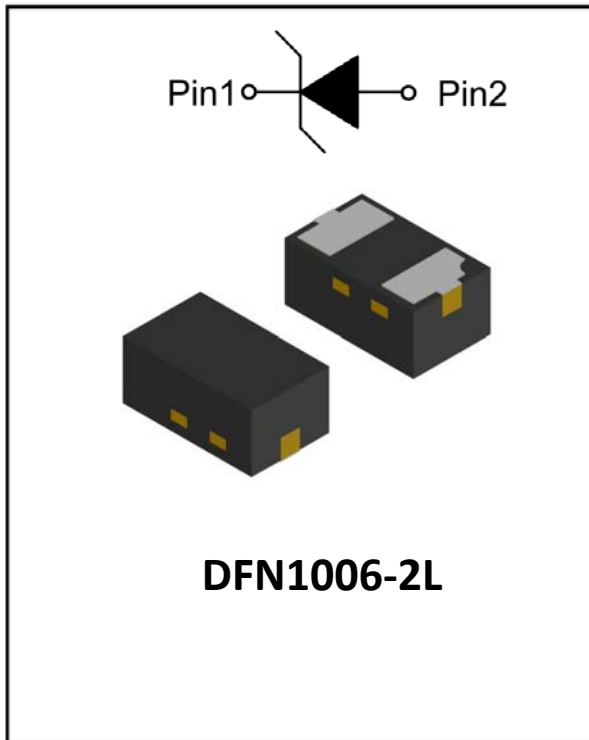


## 1-Line, Uni-directional, Transient Voltage Suppressor



### Features

- Ultra small package
- Stand-off voltage: 2.1V Max
- Transient protection for each line according to  
IEC61000-4-2(ESD):  $\pm 8\text{kV}$  (contact)  
IEC61000-4-5(surge): 14A (8/20 $\mu\text{s}$ )
- Low leakage current
- Low clamping voltage
- RoHS Compliant

### Applications

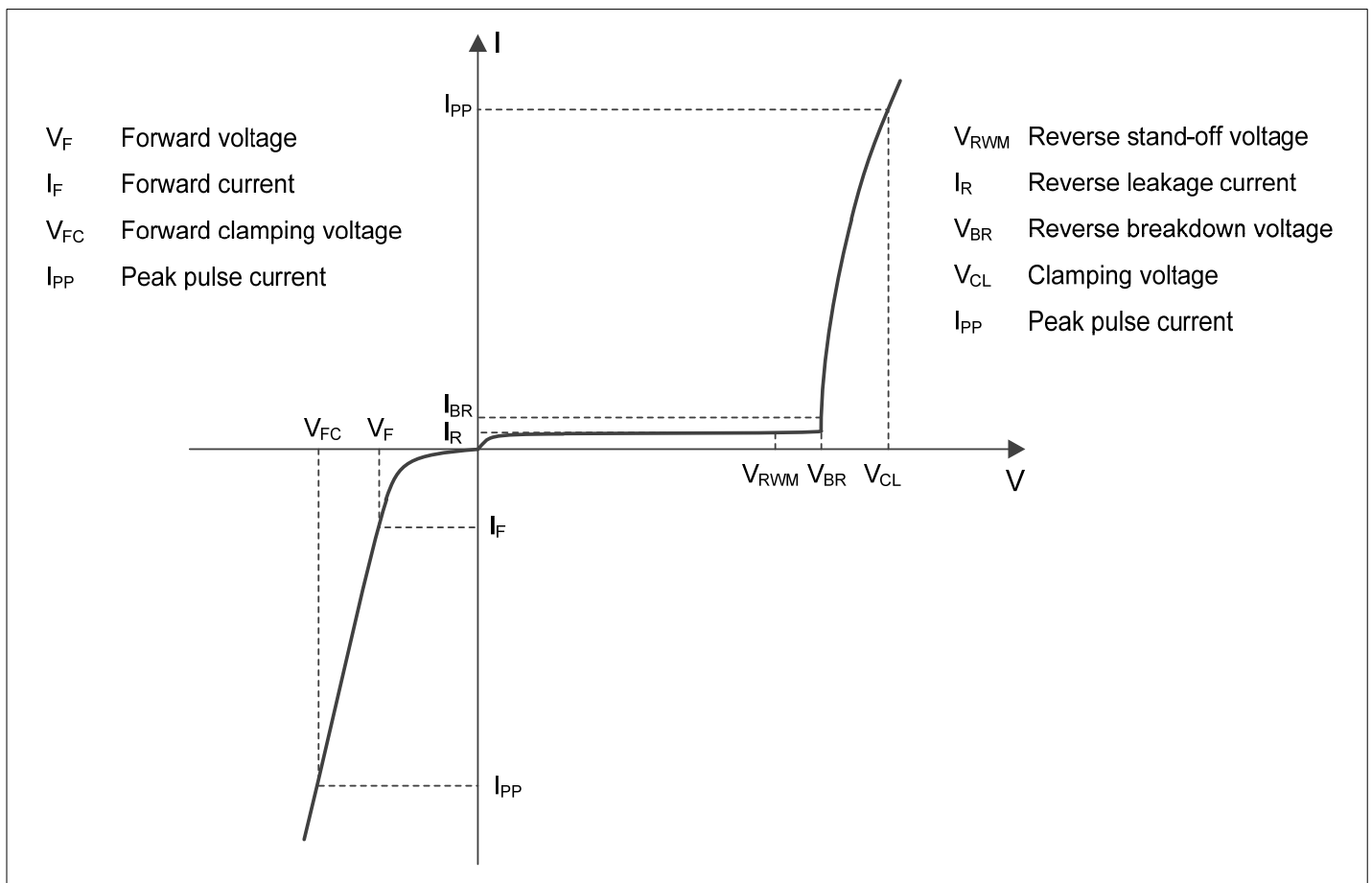
- Power supply protection
- Power management

### Mechanical Characteristics

- Package: DFN1006-2L
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Marking Information: See Below



### ■ Definitions of electrical characteristics





# ESD2V1L

## ■Absolute Maximum Ratings (Ta=25°C unless otherwise specified)

PARAMETER	SYMBOL	Rating	UNIT
Peak pulse power ( $t_p = 8/20\mu s$ )	$P_{pk}$	126	W
Peak pulse current ( $t_p = 8/20\mu s$ )	$I_{PP}$	14	A
ESD according to IEC61000-4-2 air discharge	$V_{ESD}$	$\pm 30$	KV
ESD according to IEC61000-4-2 contact discharge		$\pm 8$	KV
Junction temperature	$T_J$	-55~125	°C
Storage temperature	$T_{STG}$	-55~150	°C

## ■Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse maximum working voltage	$V_{RWM}$	V				2.1
Reverse leakage current	$I_R$	$\mu A$	$V_{RWM} = 2.1V$			1
Reverse breakdown voltage	$V_{BR}$	V	$I_{BR} = 1mA$	2.5		6
Forward voltage	$V_F$	V	$I_F = 10mA$	0.2		1.25
Clamping voltage <sup>3)</sup>	$V_{CL}$	V	$I_{PP} = 1A, t_p = 8/20\mu s$		3.7	5
		V	$I_{PP} = 16A, t_p = 8/20\mu s$		7.5	9.5
Junction capacitance	$C_J$	pF	$V_R = 0V, f = 1MHz$		21	

(1). TLP parameter:  $Z_0 = 50\Omega$ ,  $t_p = 100ns$ ,  $t_r = 2ns$ , averaging window from 60ns to 80ns.  $R_{DYN}$  is calculated from 4A to 16A.

(2). Contact discharge mode, according to IEC61000-4-2.

(3). Non-repetitive current pulse, according to IEC61000-4-5.

## ■Ordering Information (Example)

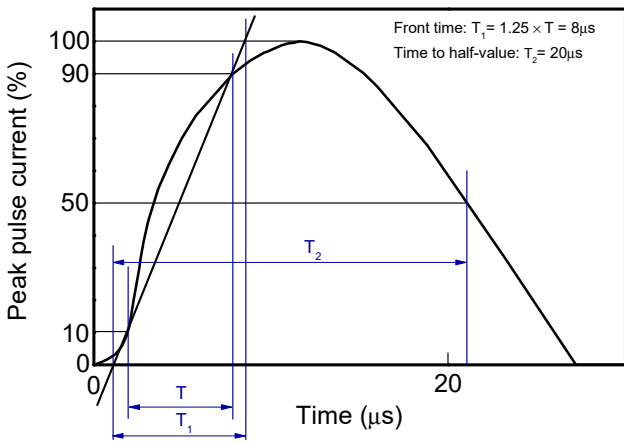
PREFERED P/N	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ESD2V1L	Approximate 0.9	10000	100000	400000	Tae& reel



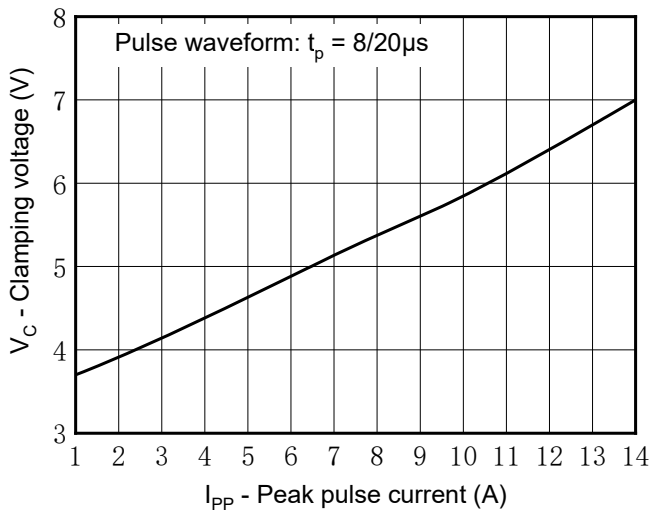
# ESD2V1L

## ■ Typical Performance Characteristics (Ta=25°C unless otherwise Specified)

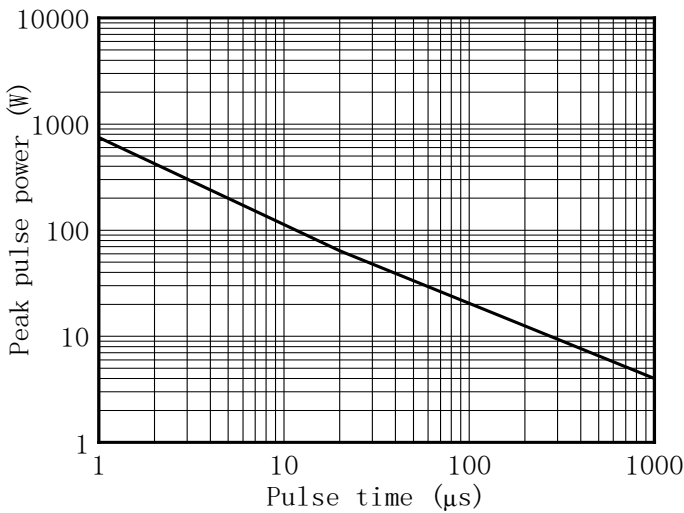
### 8/20μs waveform per IEC61000-4-5



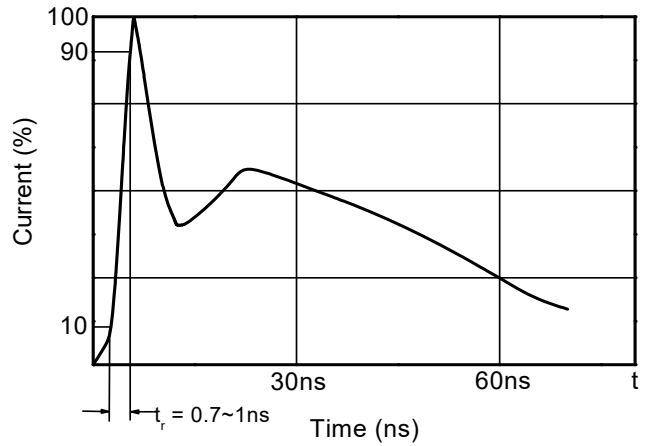
### Clamping voltage vs. Peak pulse current



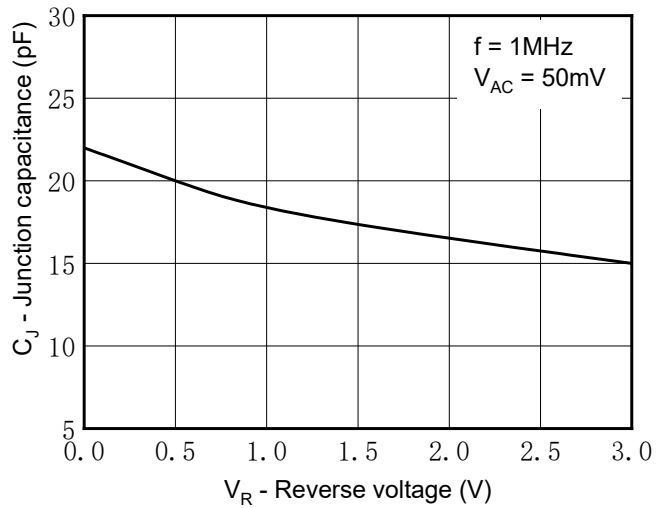
### Non-repetitive peak pulse power vs. Pulse time



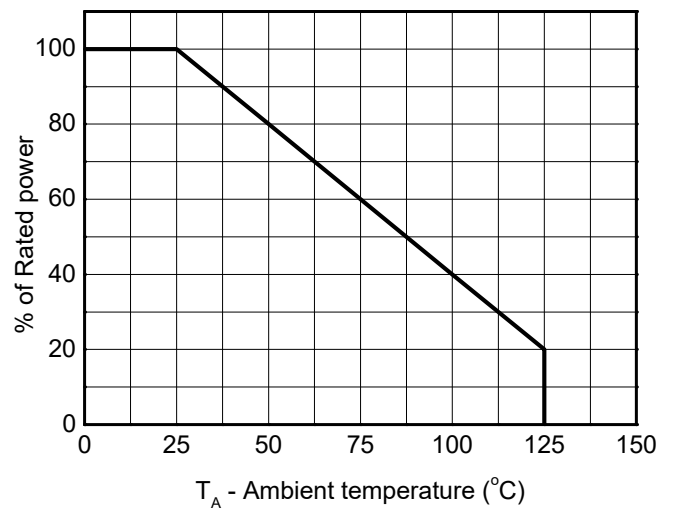
### Contact discharge current waveform per IEC61000-4-2



### Capacitance vs. Reverse voltage

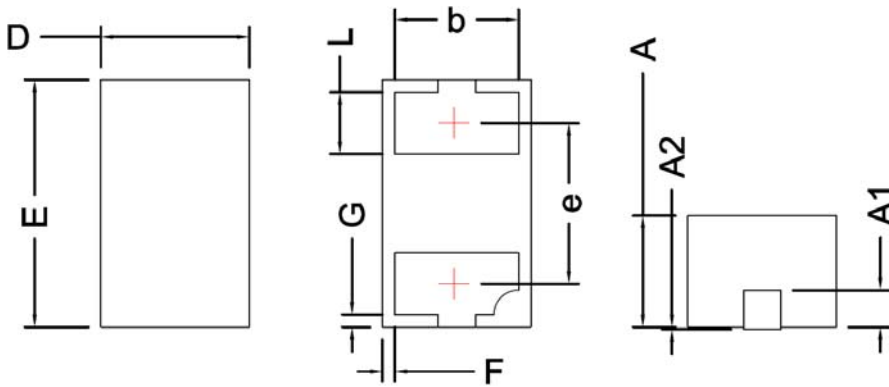


### Power derating vs. Ambient temperature



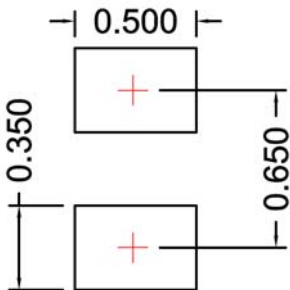


## ■ Outline Dimensions



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
D	0.50	0.60	0.70
E	0.90	1.00	1.10
A	0.35	0.45	0.55
A1	0.15 BSC		
A2			0.10
F	0.005		
G	0.005		
L	0.15	0.25	0.35
b	0.41	0.50	0.59
e	0.65 BSC		

## ■ Recommend land pattern (Unit:mm)



Unit: mm

### Notes:

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met



## ESD2V1L

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