

## DFN1006-2L Plastic-Encapsulate ESD Protection Diodes

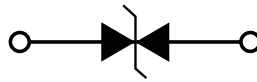
### Features

- Low leakage current
- Low clamping voltage
- IEC 61000-4-2 (ESD Air):  $\pm 30\text{kV}$
- IEC 61000-4-2 (ESD Contact):  $\pm 30\text{kV}$
- IEC 61000-4-5 (Lightning 8/20 $\mu\text{s}$ ): 45A

### Applications

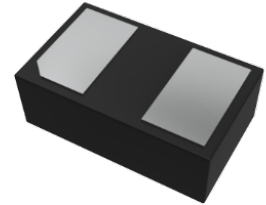
- Cellular Handsets and Accessories
- Notebooks and Handhelds, Audio Players, Peripherals
- Personal Digital Assistants, Portable Instrumentation
- Keypads, Side Keys, LCD Displays

### Function Diagram



**Reverse Working Voltage**  
4.5V Max.  
**Normal capacitance**  
60pF(Typ.)

DFN1006-2L

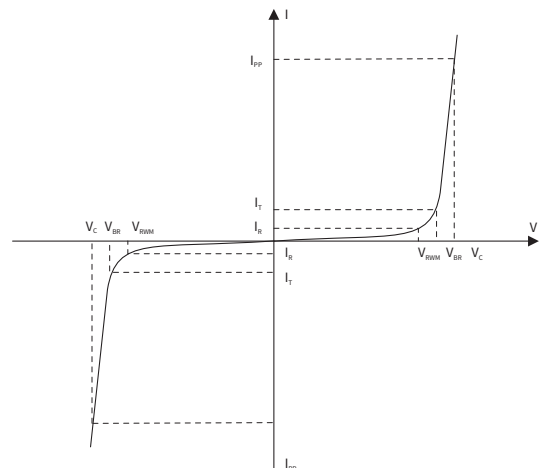


### Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>ESD</sub>	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2( Air )	$\pm 30$	KV
		ESD per IEC 61000-4-2( Contact)	$\pm 30$	KV
P <sub>PP</sub>	Peak Pulse Power	tp = 8/20 $\mu\text{s}$	560	W
I <sub>PP</sub>	Rated Peak Pulse Current	tp = 8/20 $\mu\text{s}$	45	A
T <sub>J</sub>	Operating Junction Temperature Range	—	-55 to +125	°C
T <sub>STG</sub>	Operating Junction Temperature Range	—	-55 to +150	°C

### Electrical Parameter

SYMBOL	PARAMETER
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>PP</sub>	Peak Pulse Current
I <sub>T</sub>	Test Current
I <sub>R</sub>	Reverse Leakage Current @ VRWM
V <sub>RWM</sub>	Peak Reverse Working Voltage
P <sub>PP</sub>	Peak Pulse Power Dissipation
C <sub>J</sub>	Junction Capacitance @ V <sub>R</sub> =0V, f=1MHz
I <sub>F</sub>	Forward Current
V <sub>F</sub>	Forward Voltage @ I <sub>F</sub>



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

PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Peak Reverse Working Voltage	$V_{RWM}$	$T_a=25^\circ\text{C}$	—	—	4.5	V
Breakdown Voltage	$V_{BR}$	$I_R=1.0\text{mA}, T_a=25^\circ\text{C}$	4.8	—	7.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=4.5\text{V}, T_a=25^\circ\text{C}$	—	—	0.1	$\mu\text{A}$
Clamping Voltage	$V_C$	$I_{PP}=1.0\text{A}, t_p=8/20\mu\text{s}$	—	—	6.5	V
		$I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$	—	—	7.5	
		$I_{PP}=28\text{A}, t_p=8/20\mu\text{s}$	—	—	10	
		$I_{PP}=45\text{A}, t_p=8/20\mu\text{s}$	—	—	11	
Junction Capacitance	$C_J$	$V_{RWM}=0\text{V}, f=1\text{MHz}$	—	60	100	pF

## ● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

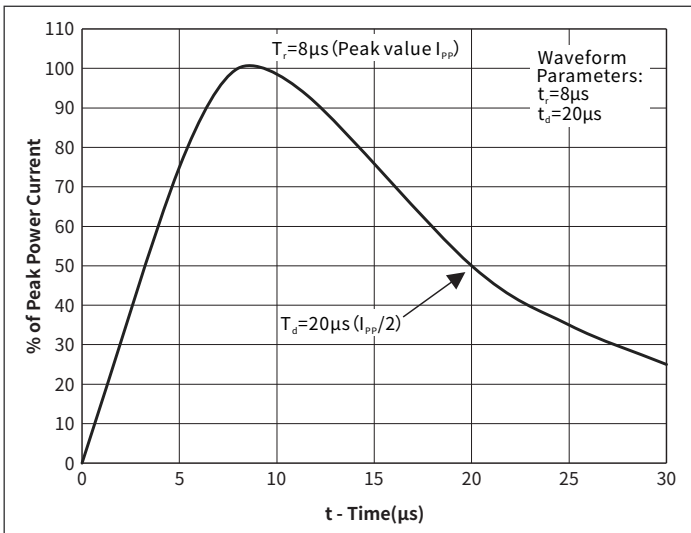


Fig.1 Pulse Waveform

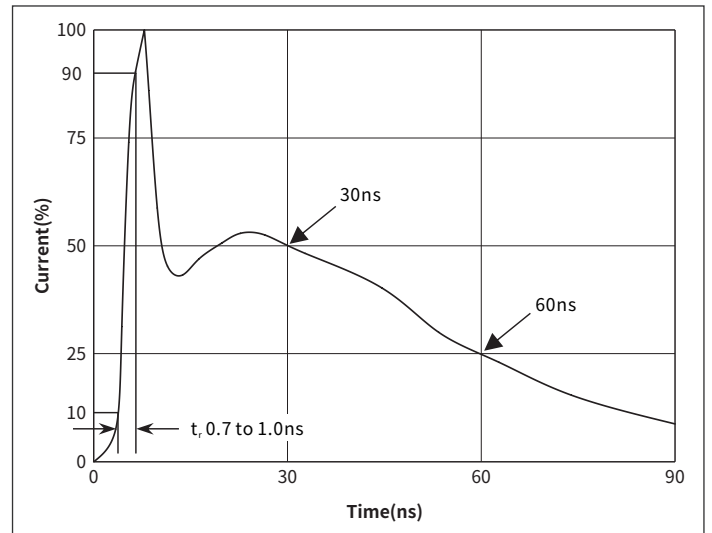


Fig.2 Pulse Waveform-ESD(IEC61000-4-2)

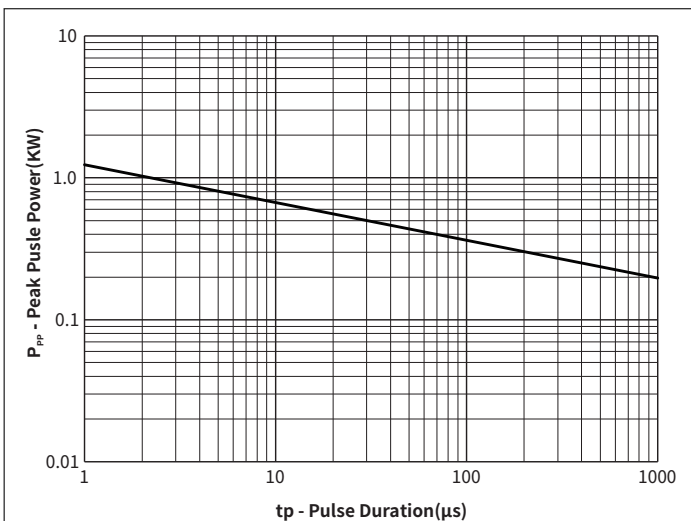


Fig.3 Peak Pulse Power vs. Pulse Time

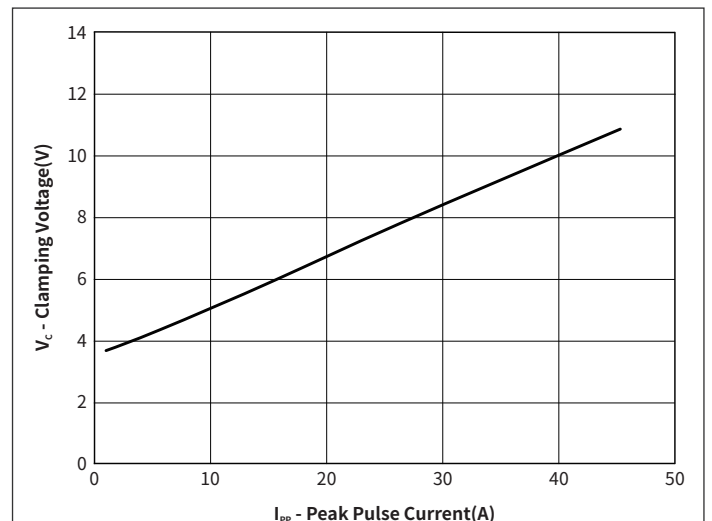


Fig.4 Clamping Voltage vs. Peak Pulse Current

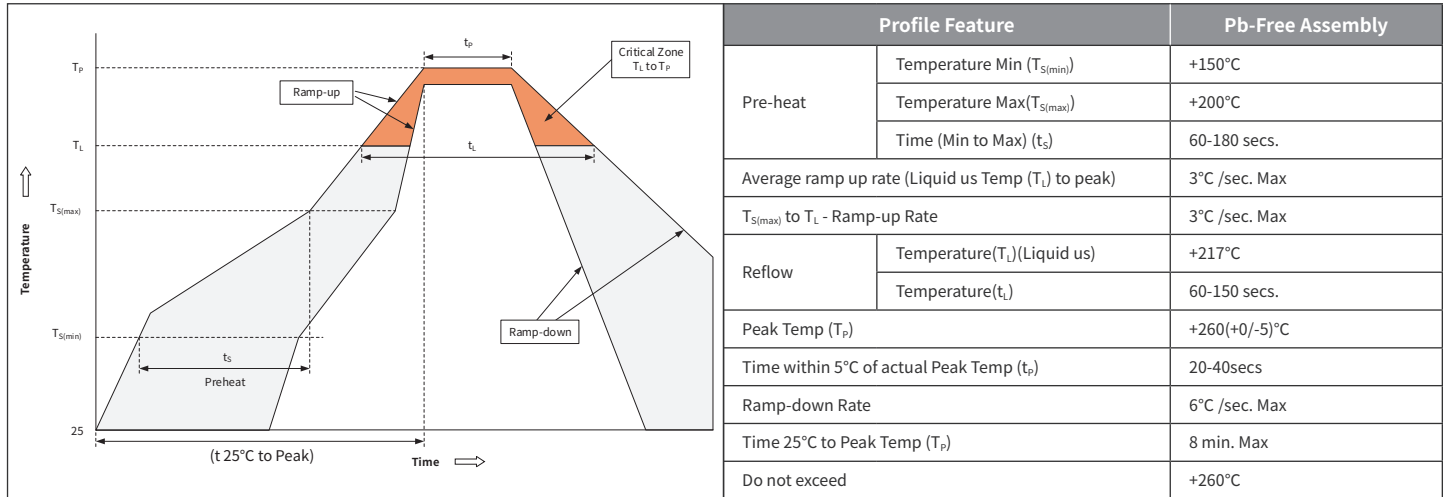
# H4V5N10B

Bi-directional 4.5V Normal Capacitance ESD

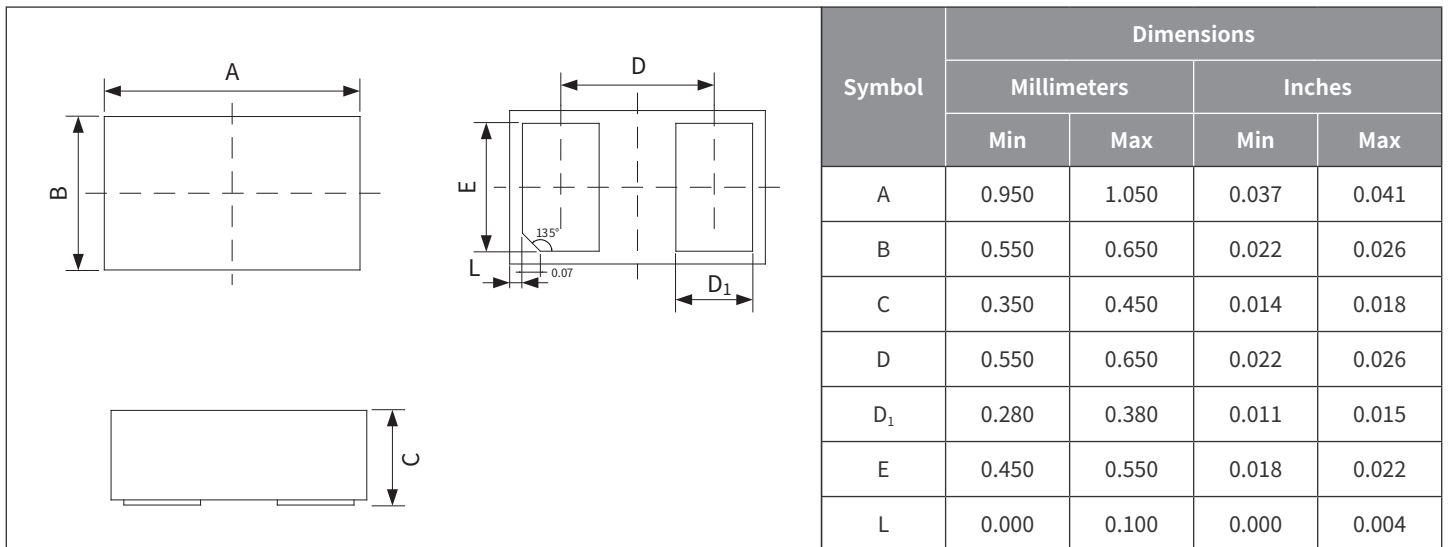
## Ordering Information

PREFERRED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
H4V5N10B	DFN1006-2L	1.00×0.60×0.37	7" REEL	10,000

## Recommended Soldering Conditions



## Package Outline Dimensions (DFN1006)



## Suggested Pad Layout

