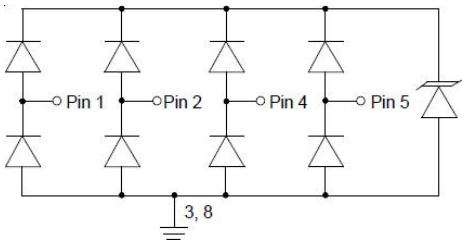
4-Line Uni-directional TVS Diode

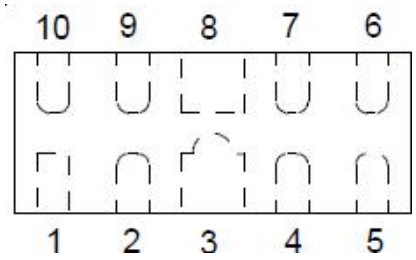
Features

- ◇ 60W (8/20 μs) Peak Pulse Power
- ◇ Low Capacitance ESD Protection
- ◇ Flow Through DFN2.5x1.0-10L Package
- ◇ RoHS Compliant
- ◇ Matte Tin Lead finish (Pb-Free)
- ◇ Protect Four High Speed Data Lines
- ◇ Meet IEC61000-4-2 Level 4:
  - Contact Discharge > 20kV
  - Air Discharge > 25kV

Circuit Diagram



PIN Diagram



Applications

- ◇ PCI Express
- ◇ MDDI Ports
- ◇ eSATA Interfaces
- ◇ Display Port Interface
- ◇ Digital Visual Interface (DVI)
- ◇ High Definition Multi-Media Interface (HDMI)

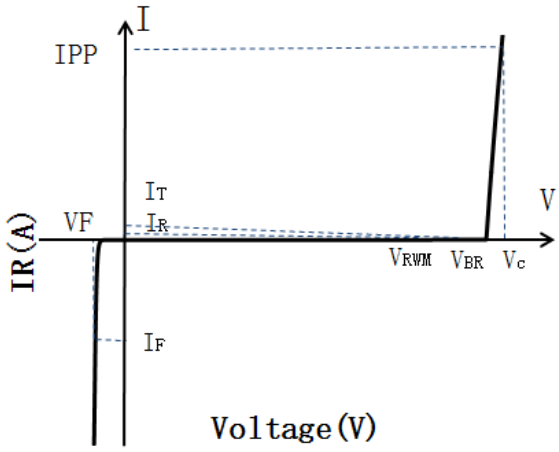
Ordering information

Device	Package	Reel Size	Qty / Reel
AZ9143-04F	DFN2.5-10-10L	7 inch	3000

Maximum Ratings (Ta = 25℃)

Symbol	Parameter	Value	Unit
P_{PK}	Peak Pulse Power	60	W
I_{PP}	Peak Pulse Current	4.5	A
V_{ESD} (Contact)	Contact ESD Voltage per IEC61000-4-2	20	kV
V_{ESD} (Air)	Air ESD Voltage per IEC61000-4-2	25	kV
TJ	Junction Temperature	-55 to +125	℃
TSTG	Storage Temperature	-55 to +150	℃

Symbol	Parameter
IT	Test Current
IPP	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic

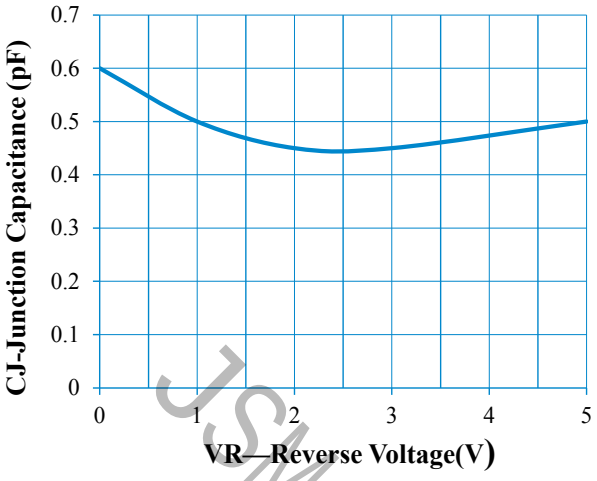


Portion Electronics Parameter

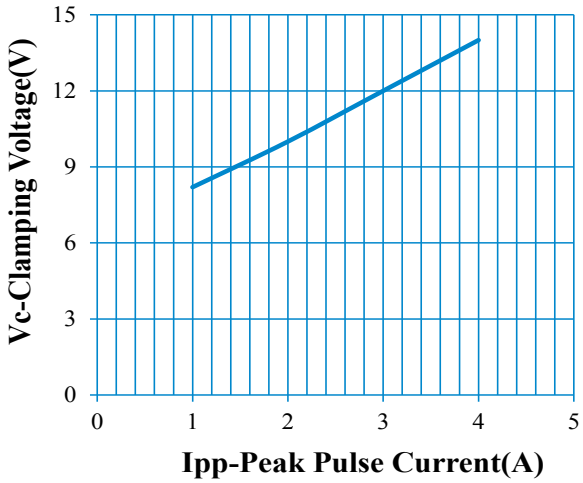
Electrical Characteristics (Ta = 25℃)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5	V
VBR	Reverse Breakdown Voltage	IT = 1mA	6	8	9	V
IR	Reverse Leakage Current	VRWM = 5V			1	μA
VC	Clamping Voltage	IPP = 4.5A (8/20μs)		12	15	V
VCL	Clamping voltage 1	IPP = 16A, tp = 100ns		15.5		V
VCL	Clamping voltage 2	VESD = +8kV		15		V
CJ	Capacitance	VR = 0V, f = 1MHz Between I/O pins		0.3	0.4	pF
CJ	Capacitance	VR = 0V, f = 1MHz Any I/O pin to ground		0.6	0.7	pF

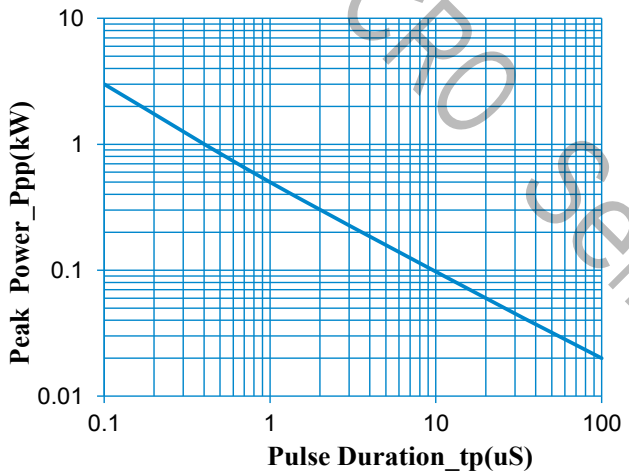
Typical Performance Curves



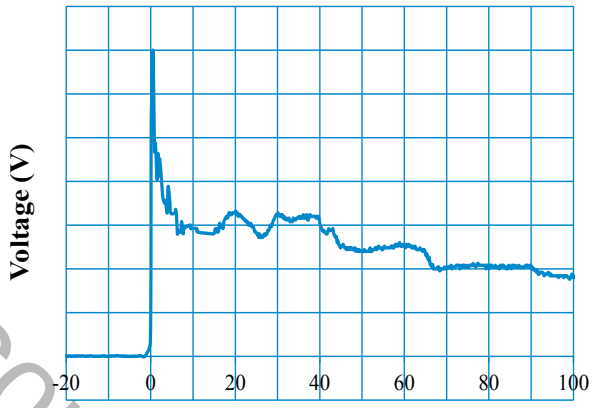
Junction Capacitance vs. Reverse Voltage



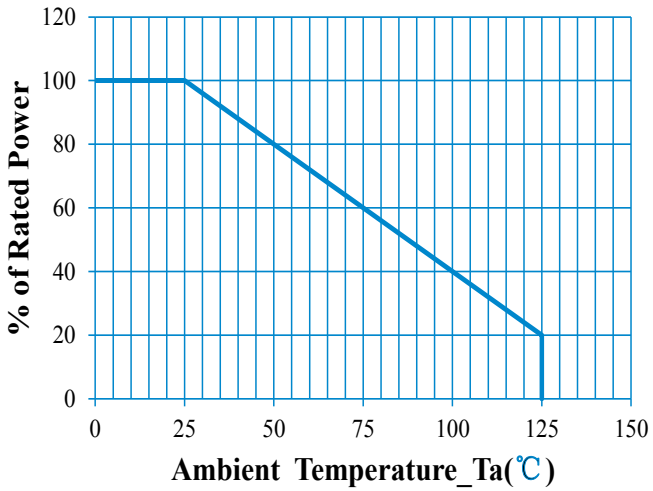
Clamping Voltage vs. Peak Pulse Current



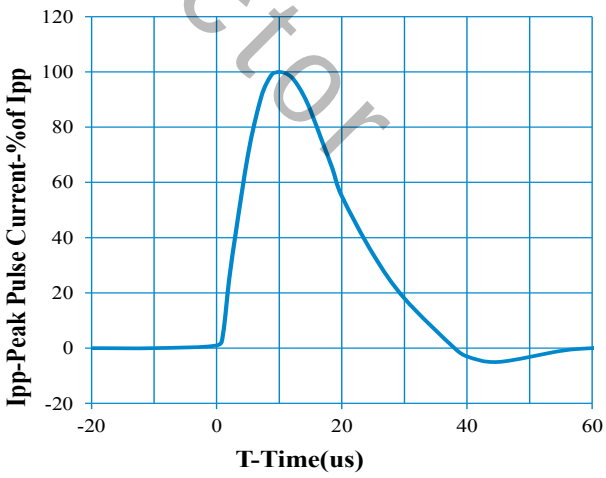
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

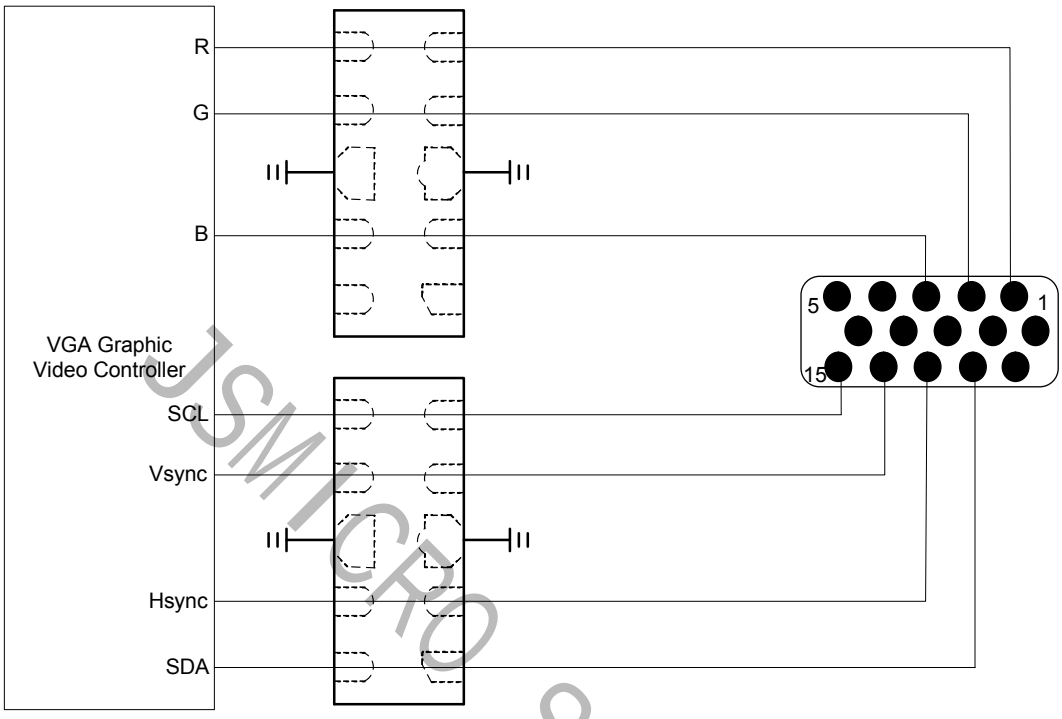


Power Derating Curve

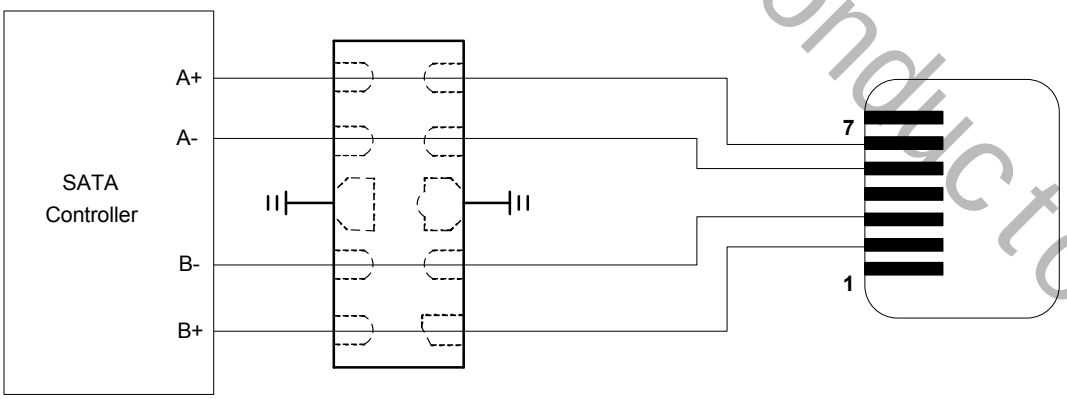


8 X 20us Pulse Waveform

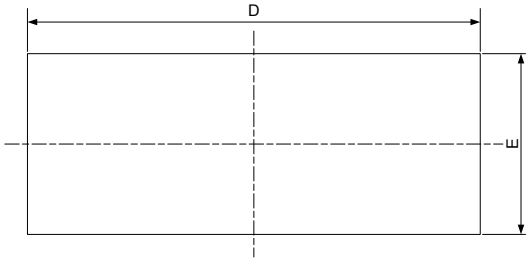
AZ9143-04F on VGA Port Application



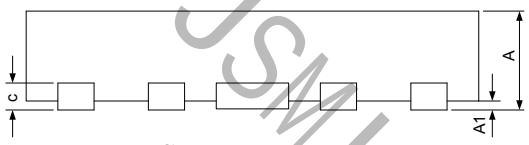
AZ9143-04F on eSATA Port Application



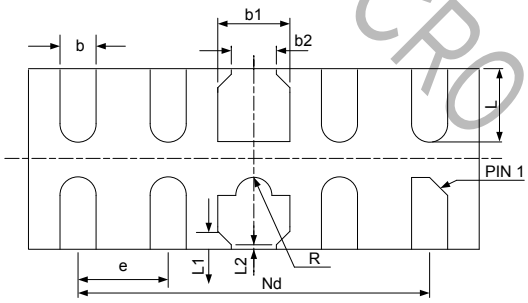
DFN2510-10 Package Outline Drawing



TOP VIEW



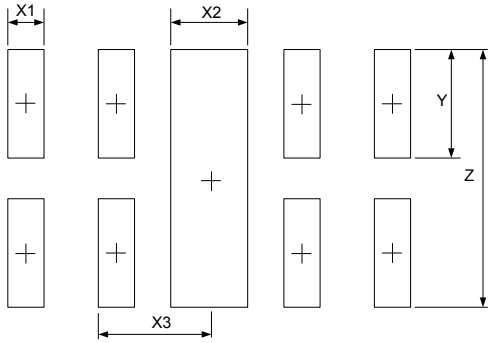
SIDE VIEW



BOTTOM VIEW

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	0.15	0.20	0.25	0.006	0.008	0.010
b1	0.35	0.40	0.45	0.014	0.016	0.018
b2	0.20	0.25	0.30	0.008	0.010	0.012
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.45	2.50	2.55	0.098	0.100	0.102
e	0.50BSC			0.020BSC		
Nd	2.00BSC			0.080BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
L1	0.075REF			0.003REF		
L2	0.050REF			0.002REF		
h	0.08	0.12	0.15	0.003	0.005	0.006
R	0.05	0.10	0.15	0.002	0.004	0.006

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X1	0.200	0.008
X2	0.400	0.016
X3	0.500	0.020
Y	0.600	0.024
Z	1.400	0.056