

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

Product data sheet

**Applications**

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

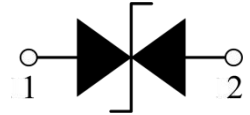
**Features**

- Small Body Outline Dimensions
- Low Body Height
- Peak Power up to 150 Watts @ 8 x 20  $\mu$ 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.

**Pin Description**



**Schematic Diagram**



DFN1006P2X

**Electrical Characteristics** Ratings at 25°C ambient temperature unless otherwise specified. VF = 0.9V at IF = 10mA

Device	V <sub>RWM</sub> (V)	I <sub>R</sub> ( $\mu$ A) @ V <sub>RWM</sub>	V <sub>BR</sub> (V)@ I <sub>T</sub> (Note 1)	I <sub>T</sub>	V <sub>C</sub> (V) @ I <sub>PP</sub> =5 A*	V <sub>C</sub> (V) @ Max I <sub>PP</sub> *	I <sub>PP</sub> (A)*	P <sub>PK</sub> (W)*	C (pF)
	Max	Max	Min	mA	Typ	Max	Max	Max	Typ
AZ5123-01F-MS	3.3	1	5.0	1.0	8.4	14.1	11.2	158	25

\*Surge current waveform per Figure 1.

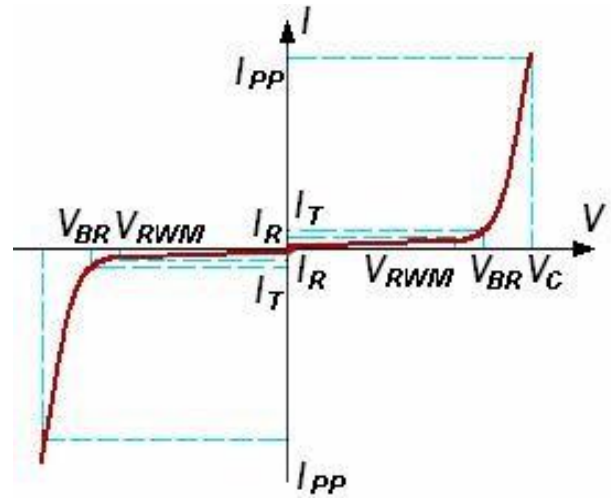
1. V<sub>BR</sub> is measured with a pulse test current I<sub>T</sub> at an ambient temperature of 25°C.

**Absolute Ratings (T<sub>amb</sub>=25°C )**

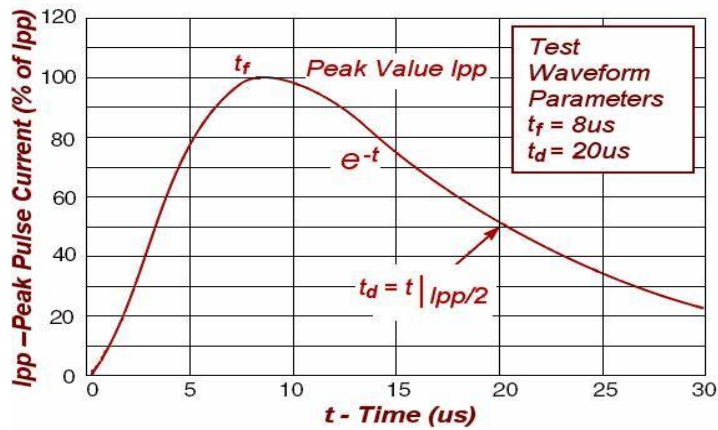
Symbol	Parameter	Value	Units
P <sub>PP</sub>	Peak Pulse Power (t <sub>p</sub> = 8/20 $\mu$ s)	150	W
T <sub>L</sub>	Maximum lead temperature for soldering during 10s	260	°C
T <sub>stg</sub>	Storage Temperature Range	-55 to +155	°C
T <sub>op</sub>	Operating Temperature Range	-40 to +125	°C
T <sub>j</sub>	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge	$\pm$ 15	KV
	IEC61000-4-4 (EFT) contact discharge	$\pm$ 8	KV
	ESD Voltage Per Human Body Model	40	A
	ESD Voltage Per Human Body Model	16	KV

**Electrical Parameter**

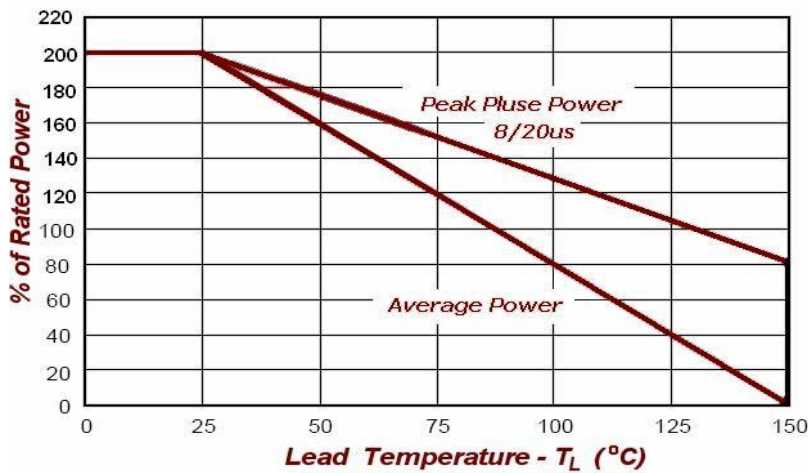
Symbol	Parameter
$I_{PP}$	Maximum Reverse Peak Pulse Current
$V_C$	Clamping Voltage @ $I_{PP}$
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$I_T$	Test Current
$V_{BR}$	Breakdown Voltage @ $I_T$



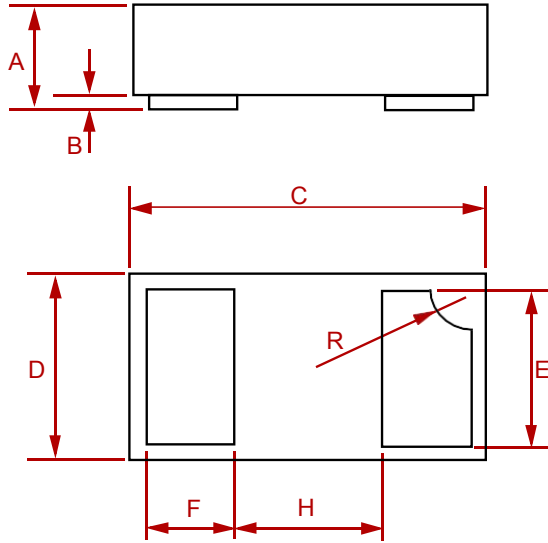
**FIG1: Pulse Waveform**



**FIG2: Power Derating**

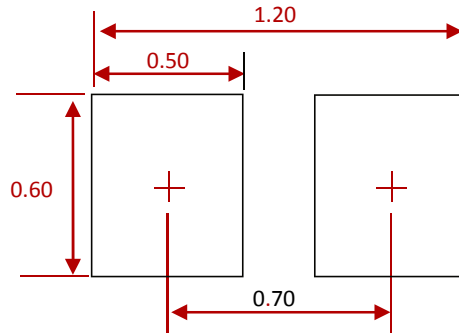


**PACKAGE MECHANICAL DATA**



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

**Suggested Pad Layout**



**NOTES:**

1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY. CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR COMPANY'S MANUFACTURING GUIDELINES ARE MET.

**REEL SPECIFICATION**

P/N	PKG	QTY
AZ5123-01F-MS	DFN1006P2X	10000

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