

PE4305CS-AU ~ PE4336CS-AU Series

ESD Protection

Voltage

5~36 V

Features

- IEC61000-4-2 : $\pm 30\text{kV}$ Air, $\pm 30\text{kV}$ Contact
- IEC61000-4-5(Lightning) : 3.3~17.5A(8/20 μs)
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOD-323 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0041 grams

SOD-323



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

PARAMETER	SYMBOL	LIMIT	UNIT
ESD IEC61000-4-2(Air)	V _{ESD}	± 30	kV
ESD IEC61000-4-2(Contact)		± 30	
Typical Thermal Resistance ^(Note 1)	R _{θJA}	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 °C unless otherwise noted)

PE4305CS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V _{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V _{BR}	I _{BT} = 1mA	6	-	8.5	V
Reverse Leakage Current	I _R	V _R = 5V	-	-	1	uA
Clamping Voltage	V _{CL}	I _{PP} = 1A, t _P = 8/20us	-	-	8.5	V
		I _{PP} = 17.5A, t _P = 8/20us	-	-	12.4	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	200	pF

PE4307CS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V _{RWM}	-	-	-	7	V
Reverse Breakdown Voltage	V _{BR}	I _{BT} = 1mA	7.7	-	10	V
Reverse Leakage Current	I _R	V _R = 7V	-	-	1	uA
Clamping Voltage	V _{CL}	I _{PP} = 1A, t _P = 8/20us	-	-	12	V
		I _{PP} = 12.9A, t _P = 8/20us	-	-	16.8	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	160	pF

PE4309CS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V _{RWM}	-	-	-	9	V
Reverse Breakdown Voltage	V _{BR}	I _{BT} = 1mA	9.9	-	12	V
Reverse Leakage Current	I _R	V _R = 9V	-	-	1	uA
Clamping Voltage	V _{CL}	I _{PP} = 1A, t _P = 8/20us	-	-	13	V
		I _{PP} = 9.5A, t _P = 8/20us	-	-	23	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	120	pF

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PE4312CS-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	12	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	13.2	-	15.5	V
Reverse Leakage Current	I_R	$V_R = 12V$	-	-	1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1A, t_P = 8/20\mu s$	-	-	17	V
		$I_{PP} = 8.3A, t_P = 8/20\mu s$	-	-	26.5	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	90	pF

PE4315CS-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	15	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	16.5	-	20	V
Reverse Leakage Current	I_R	$V_R = 15V$	-	-	1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1A, t_P = 8/20\mu s$	-	-	22	V
		$I_{PP} = 7.8A, t_P = 8/20\mu s$	-	-	28	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	65	pF

PE4320CS-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	20	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	22	-	26	V
Reverse Leakage Current	I_R	$V_R = 20V$	-	-	1	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1A, t_P = 8/20\mu s$	-	-	29	V
		$I_{PP} = 5.8A, t_P = 8/20\mu s$	-	-	38	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	55	pF

PE4305CS-AU ~ PE4336CS-AU Series

PE4324CS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	24	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1\text{mA}$	26.4	-	31	V
Reverse Leakage Current	I_R	$V_R = 24\text{V}$	-	-	0.05	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{A}, t_P = 8/20\mu\text{s}$	-	-	35	V
		$I_{PP} = 4.8\text{A}, t_P = 8/20\mu\text{s}$	-	-	45	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{MHz}$	-	-	42	pF

PE4336CS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	36	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1\text{mA}$	39.6	-	47	V
Reverse Leakage Current	I_R	$V_R = 36\text{V}$	-	-	0.05	μA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{A}, t_P = 8/20\mu\text{s}$	-	-	51	V
		$I_{PP} = 3.3\text{A}, t_P = 8/20\mu\text{s}$	-	-	65	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{MHz}$	-	-	20	pF

NOTES :

1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
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.

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TYPICAL CHARACTERISTIC CURVES

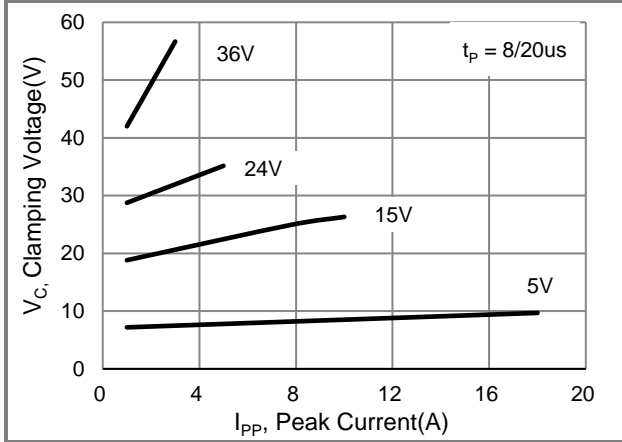


Fig.1 Typical Peak Clamping Voltage

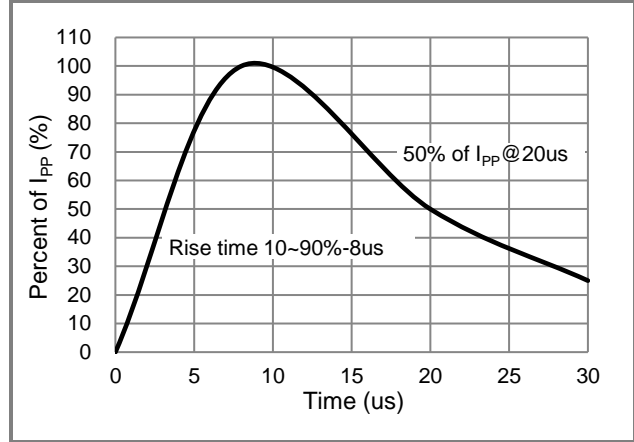


Fig.2 Pulse Waveform

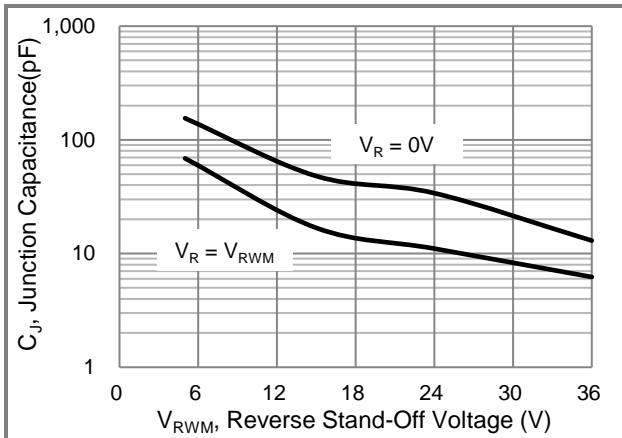


Fig.3 Typical Junction Capacitance

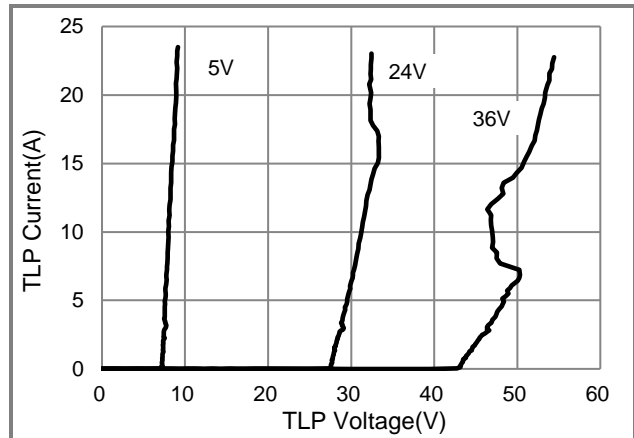


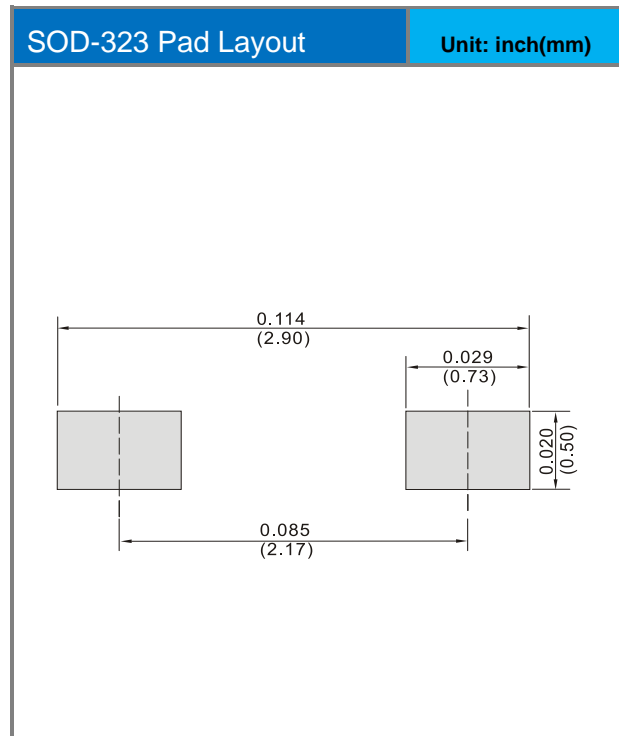
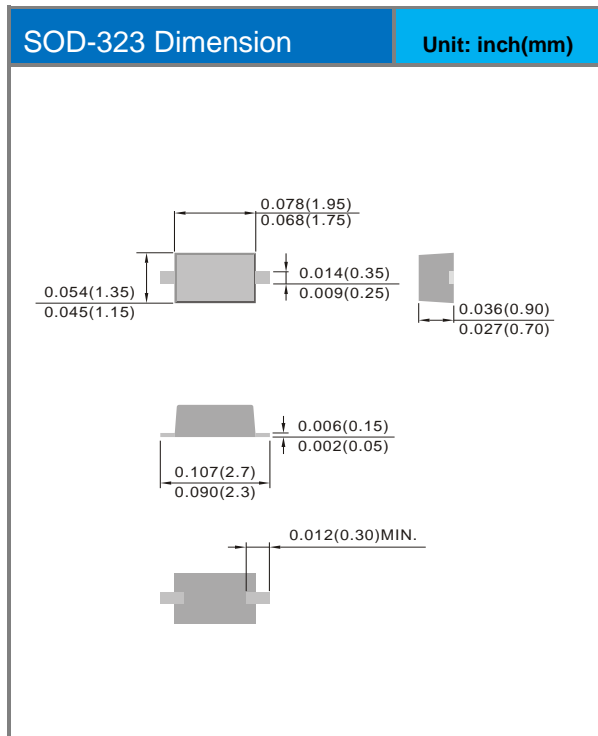
Fig.4 TLP Measurement

PE4305CS-AU ~ PE4336CS-AU Series

Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PE4305CS-AU	SOD-323	5K pcs / 7" reel	ACG
PE4307CS-AU	SOD-323	5K pcs / 7" reel	ACJ
PE4309CS-AU	SOD-323	5K pcs / 7" reel	ACK
PE4312CS-AU	SOD-323	5K pcs / 7" reel	ACL
PE4315CS-AU	SOD-323	5K pcs / 7" reel	ACM
PE4320CS-AU	SOD-323	5K pcs / 7" reel	ACN
PE4324CS-AU	SOD-323	5K pcs / 7" reel	ACP
PE4336CS-AU	SOD-323	5K pcs / 7" reel	ACR

Packaging Information & Mounting Pad Layout



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