

# ESDBL0531Z-HAF

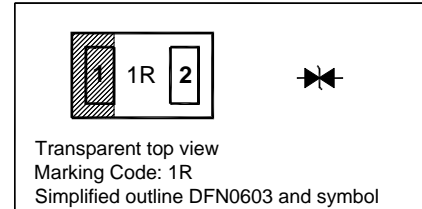
## Transient Voltage Suppressors

### Features

- Low ESD clamping voltage
- Low reverse current
- Low capacitance
- Halogen and Antimony Free(HAF), RoHS compliant

### PINNING

PIN	DESCRIPTION
1	Anode
2	Anode



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

Parameter	Symbol	Value	Unit
Peak Pulse Power ( $t_p = 8/20 \mu\text{s}$ )	$P_{PK}$	60	W
Peak Pulse Current ( $t_p = 8/20 \mu\text{s}$ )	$I_{PP}$	3	A
ESD contact discharge (IEC61000-4-2) Air Contact	$V_{ESD}$	$\pm 15$ $\pm 12$	KV
Operating Junction Temperature Range	$T_j$	- 55 to + 125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

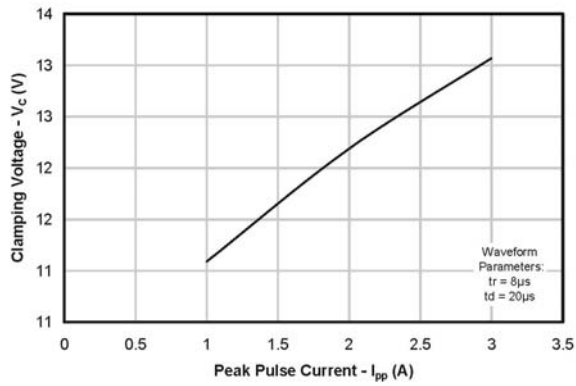
### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
Reverse Stand-Off Voltage Pin 1 to 2 or 2 to 1	$V_{RWM}$	-	-	5	V
Reverse Breakdown Voltage at $I_R = 1 \text{ mA}$ , Pin 1 to 2 or 2 to 1	$V_{(BR)R}$	7	-	11	V
Reverse Current at $V_{RWM} = 5 \text{ V}$ , Pin 1 to 2 or 2 to 1	$I_R$	-	-	20	nA
Clamping Voltage at $I_{PP} = 1 \text{ A}$ , $t_p = 8/20 \mu\text{s}$ , Pin 1 to 2 or 2 to 1 at $I_{PP} = 3 \text{ A}$ , $t_p = 8/20 \mu\text{s}$ , Pin 1 to 2 or 2 to 1	$V_C$	- -	- -	15 20	V
ESD Clamping Voltage <sup>1)</sup> at $I_{PP} = 4 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$ at $I_{PP} = 16 \text{ A}$ , $t_p = 0.2/100 \text{ ns}$	$V_C$	- -	13 21	- -	V
Junction Capacitance at $V_R = 0 \text{ V}$ to $5 \text{ V}$ , $f = 1 \text{ MHz}$	$C_j$	-	-	0.4	pF

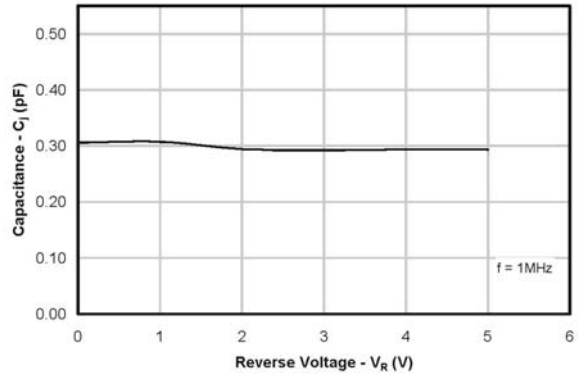
<sup>1)</sup> Transmission Line Pulse Test (TLP) Settings:  $t_p = 100 \text{ ns}$ ,  $t_r = 0.2 \text{ ns}$ ,  $I_{TLP}$  and  $V_{TLP}$  averaging window:  $t_1 = 70 \text{ ns}$  to  $t_2 = 90 \text{ ns}$ .

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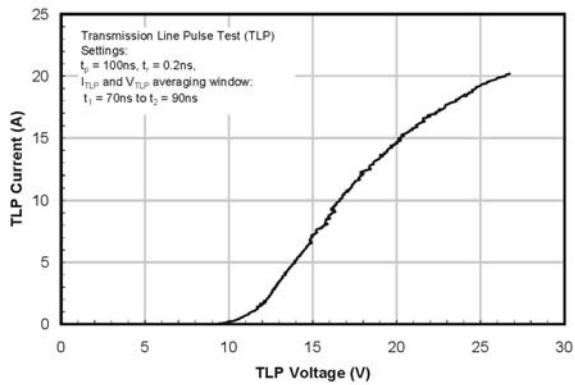
**Clamping Voltage vs. Peak Pulse Current**



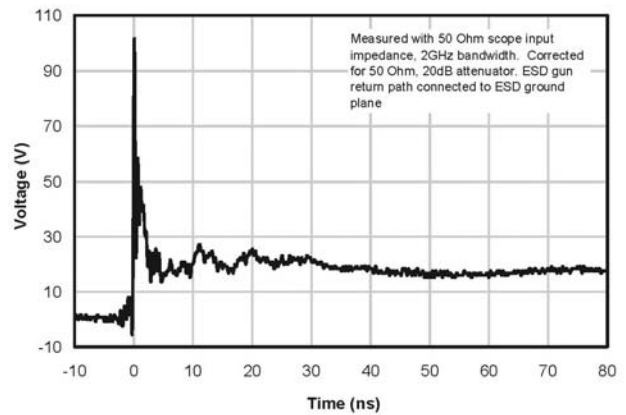
**Junction Capacitance vs. Reverse Voltage**



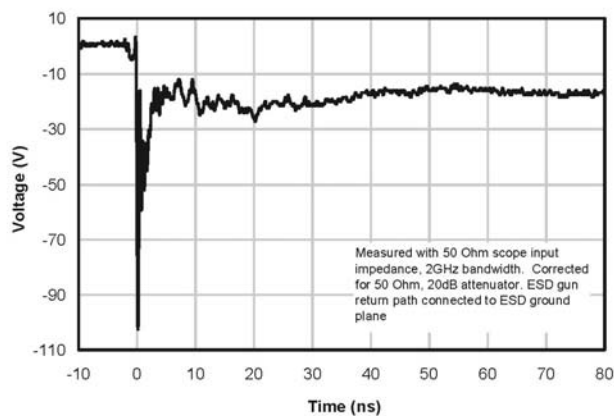
**TLP Characteristic**



**ESD Clamping (+8kV Contact per IEC 61000-4-2)**



**ESD Clamping (-8kV Contact per IEC 61000-4-2)**

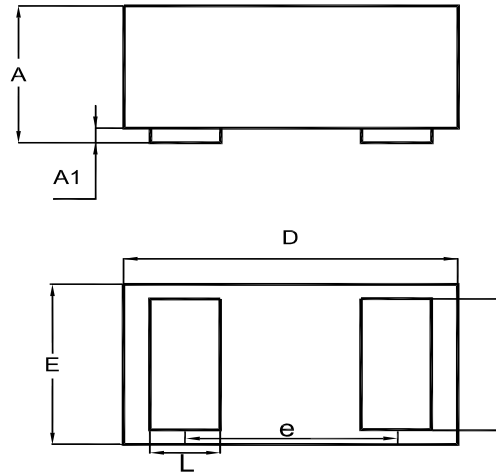


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## PACKAGE OUTLINE

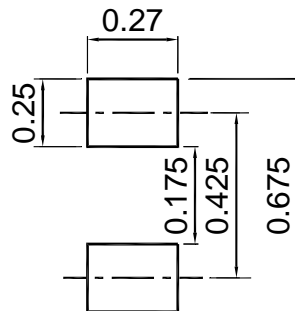
Plastic surface mounted package; 2 leads

DFN0603



UNIT	A	A1	b	D	E	e	L
mm	0.27	0	0.21	0.57	0.28	0.355	0.14
	0.33	0.025	0.29	0.65	0.35		0.22

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
DFN0603	8	4 ± 0.1	0.157 ± 0.004	178	7	10,000