



### Discription

The HAOZ8S502BDS-03 protects sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD) and other voltage induced transient events. Excellent clamping capability, low leakage, low capacitance, and fast response time provide best in class protection on designs that are exposed to ESD. It gives designer the flexibility to protect one bi-directional line in applications where arrays are not practical.



DFN1006-2L

### Features

- ★ Small Body Outline Dimensions
- ★ Low Body Height
- ★ Peak Power up to 105 Watts @ 8 x 20  $\mu$ s Pulse
- ★ Low Leakage current
- ★ Response Time is Typically < 1 ns
- ★ ESD Rating of Class 3 per Human Body Model



Circuit Diagram

### Ordering information

Product ID	Pack	Qty(PCS)
HAOZ8S502BDS-03	DFN1006-2L	10000

### Absolute Ratings(Tamb = 25°C)

Symbol	Parameter	Value	Units
P <sub>PP</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20 $\mu$ s)	100	W
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to +150	°C
T <sub>op</sub>	Operating Temperature Range	-55 to +150	°C
T <sub>j</sub>	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge	$\pm 30$	KV
	contact discharge	$\pm 30$	
	IEC61000-4-4 (EFT)	40	A



### Electrical Characteristics

Device	$V_{RWM}$ (V)	$I_R$ ( $\mu$ A) @ $V_{RWM}$	$V_{BR}$ (V) @ $I_T$ (Note 1)		$I_T$	$V_C$ (V) @ $I_{PP} = 1$ A (Note 2)	$V_C$ (V) @ MAX $I_{PP}$ (Note 2)	$I_{PP}$ (A) (Note 2)	$P_{PK}$ (W) (Note 2)	C (pF)	$R_{DYN}$ ( $\Omega$ ) @ $t_p=100$ ns(TLP)
	Max	Max	Min	Max	mA	Max	Max	Max	Max	Typ.	Typ.
HAOZ8S502BDS-03	3.3	0.05	5	6.5	1.0	7	11	9	100	15	0.2

- $V_{BR}$  is measured with a pulse test current  $I_T$  at an ambient temperature of 25°C.
- Surge current waveform per Figure 1.

### Typical Characteristics

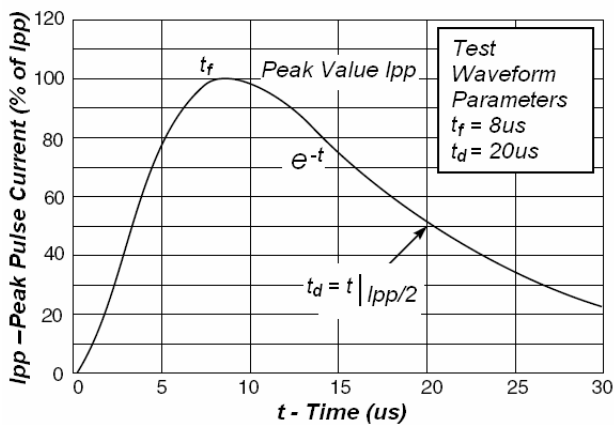


Fig1. Pulse Waveform

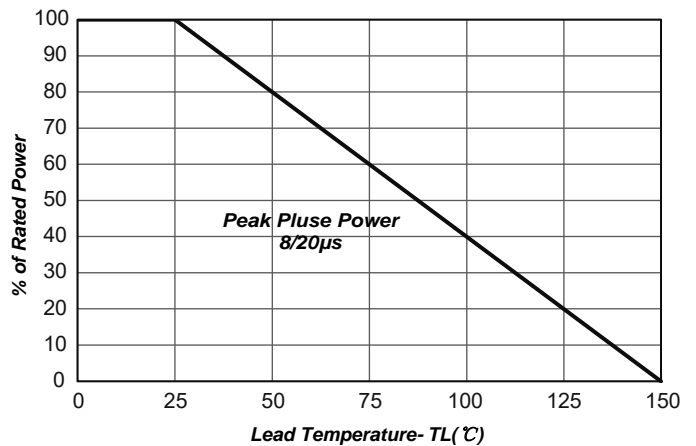


Fig2. Power Derating Curve

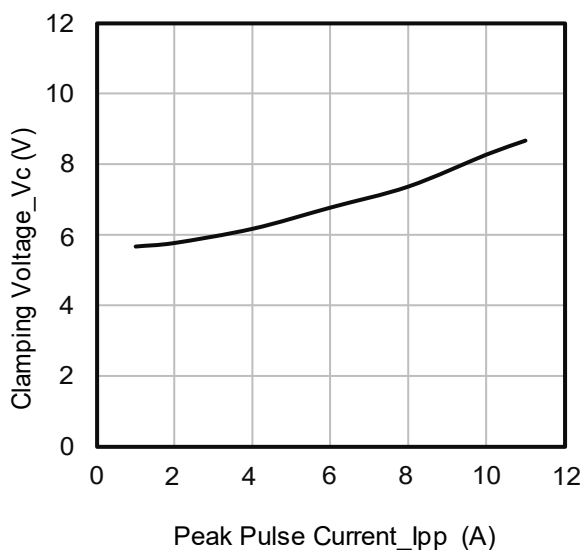


Fig3. Clamping Voltage vs. Peak Pulse Current

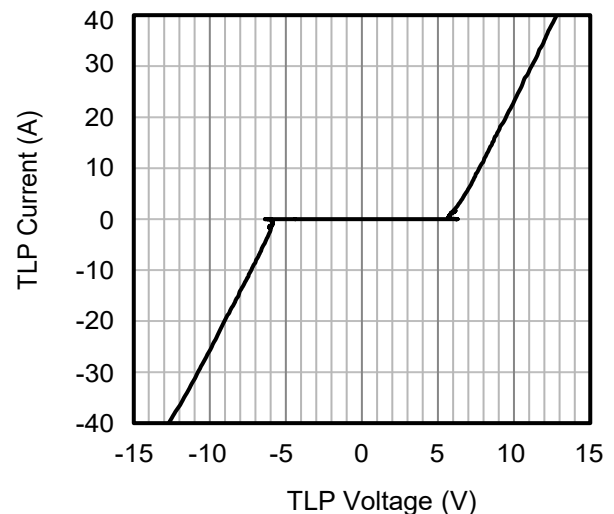
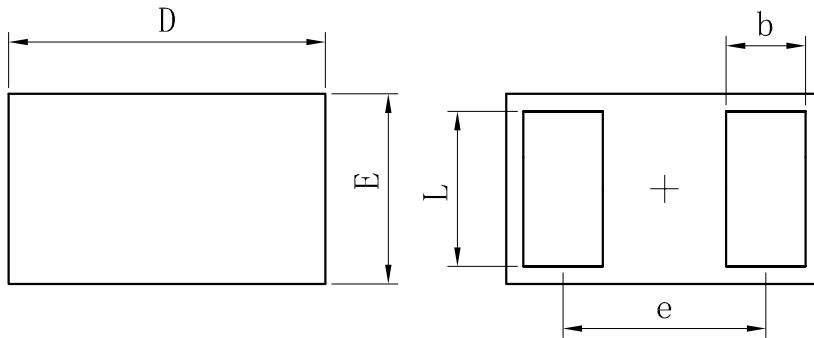


Fig4. TLP Measurement

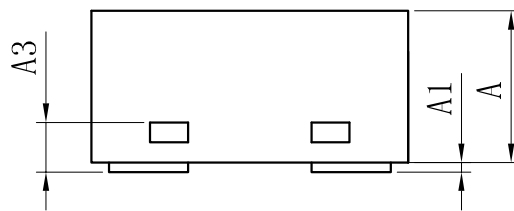


OUTLINE AND DIMENSIONS



TOP VIEW

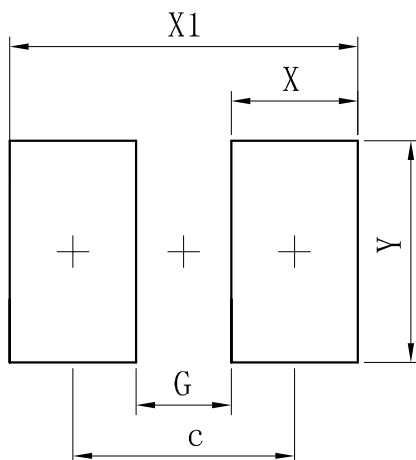
BOTTOM VIEW



SIDE VIEW

DFN1006-2L			
Dim	Min	Typ	Max
D	0.95	1.00	1.05
E	0.55	0.60	0.65
e	-	0.64	-
L	0.44	0.49	0.54
b	0.20	0.25	0.30
A	0.43	0.48	0.53
A1	0	-	0.05
A3	0.127REF.		
All Dimensions in mm			

SOLDERING FOOTPRINT



Dimensions	(mm)
c	0.70
G	0.30
X	0.40
X1	1.10
Y	0.70



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