

# ESD9BL0521P-CH

## ESD Protection Diode

### Features

- AEC-Q101 Qualified
- Low clamping voltage
- Low operating voltage
- Bi-direction high reliability
- Halogen and Antimony Free(HAF), RoHS compliant

### PINNING

PIN	DESCRIPTION
1	Anode
2	Anode



Transparent top view  
Simplified outline DFN1006-2H and symbol

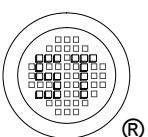
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $tp = 8/20 \mu\text{s}$ )	$P_{PK}$	100	W
Peak Pulse Current ( $tp = 8/20 \mu\text{s}$ )	$I_{PP}$	4	A
ESD (IEC61000-4-2)	$V_{ESD}$	$\pm 15$ $\pm 8$	kV
Operating Junction Temperature Range	$T_j$	- 55 to + 125	°C
Storage Temperature Range	$T_{stg}$	- 55 to + 150	°C

### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage	$V_{RWM}$	-	-	5	V
Reverse Breakdown Voltage at $I_R = 1 \text{ mA}$	$V_{(BR)R}$	6	-	11	V
Reverse Current at $V_{RWM} = 5 \text{ V}$	$I_R$	-	-	1	µA
Clamping Voltage at $I_{PP} = 1 \text{ A}$ , $tp = 8/20 \mu\text{s}$ at $I_{PP} = 4 \text{ A}$ , $tp = 8/20 \mu\text{s}$	$V_C$	- -	- -	15 25	V
Clamping Voltage at $I_{TLP} = 4 \text{ A}$ , $tp = 0.2/100 \text{ ns}$ at $I_{TLP} = 16 \text{ A}$ , $tp = 0.2/100 \text{ ns}$	$V_{CL}$	- -	16.7 31.6	- -	V
Junction Capacitance at $V_R = 0 \text{ V}$ , $f = 1 \text{ MHz}$	$C_j$	-	0.2	-	pF
Dynamic Resistance <sup>1)</sup>	$R_{dyn}$	-	1.2	-	Ω

<sup>1)</sup> Dynamic Resistance calculated from  $I_{TLP} = 4\text{A}$  to  $I_{TLP} = 16\text{ A}$ .



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## Electrical Characteristic Curves

Fig 1. Pulse Waveform

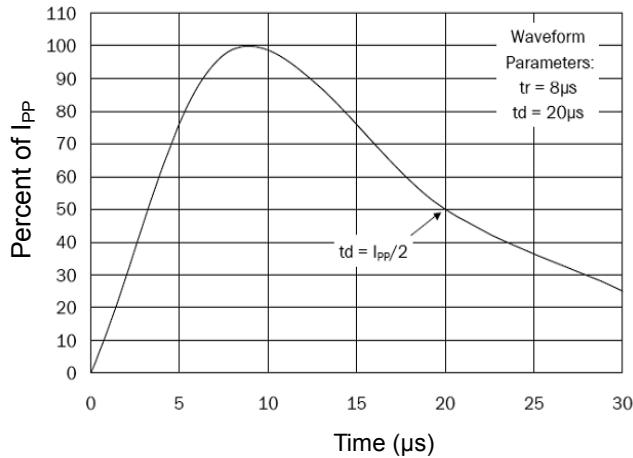


Fig 2. Power Derating Curve

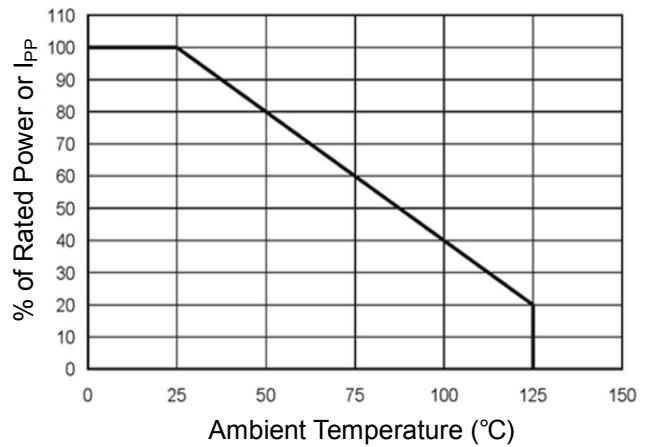


Fig 3. Clamping Voltage Curve

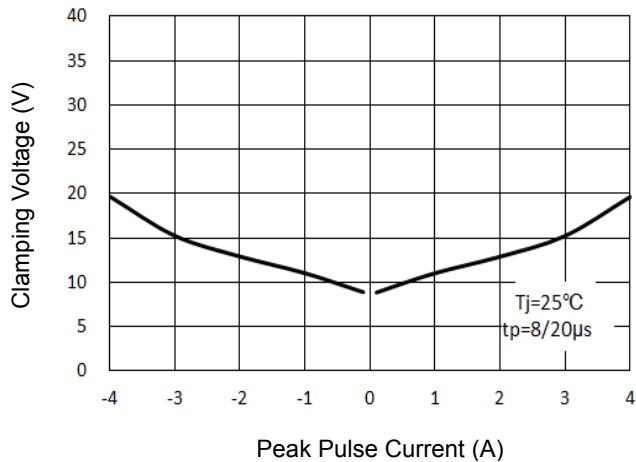


Fig 4. Junction Capacitance Curve

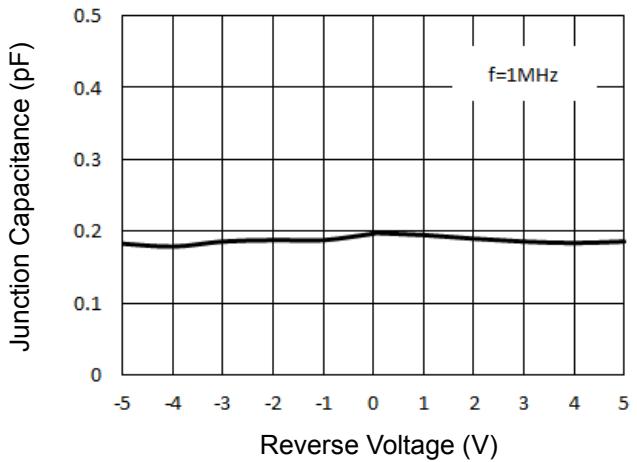
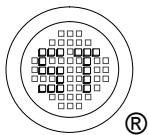
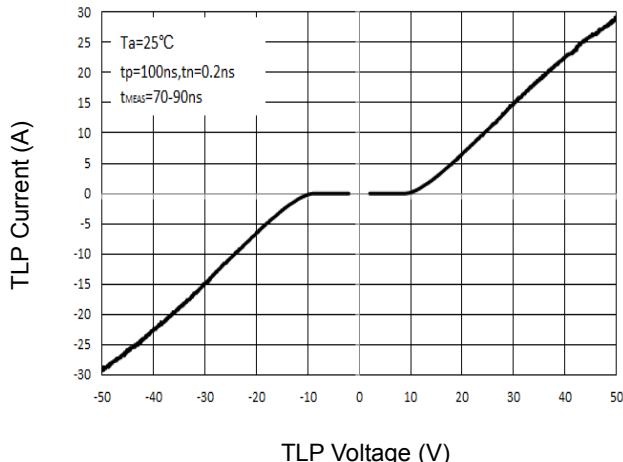


Fig. 5 TLP Curve

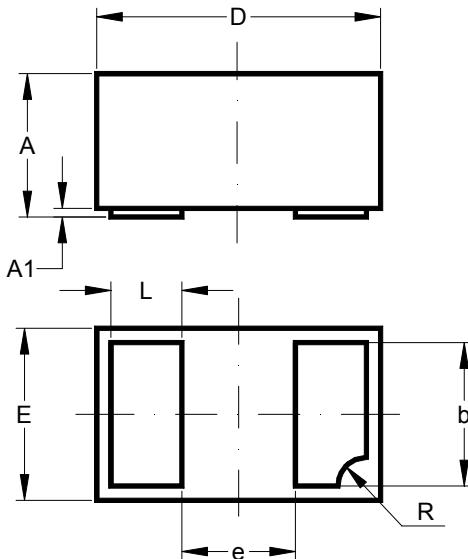


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## PACKAGE OUTLINE

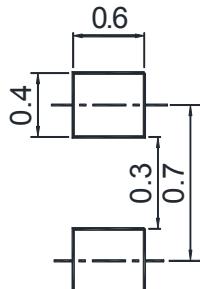
Plastic surface mounted package; 2 leads

DFN1006-2H



UNIT	A	A1	b	D	E	e	L	R
mm	0.51	0.05	0.55	1.05	0.65		0.3	0.15
	0.46	0	0.45	0.95	0.55	0.4	0.2	0.05

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
DFN1006-2H	8	2 ± 0.1	0.079 ± 0.004	178	7	10,000

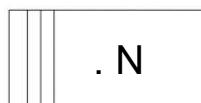
## Marking information

" N " = Part No.

" III " = Marking line

" • " = HAF (Halogen and Antimony Free)

Font type: Arial



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