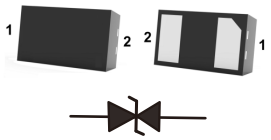
Transient Voltage Suppressors for ESD Protection



Top View

Simplified outline DFN1006-2L and symbol

FEATURES

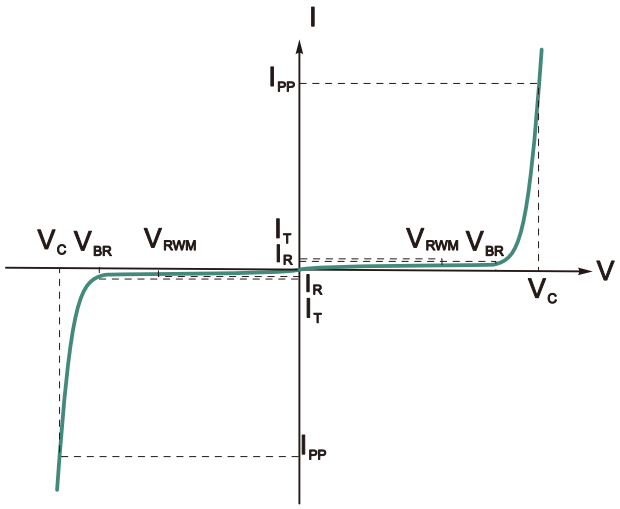
- Stand-o ffvoltage: ±7V Max
- Transient protection for each line according to
  IEC61000-4-2(ESD): ±30kV (contact)
  IEC61000-4-4 (EFT): 40A (5/50ns)
  IEC61000-4-5(surge): 6A (8/20μs)
- Ultra-low capacitance: CJ = 10pF typ
- Low leakage current:
- Low clamping voltage: VCL =12.0V typ. @ IPP = 16A (TLP)
- Solid-state silicon technology
- HF Product

Applications

- Cellular handsets
- USB VBUS and CC Line Protection
- Microphone Line Protection
- GPIO Protection

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 Viltage @ I_T	V_{BR}
Test Current	I_T



Absolute Maximum Ratings And Characteristics （Ta = 25 °C）

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μS)	P_{pk}	78	W
Peak Pulse Current	Ipp	6.0	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	±30 ±30	KV
Operating Temperature Range	T_J	-55 to +125	℃
Storage Temperature Range	T_{stg}	-55 to +150	℃

Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse stand-o ffvoltage	V_{RWM}				7.0	V
Breakdown Voltage	V_{BR}	I_T=1mA	7.2			V
Reverse Leakage Current	I_R	V_{RWM}=7V,Ta=25℃			0.1	uA
Clamping Voltage	V_C	I_{PP}=1A,tp=8/20us I_{PP}=6A,tp=8/20us I_{PP}=16A,tp=100ns		 12	10 13	V
Junction Capacitance	Cj	V_R=0V,f=1HMz V_R=7V,f=1HMz			13 11	pF

Notes：
TLP parameter: Z0 = 50Ω, tp = 100ns, tr = 2ns, averaging window from 60ns to 80ns.
RDYN is calculated from 4A to 16A.

Fig.1 Pulse Waveform

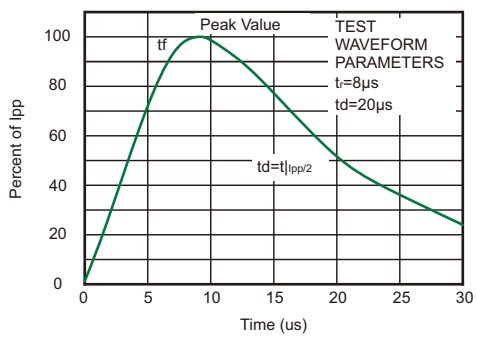
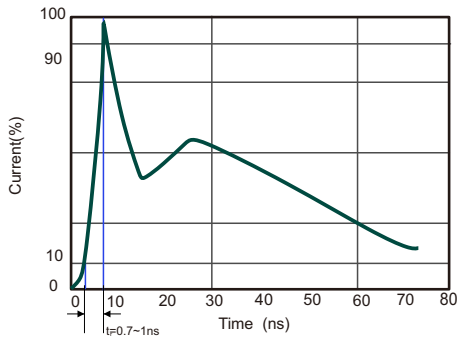
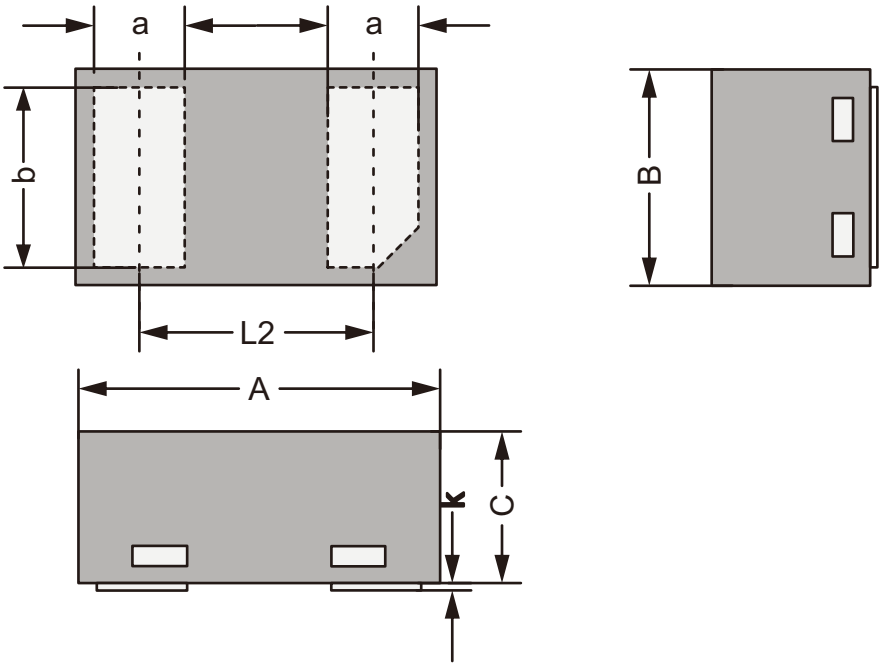


Fig.2 Contact discharge current waveform per IEC61000-4-2



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

Marking

Type number	Marking code
ESDB7V0DS2A	7A

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