

PEC3212C1CS-AU

ESD PROTECTION

Voltage

12 V

Features

- ISO10605(C=330pF, R=330Ω): ±30kV Air, ±30kV Contact
- IEC61000-4-5(Lightning): 5A(8/20uS)
- HBM $\geq \pm 8$ kV & CDM $\geq \pm 2$ kV
- Low clamping voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard
- AEC-Q101 qualified

Mechanical Data

- Case: Molded plastic, SOD-323
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.00014 ounces, 0.0041 grams

SOD-323



Maximum Ratings and Thermal Characteristics (T_A=25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ISO10605(C=330pF, R=330Ω) (Air)	V _{ESD}	±30	kV
ISO10605(C=330pF, R=330Ω) (Contact)		±30	
Typical Thermal Resistance	R _{θJA} ⁽¹⁾	650	°C/W
Operating Junction Temperature Range	T _J	-55~150	°C
Storage Temperature Range	T _{STG}	-55~150	°C



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Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	$V_{RWM}^{(2)}$	-	-	-	12	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$, Any I/O pins to GND	13	-	16	V
Reverse Leakage Current	I_R	$V_R = 12\text{ V}$	-	-	0.1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}$, $t_P = 8/20\text{ }\mu\text{s}$, Any I/O pins to GND	-	-	20	V
		$I_{PP} = 5\text{ A}$, $t_P = 8/20\text{ }\mu\text{s}$, Any I/O pins to GND	-	-	23	
Clamping Voltage TLP	$V_{CL}^{(3)}$	$I_{PP} = 8\text{ A}$, $t_P = 100\text{ ns}$	-	17	-	V
		$I_{PP} = 16\text{ A}$, $t_P = 100\text{ ns}$	-	20	-	
Dynamic Resistance	R_{DYN}	$t_P = 100\text{ ns}$	-	0.38	-	Ω
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$, Any I/O pins to GND	-	15	20	pF

NOTES:

1. Mounted on a FR4 PCB, Single-sided copper, mini pad.
2. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), which should be equal to or greater than the DC or continuous peak operation voltage level.
3. Testing using Transmission Line Pulse (TLP) conditions: $Z_0 = 50\Omega$, $t_P = 100\text{ ns}$.

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TYPICAL CHARACTERISTIC CURVES

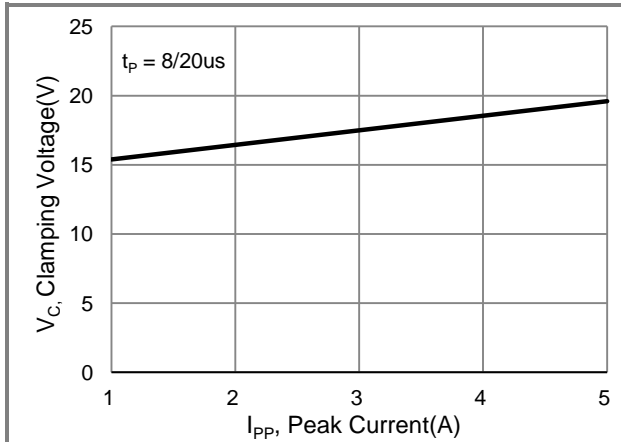


Fig.1 Typical Peak Clamping Voltage

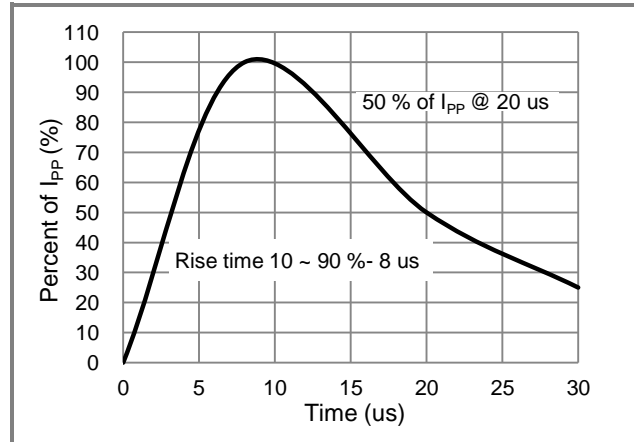


Fig.2 Pulse Waveform

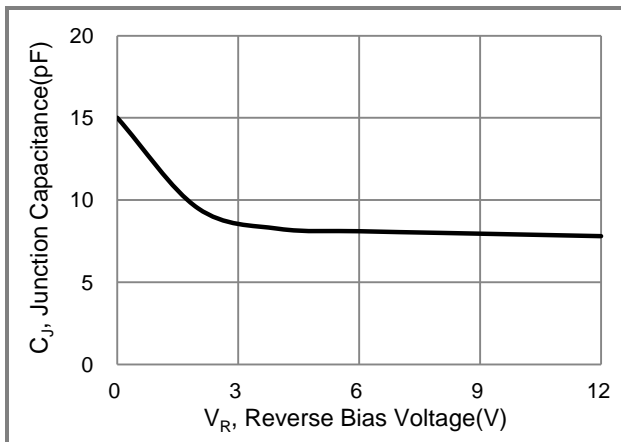


Fig.3 Typical Junction Capacitance

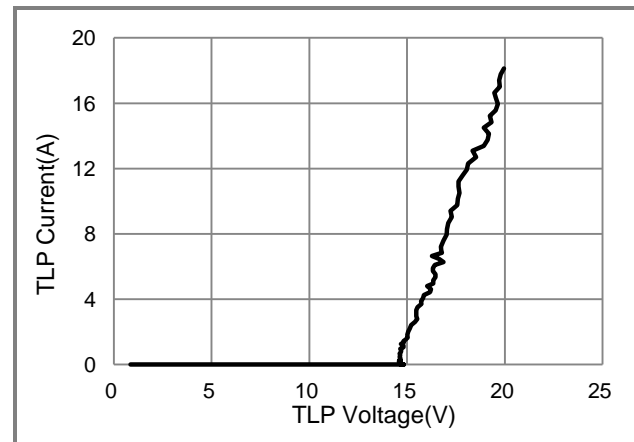


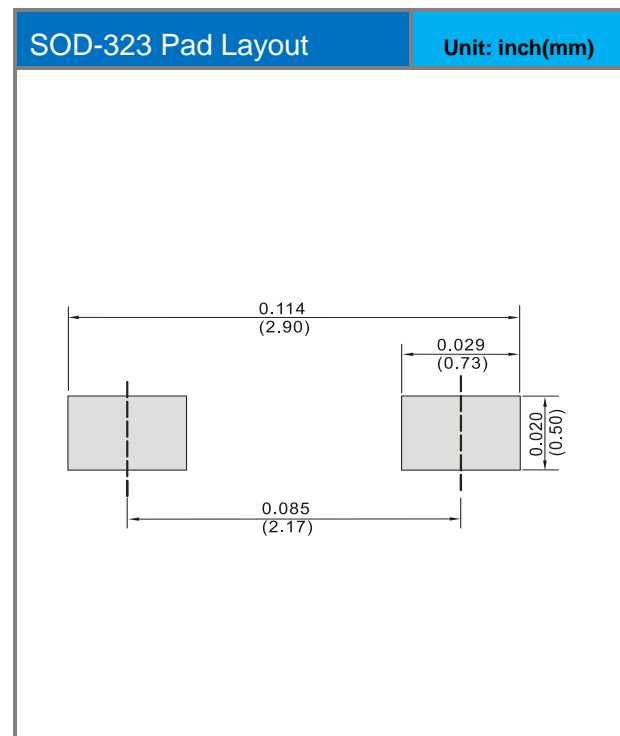
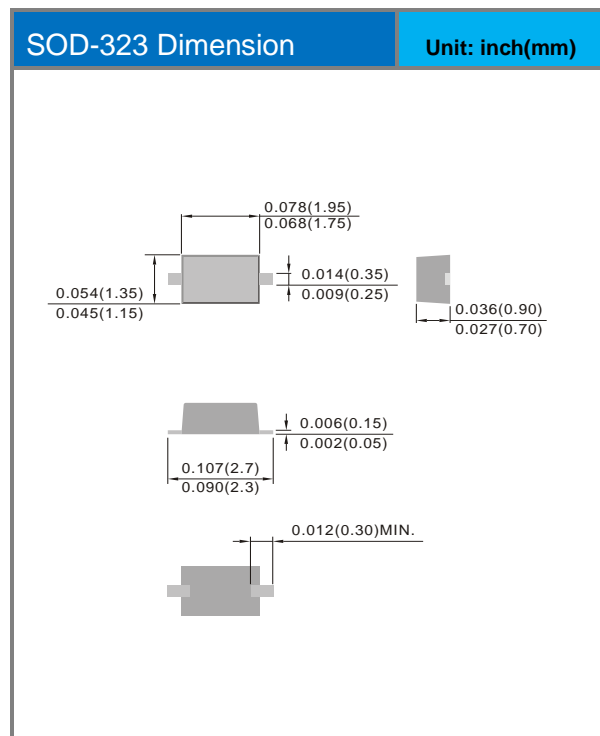
Fig.4 TLP Measurement

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Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
PEC3212C1CS-AU_R1_000A1	SOD-323	5K / 7" Reel	32S	Halogen Free

Packaging Information & Mounting Pad Layout





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