

# ESDBL0531DP

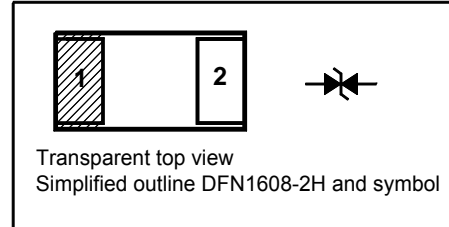
## ESD Protection Diode

### Features

- Low clamping voltage
- Low operating voltage
- Bi-direction high reliability

### PINNING

PIN	DESCRIPTION
1	Anode
2	Anode



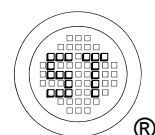
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20 $\mu\text{s}$ )	$P_{PK}$	120	W
Peak Pulse Current (tp = 8/20 $\mu\text{s}$ )	$I_{PP}$	6	A
ESD (IEC61000-4-2)	Air Contact $V_{ESD}$	$\pm 25$ $\pm 20$	KV
Operation Junction Temperature Range	$T_j$	- 55 to + 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### 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 $V_R = 5 \text{ V}$	$I_R$	-	-	100	nA
Clamping Voltage at $I_{PP} = 1 \text{ A}$ , tp = 8/20 $\mu\text{s}$ at $I_{PP} = 6 \text{ A}$ , tp = 8/20 $\mu\text{s}$	$V_C$	-	-	12 20	V
Clamping Voltage at $I_{TLP} = 4 \text{ A}$ , tp = 0.2/100 ns at $I_{TLP} = 16 \text{ A}$ , tp = 0.2/100 ns	$V_{CL}$	-	13.5 21.3	-	V
Junction Capacitance at $V_R = 0 \text{ V}$ , f = 1 MHz	$C_j$	-	-	0.8	pF
Dynamic Resistance <sup>1)</sup>	$R_{dyn}$	-	0.65	-	$\Omega$

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



## Electrical Characteristic Curves

Fig 1. Pulse Waveform

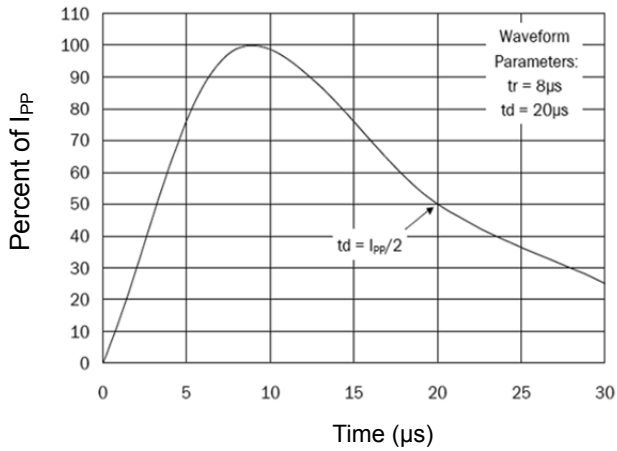


Fig 2. Power Derating Curve

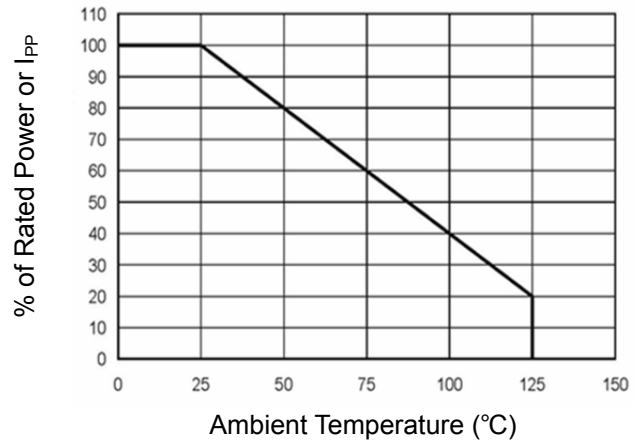


Fig 3. Clamping Voltage Curve

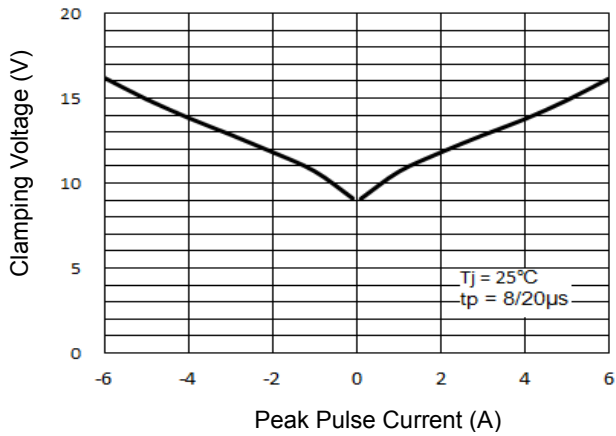


Fig 4. Junction Capacitance

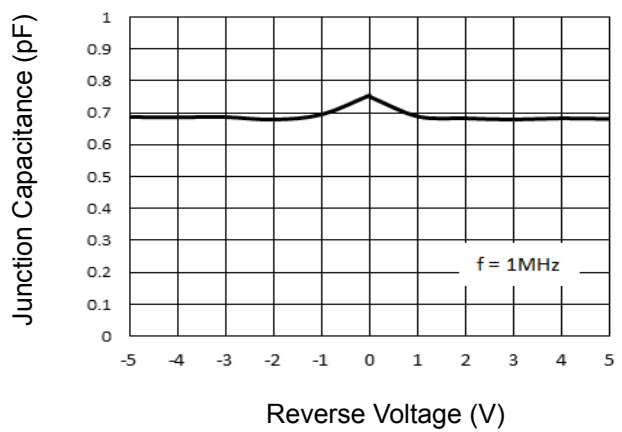
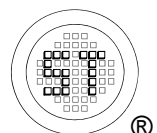
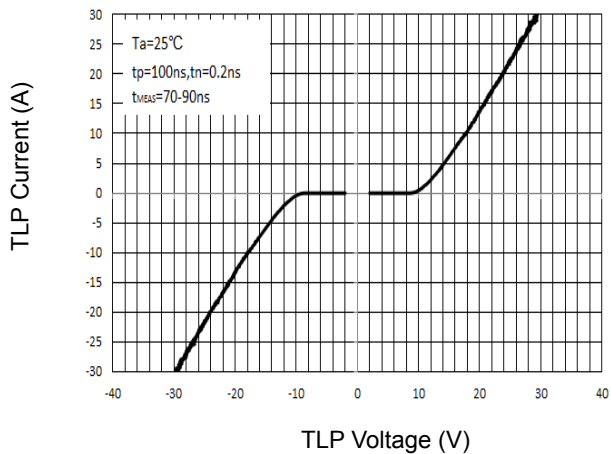


Fig 5. TLP Curve

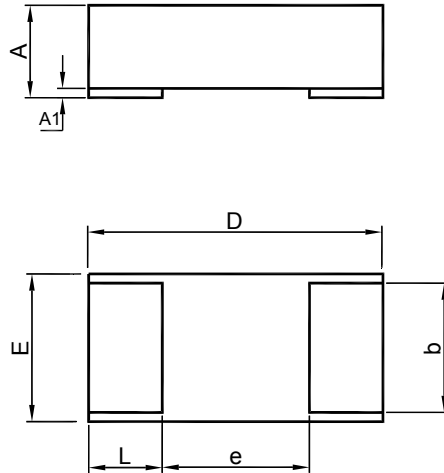


# ESDBL0531DP

## PACKAGE OUTLINE

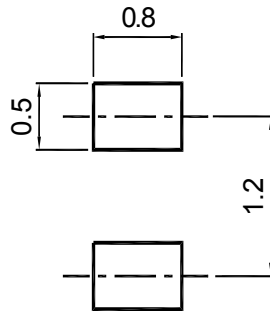
Plastic surface mounted package; 2 leads

DFN1608-2H



UNIT	A	A1	b	D	E	e	L
mm	0.55	0.05	0.75	1.65	0.85	0.85	0.45
	0.45	0	0.65	1.55	0.75	0.75	0.35

### Recommended Soldering Footprint



### Packing information

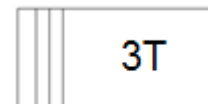
Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
DFN1608-2H	8	4 ± 0.1	0.157 ± 0.004	178	7	4,000

### Marking information

" 3T " = Part No.

" III " = Marking Line

Font type: Arial



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