

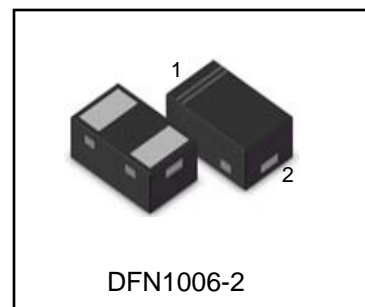


PESD5V0S1BL

Transient Voltage Suppressors for ESD Protection

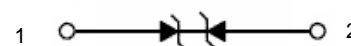
Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies



Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 80 Watts @ 8 x 20 μ s Pulse
- Low Leakage current
- Response Time is Typically < 1 ns
- ESD Rating of Class 3 (> 16 kV) per Human Body Model
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



Absolute Ratings (T_{amb}=25°C)

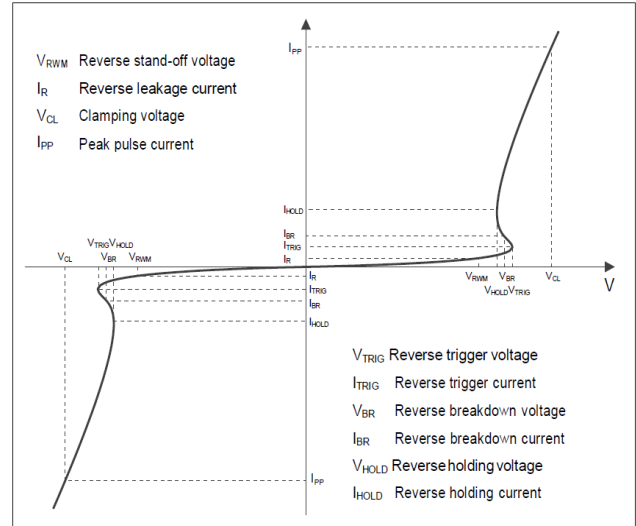
Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20 μ s)	80	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +155	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge	± 30	KV
	IEC61000-4-4 (EFT) contact discharge	± 15	KV
	ESD Voltage Per Human Body Model	40	A
		16	KV



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Electrical Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



Electrical characteristics ($T_A = 25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Reverse maximum working voltage	V_{RWM}				± 5.0	V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$			100	nA
Reverse breakdown voltage	V_{BR}	$I_{BR} = 1\text{mA}$	5.3	6		V
Reverse holding voltage	V_{HOLD}	$I_{HOLD} = 50\text{mA}$	5.3	6		V
Clamping voltage ¹⁾	V_{CL}	$I_{PP} = 16\text{A}$, $t_p = 100\text{ns}$		10.0		V
Dynamic resistance ¹⁾	R_{DYN}			0.2		Ω
Clamping voltage ²⁾	V_{CL}	$V_{ESD} = 8\text{kV}$		10.0		V
Clamping voltage ³⁾	V_{CL}	$I_{PP} = 1\text{A}$, $t_p = 8/20\mu\text{s}$			8	V
		$I_{PP} = 6\text{A}$, $t_p = 8/20\mu\text{s}$			13.4	V
Junction capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		13	15	pF

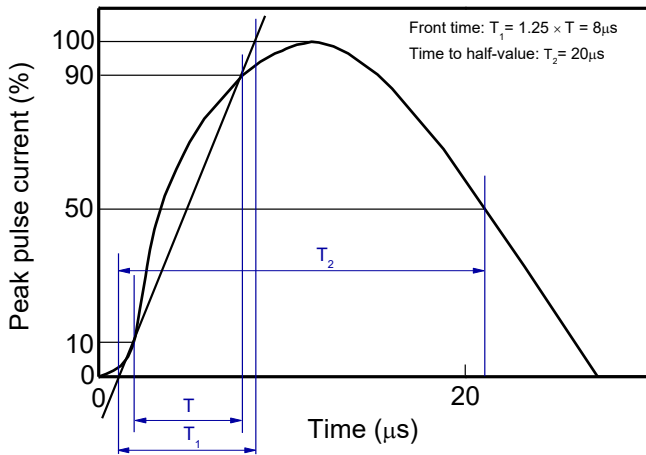
Notes:

1. TLP parameter: $Z_0 = 50\Omega$, $t_p = 100\text{ns}$, $t_r = 2\text{ns}$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
2. Contact discharge mode, according to IEC61000-4-2.
3. Non-repetitive current pulse, according to IEC61000-4-5.

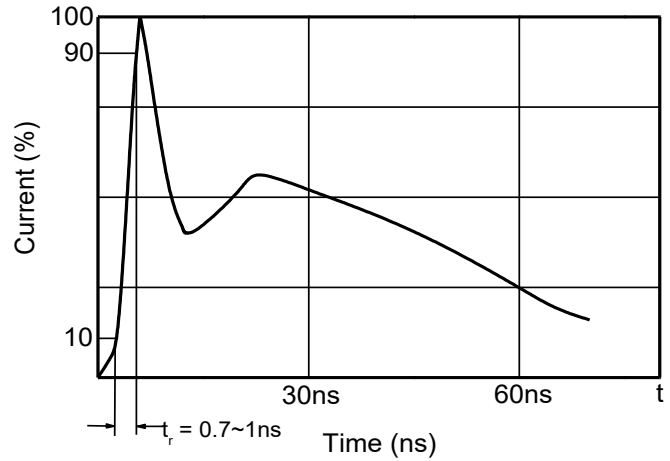


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Typical characteristics (TA = 25°C, unless otherwise noted)

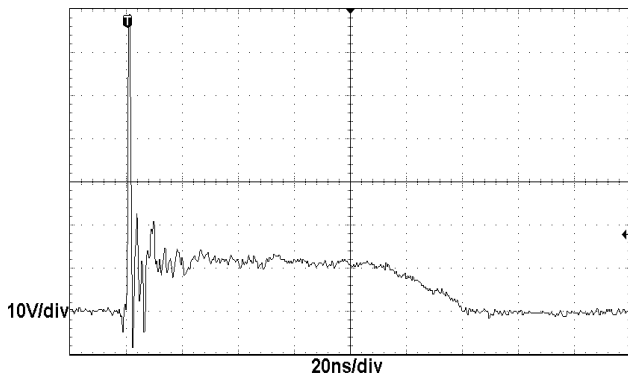


8/20μs waveform per IEC61000-4-5

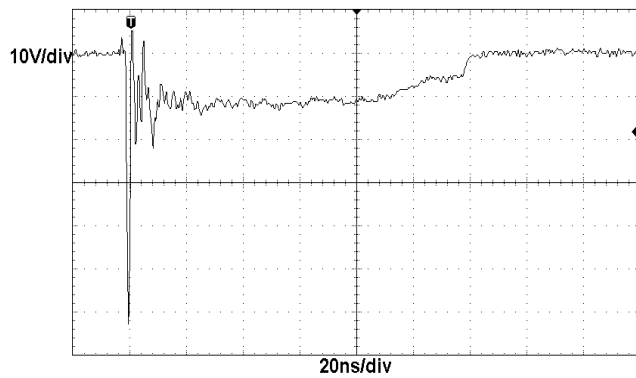


Contact discharge current waveform per IEC61000-4-2

Typical characteristics (TA = 25°C, unless otherwise noted)



ESD clamping
(+8kV contact discharge per IEC61000-4-2)



ESD clamping
(-8kV contact discharge per IEC61000-4-2)

DIMENSION OUTLINE:

Unit:mm

