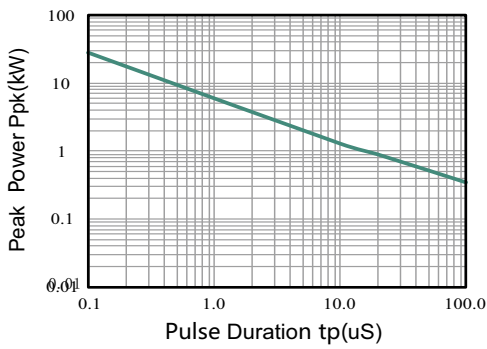
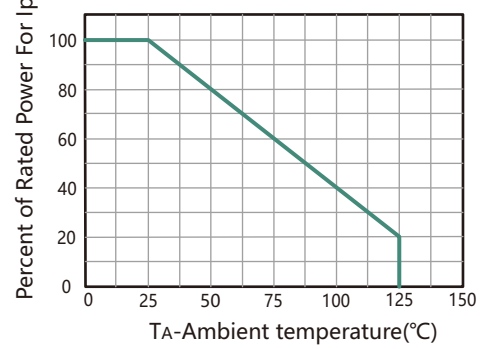
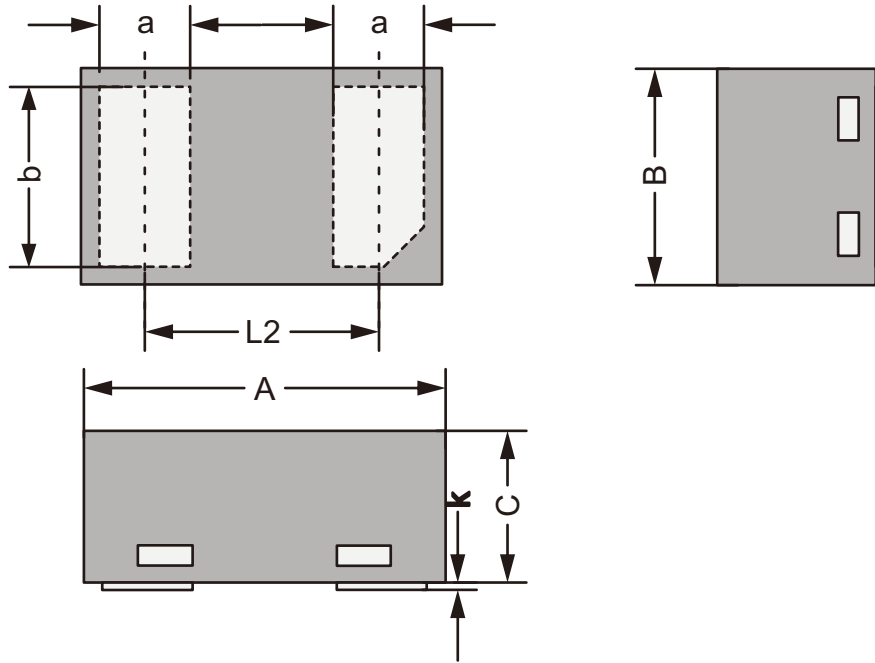


Fig.4 Power Derating Curve





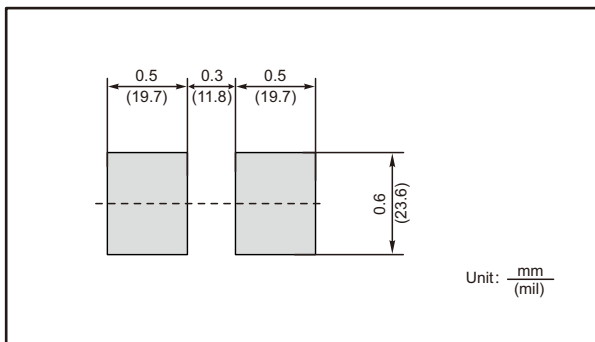
DFN1006-2L Package Outline Dimensions



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
ESDB4V5DS2PA	V45



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