

TVS Diodes

AZ3005

■ 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) 60A (8/20 μs)
- Suitable for, 5V and below, operating voltage applications
- Protect one I/O line or one power line
- Fast turn-on and Low clamping voltage

SOD-123

1 2



Top View



PIN DESCRIPTION

PIN	DESCRIPTION
1	Cathode
2	Anode

■ Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
IEC 61000-4-2(ESD)	V _{ESD}	Air	± 30
		Contact	± 30
Peak pulse current (t _p =8/20 μs)	I _{PP}	60	A
Operating Supply Voltage (pin-1 to pin-2)	V _{DC}	5.5	V
Maximum lead temperature for soldering during 10s	T _L	260	°C
Operating temperature range	T _{OP}	-55 to +85	
Storage Temperature range	T _{stg}	-55 to +150	

■ Electrical Characteristics (T_a=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V _{RWM}				5	V
Reverse Leakage Current	I _{Leak}	V _{RWM} = 5 V			1	μA
Reverse Breakdown Voltage	V _{BR}	I _{BR} = 1mA	6	7.4	9	V
Forward Voltage	V _F	I _F = 15mA	0.6		1.2	
Surge Clamping Voltage	V _{CL-surge}	I _{PP} =5A, t _p =8/20 μs			10	
		I _{PP} =30A, t _p =8/20 μs			11	
		I _{PP} =60A, t _p =8/20 μs			15	
ESD Clamping Voltage	V _{clamp}	IEC 61000-4-2 0~+6kV, Contact mode		8.5		
ESD Dynamic Turn-on Resistance	R _{dynamic}	IEC 61000-4-2 0~+6kV, Contact mode		0.06		Ω
Channel Input Capacitance	C _{IN}	V _R = 0V, f = 1MHz			1.5	nF

■ Marking

Marking	5X
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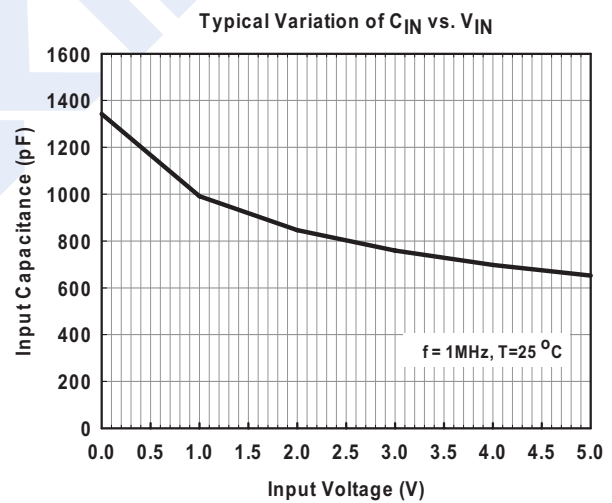
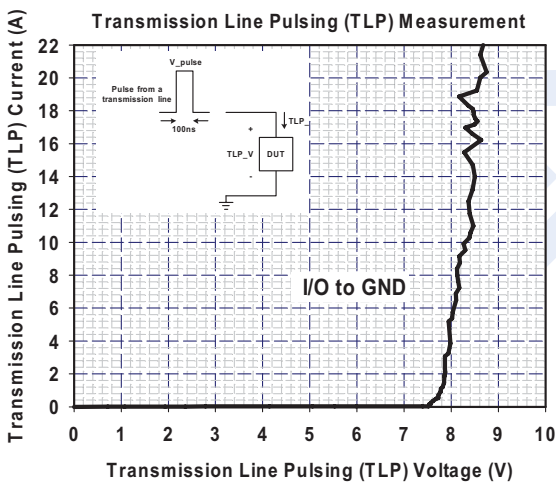
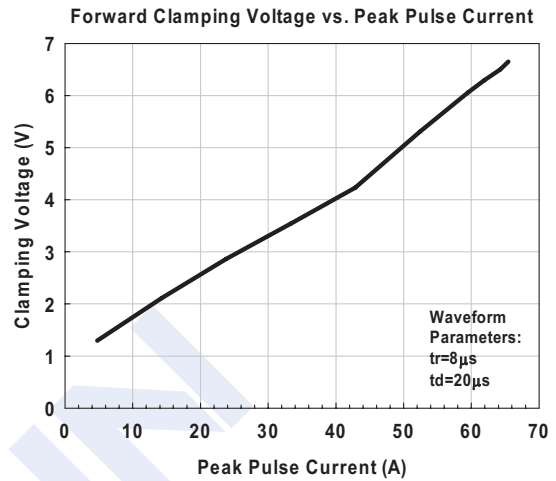
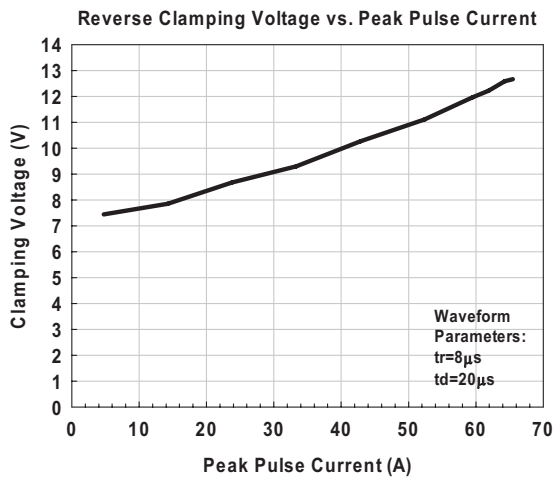
5 = Device Code

X = Date Code

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■ Typical Characteristics



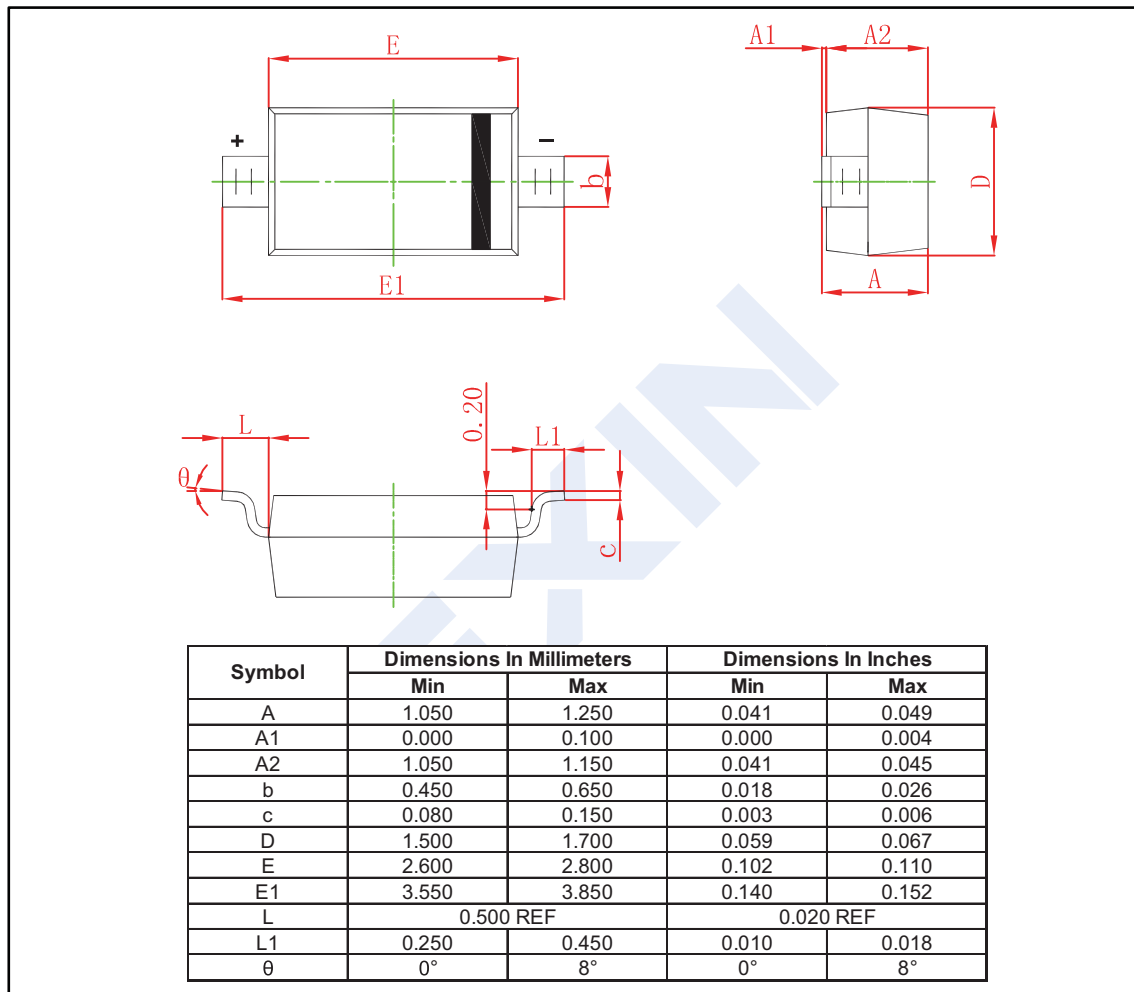
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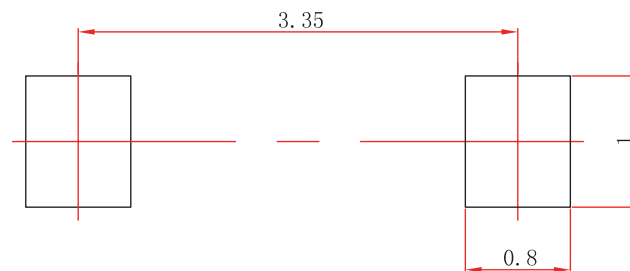
■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SOD-123



■ The Recommended Mounting Pad Size

**Note:**

1. Controlling dimension in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.