

## 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 $\mu\text{s}$ ): 55A

### ● Applications

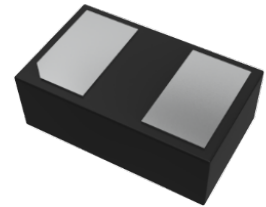
- Cellular Handsets and Accessories
- Notebooks and Handhelds
- Audio Players, Peripherals
- Personal Digital Assistants
- Portable Instrumentation
- Keypads, Side Keys, LCD Displays

### ● Function Diagram



**Reverse Working Voltage**  
4.5V Max.  
**High capacitance**  
150pF(Max.)

DFN1006-2L

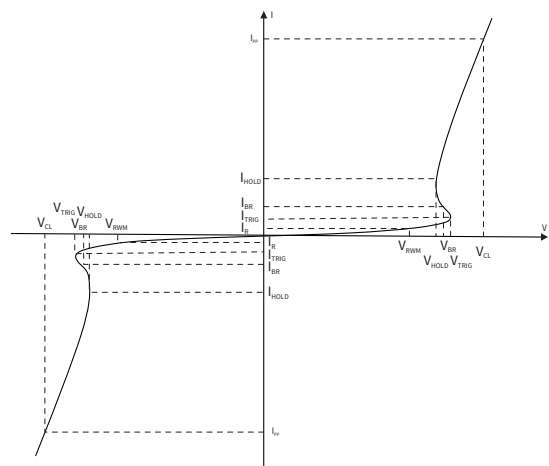


### ● Maximum Ratings (Ta=25°C Unless otherwise specified)

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 $\mu\text{s}$	825	W
I <sub>PP</sub>	Rated Peak Pulse Current	tp = 8/20 $\mu\text{s}$	55	A
T <sub>J</sub>	Operating JunctionTemperature Range	—	-55 to +125	°C
T <sub>STG</sub>	Operating JunctionTemperature Range	—	-55 to +125	°C

### ● Electrical Parameter

SYMBOL	PARAMETER
V <sub>CL</sub>	Clamping Voltage @ I <sub>PP</sub>
I <sub>R</sub>	Reverse leakage current
I <sub>PP</sub>	Peak Pulse Current
V <sub>TRIG</sub>	Reverse trigger voltage
I <sub>TRIG</sub>	Reverse trigger current
V <sub>RWM</sub>	Peak Reverse Working Voltage
P <sub>PP</sub>	Peak Pulse Power Dissipation
V <sub>BR</sub>	Reverse breakdown voltage
I <sub>BR</sub>	Reverse breakdown current
V <sub>HOLD</sub>	Reverse holding voltage
I <sub>HOLD</sub>	Reverse holding current



## ● 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	$V_{BR}$	$I_R=1.0\text{mA}, T_a=25^\circ\text{C}$	4.5	5.5	8.5	V
Reverse Leakage Current	$I_R$	$V_{RWM}=4.5\text{V}, T_a=25^\circ\text{C}$	—	—	0.1	$\mu\text{A}$
Hold Voltage of Snapback(1)	$V_{HOLD}$	Anode to GND	4.5	—	—	V
		GND to Anode	3.3	—	—	
Clamping Voltage	$V_C$	$I_{PP}=55\text{A}, t_p=8/20\mu\text{s}$	—	11	15	
Junction Capacitance	$C_J$	$V_{RWM}=0\text{V}, f=1\text{MHz}$	—	100	150	pF

Note :

1. There specifications are guaranteed by design and characterization.

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

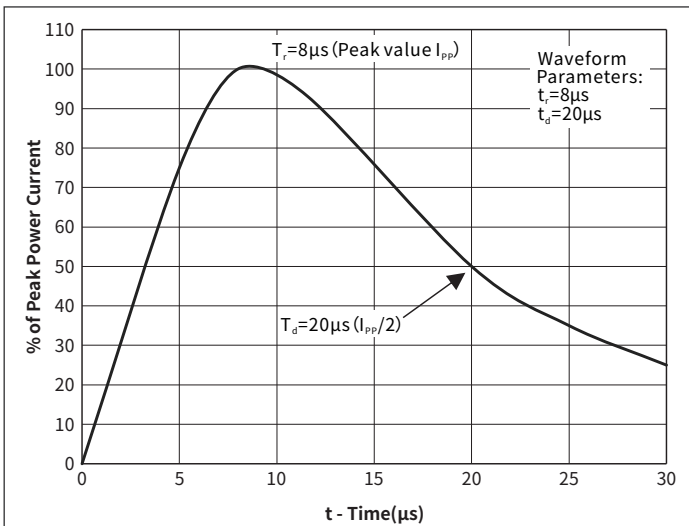


Fig.1 Pulse Waveform

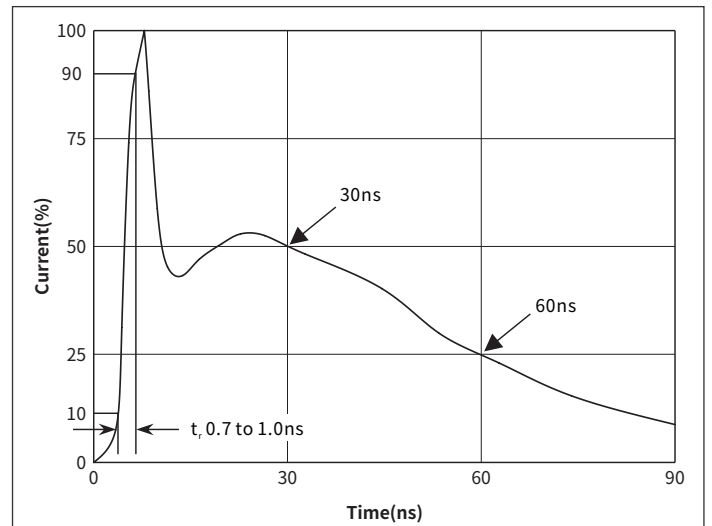


Fig.2 Pulse Waveform-ESD(IEC61000-4-2)

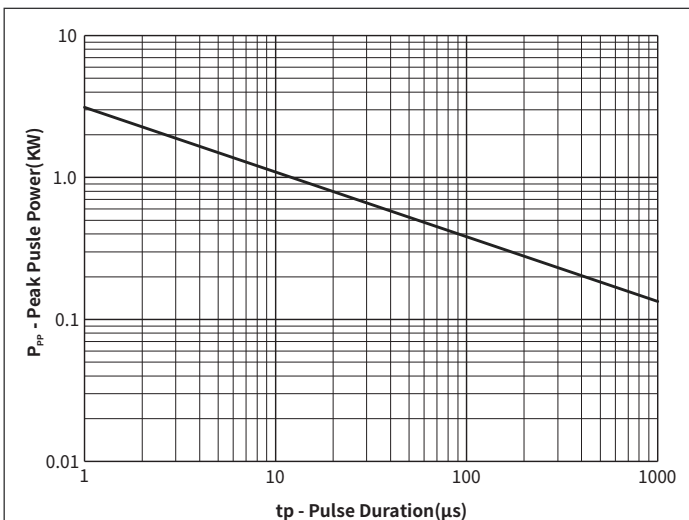


Fig.3 Peak Pulse Power vs. Pulse Time

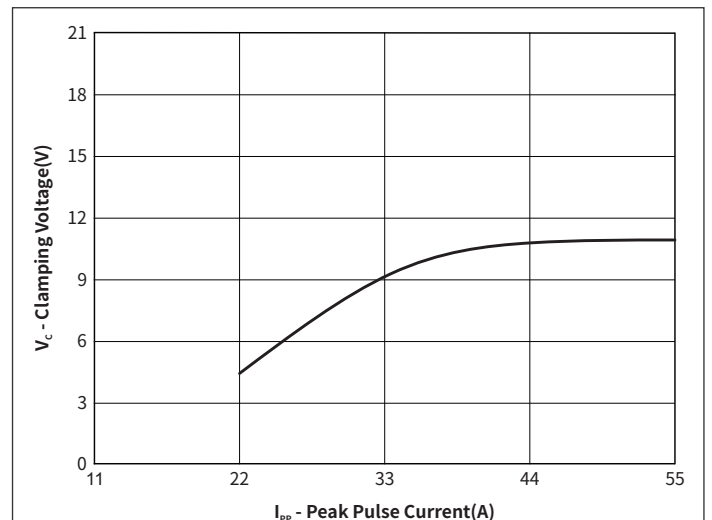


Fig.4 Clamping Voltage vs. Peak Pulse Current

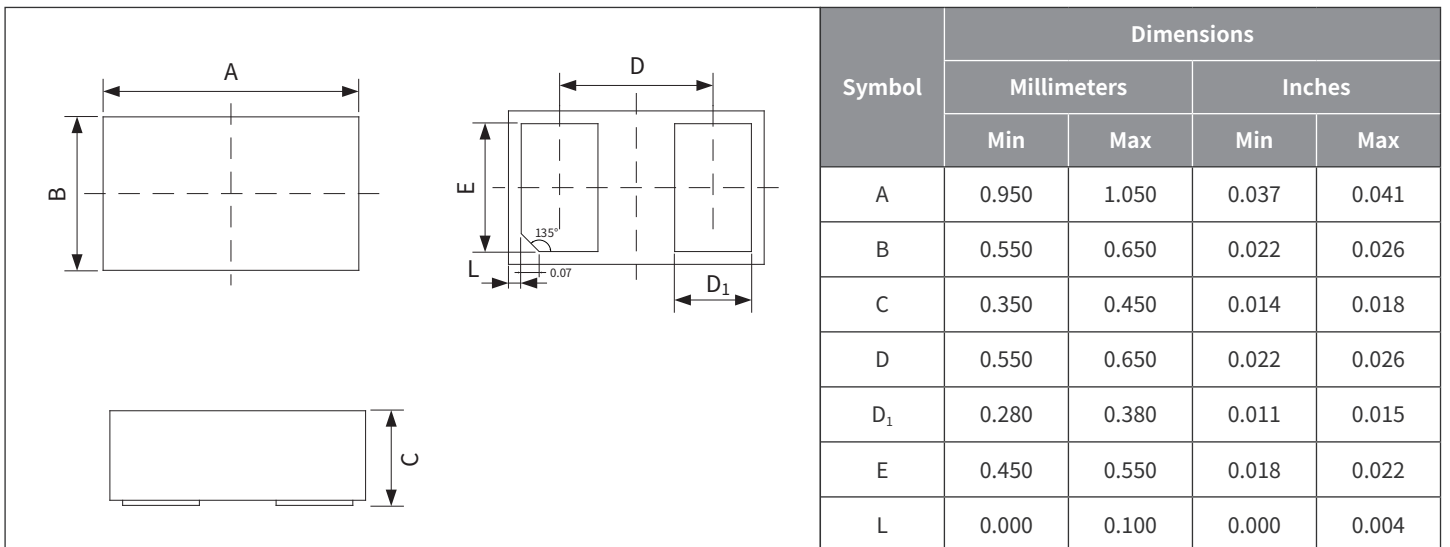
## Ordering Information

PREFERRED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
H4S5N10B	DFN1006-2L	1.00×0.60×0.37	7" REEL	10,000

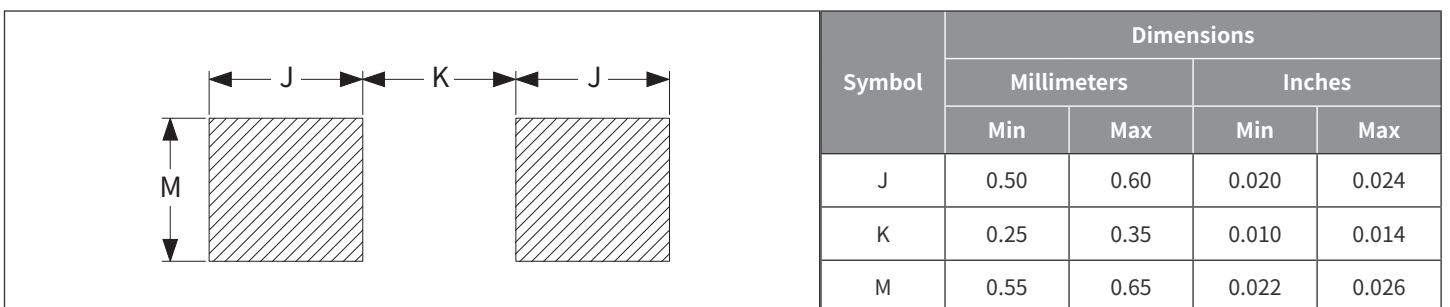
## Recommended Soldering Conditions



## Package Outline Dimensions (DFN1006)



## Suggested Pad Layout



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