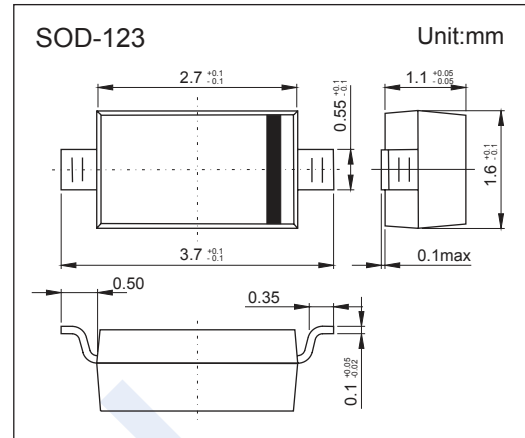


TVS Diodes

AZ4012-01G

■ Features

- ESD/Surge Protection for 1 Line with Unidirectional.
- Provide ESD protection for each line to
IEC 61000-4-2 (ESD) $\pm 30\text{kV}$ (air / contact)
IEC 61000-4-4 (EFT) 80A (5/50ns)
IEC 61000-4-5 (Lightning) 20A (8/20 μs)
- Fast turn-on and Low clamping voltage
- Suitable for, 12V and below, operatingo voltage applications



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Operating Supply Voltage (pin-1 to pin-2)	V_{DC}	13	V
Pin-1 to Pin-2 ESD Per IEC 61000-4-2 (Air)	V_{ESD}	± 30	KV
Pin-1 to Pin-2 ESD Per IEC 61000-4-2 (Contact)			
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{PP}	20	A
Junction Temperature	T_J	150	°C
Lead Soldering Temperature	T_{SOL}	260 (10sec)	
Operating Temperature	T_{OPR}	-55 to 85	
Storage Temperature range	T_{stg}	-55 to 150	

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	pin-1 to pin-2, $T=25^\circ\text{C}$			12	V
Reverse Leakage Current	I_{Leak}	$V_{RWM} = 12\text{V}$, $T=25^\circ\text{C}$, pin-1 to pin-2.			1	μA
Reverse Breakdown Voltage	V_{BV}	$I_{BV} = 1\text{mA}$, $T=25^\circ\text{C}$, pin-1 to pin-2	14.4		15.9	V
Forward voltage	V_F	$I_F = 15\text{mA}$, $T=25^\circ\text{C}$, pin-1 to pin-2	0.6		1.2	
Surge Clamping Voltage	$V_{CL-surge}$	$I_{PP}=5\text{A}$, $t_p=8/20\mu\text{s}$, $T=25^\circ\text{C}$, pin-1 to pin-2.		16.5		
ESD Clamping Voltage	V_{clamp}	IEC 61000-4-2 +6kV, $T=25^\circ\text{C}$, Contact mode, pin-1 to pin-2.		17.5		
ESD Dynamic Turn-on Resistance	$R_{dynamic}$	IEC 61000-4-2 0~+6kV, $T=25^\circ\text{C}$, Contact mode, pin-1 to pin-2.		0.12		Ω
Channel Input Capacitance	C_{IN}	$V_R = 0\text{V}$, $f = 1\text{MHz}$, $T=25^\circ\text{C}$, pin-1 to pin-2.		290	320	pF

■ Marking

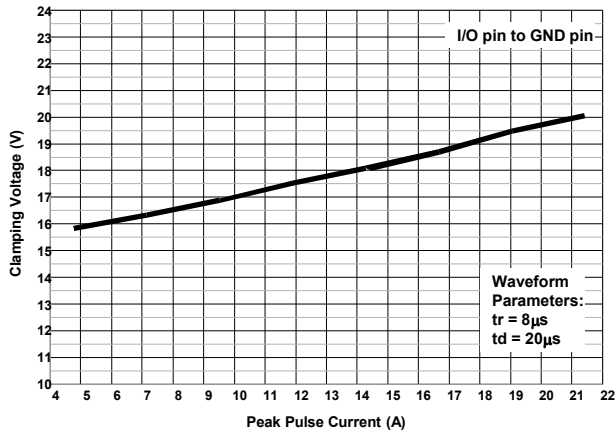
Marking	pX
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TVS Diodes

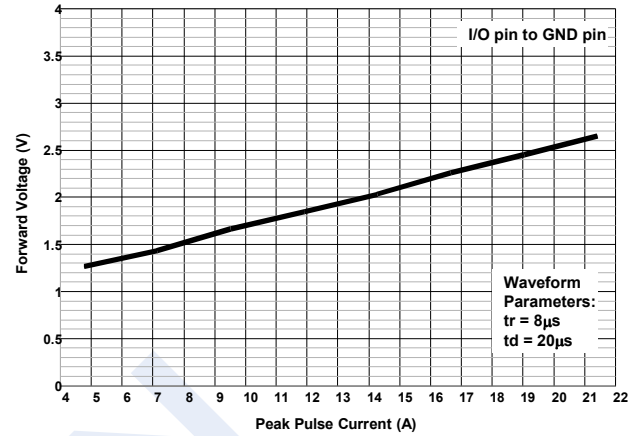
AZ4012-01G

Typical Characteristics

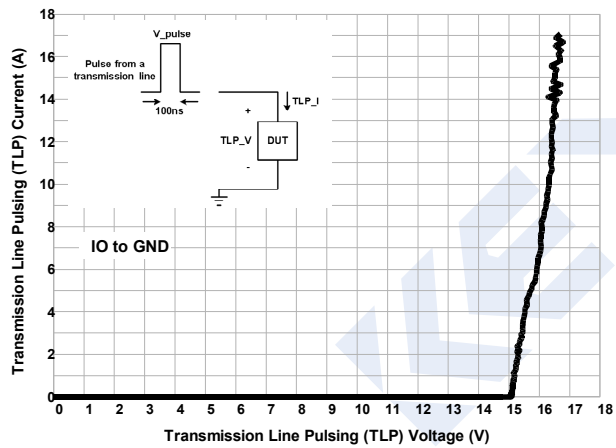
Reverse Clamping Voltage vs. Peak Pulse Current



Forward Clamping Voltage vs. Peak Pulse Current



Transmission Line Pulsing (TLP) Measurement



Typical Variation of CIN vs. VIN

