

Transient Voltage Suppressors for ESD Protection General Description

The AZ5123-01F is designed to protect voltage sensitive components from ESD and transient voltage events. Excellent clamping capability, low leakage, and fast response time, make these parts ideal for ESD protection on designs where board space is at a premium. Because of its small size, it is suited for use in cellular phones, MP3 players, digital cameras and many other portable applications where board space is at a premium.

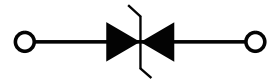
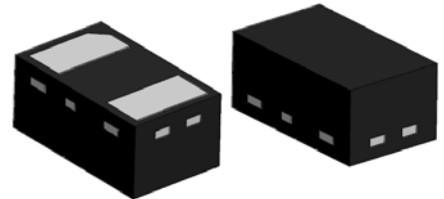
Applications

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

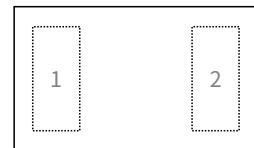
Features

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 150 Watts @ $8 \times 20 \mu s$ Pulse
- Low Leakage current
- Response Time is Typically $< 1 ns$
- ESD Rating of Class 3 ($> 16 kV$) per Human Body Model

DFN1006



Package Outline



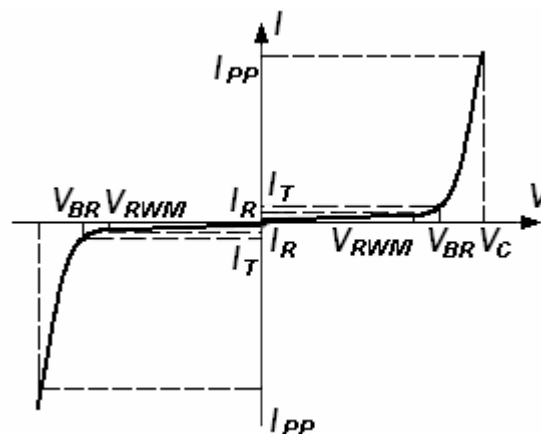
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Absolute Ratings ($T_{amb}=25^{\circ}\text{C}$)

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power ($t_p = 8/20 \mu s$)	100	W
T_L	Maximum lead temperature for soldering during 10s	260	$^{\circ}\text{C}$
T_{stg}	Storage Temperature Range	-55 to +155	$^{\circ}\text{C}$
T_{op}	Operating Temperature Range	-40 to +125	$^{\circ}\text{C}$
T_j	Maximum junction temperature	150	$^{\circ}\text{C}$
	IEC61000-4-2 (ESD) air discharge contact discharge	± 20 ± 20	KV
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model	16	KV

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

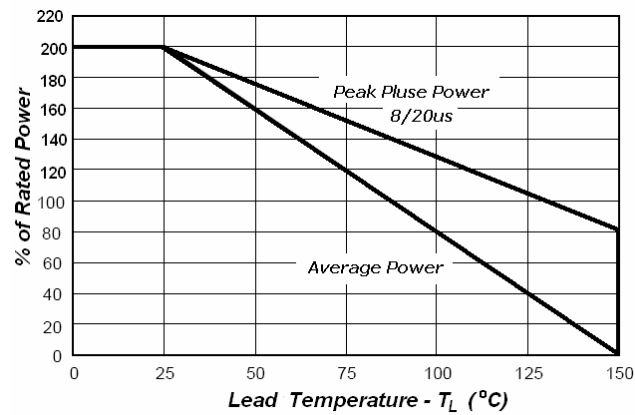
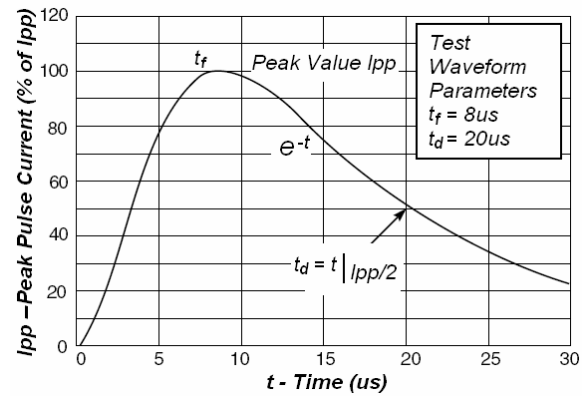


Electrical Characteristics

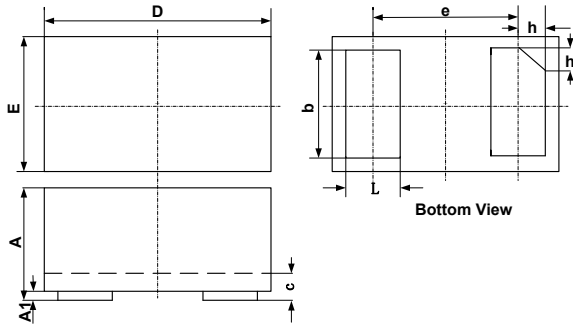
Ratings at 25°C ambient temperature unless otherwise specified. $V_F = 0.9\text{V}$ at $I_F = 10\text{mA}$

Device	V_{RWM} (V)	$I_R(\mu\text{A})$ @ V_{RWM}	V_{BR} (V) @ I_T (Note 1)	I_T	V_C (V) @ $I_{PP}=6\text{ A}^*$	V_C (V) @ Max I_{PP}^*	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
AZ5123-01F	3.3	1	4.5	1.0	10	13	8	100	15

Typical Characteristics

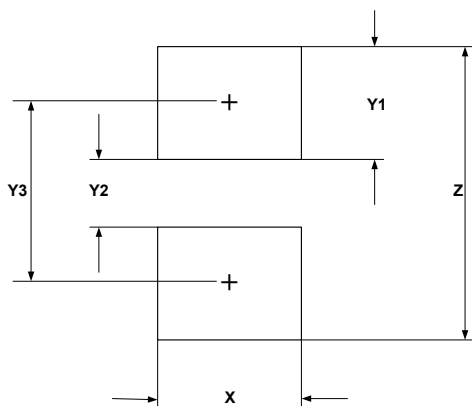


DFN1006-2L Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052