

PE4503C2A ~ PE4536C2A Series

ESD Protection

Voltage

3.3~36 V

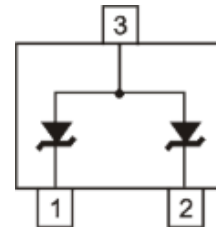
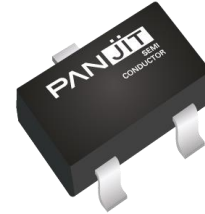
Features

- IEC61000-4-2(ESD) : ± 30 kV Air, ± 30 kV Contact
- IEC61000-4-5(Lightning) : 6~37.8A(8/20 μ S)
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : SOT-23 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0084 grams

SOT-23



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

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V _{ESD}	± 30	kV
ESD IEC61000-4-2(Contact)		± 30	
Typical Thermal Resistance ^(Note 1)	R _{θJA}	350	°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)

PE4503C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V _{RWM}	-	-	-	3.3	V
Reverse Breakdown Voltage	V _{BR}	I _{BT} = 1mA	5	-	7	V
Reverse Leakage Current	I _R	V _R = 3.3V	-	-	1	uA
Clamping Voltage	V _C	I _{PP} = 37.8A, t _P = 8/20us	-	-	13	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	400	pF

PE4505C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V _{RWM}	-	-	-	5	V
Reverse Breakdown Voltage	V _{BR}	I _{BT} = 1mA	6	-	8	V
Reverse Leakage Current	I _R	V _R = 5V	-	-	1	uA
Clamping Voltage	V _C	I _{PP} = 31.2A, t _P = 8/20us	-	-	15	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	390	pF

PE4509C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
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	-	-	0.5	uA
Clamping Voltage	V _C	I _{PP} = 20.4A, t _P = 8/20us	-	-	23	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	290	pF

PE4512C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
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	-	-	0.1	uA
Clamping Voltage	V _C	I _{PP} = 17.4A, t _P = 8/20us	-	-	26.5	V
Off State Junction Capacitance	C _J	0Vdc Bias f = 1MHz	-	-	195	pF

PE4503C2A ~ PE4536C2A Series

PE4515C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	15	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	16.5	-	19.5	V
Reverse Leakage Current	I_R	$V_R = 15V$	-	-	0.1	μA
Clamping Voltage	V_C	$I_{PP} = 13.2A, t_P = 8/20\mu s$	-	-	35.5	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	127	pF

PE4524C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	24	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	26.4	-	31	V
Reverse Leakage Current	I_R	$V_R = 24V$	-	-	0.1	μA
Clamping Voltage	V_C	$I_{PP} = 8.4A, t_P = 8/20\mu s$	-	-	55	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	82.5	pF

PE4536C2A

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	36	V
Reverse Breakdown Voltage	V_{BR}	$I_{BT} = 1mA$	39.6	-	46.5	V
Reverse Leakage Current	I_R	$V_R = 36V$	-	-	0.1	μA
Clamping Voltage	V_C	$I_{PP} = 6A, t_P = 8/20\mu s$	-	-	67.5	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1MHz$	-	-	60	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

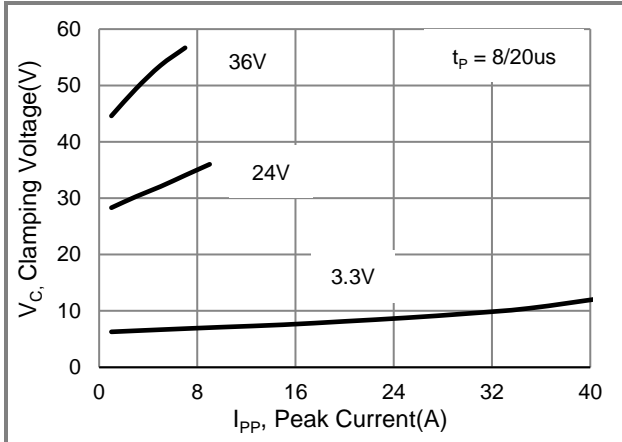


Fig.1 Typical Peak Clamping Voltage

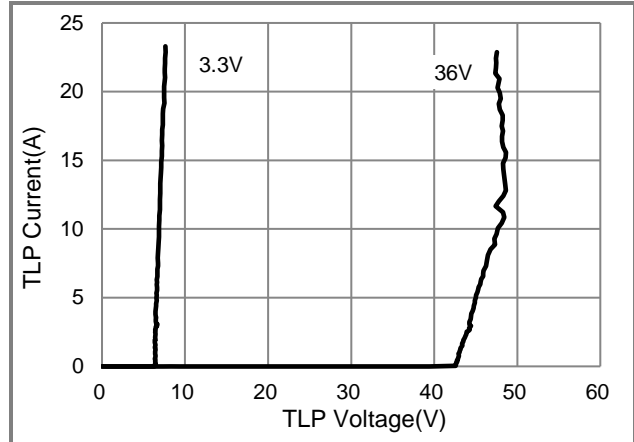


Fig.2 TLP Measurement

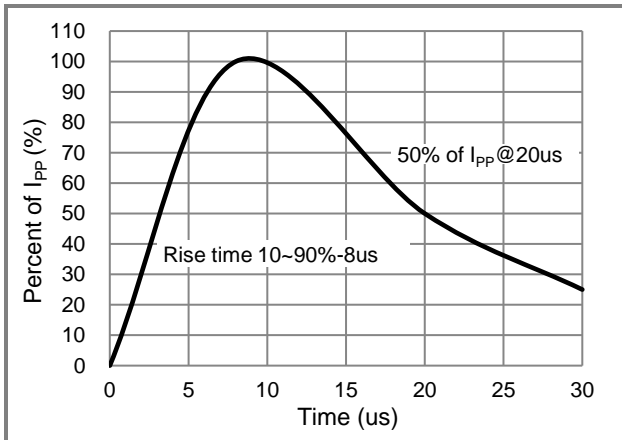


Fig.3 Pulse Waveform

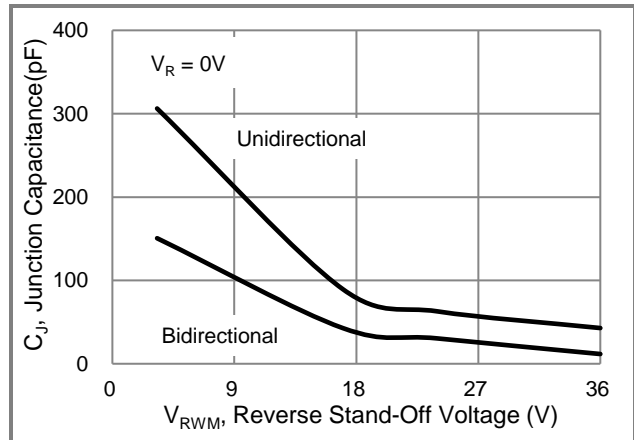


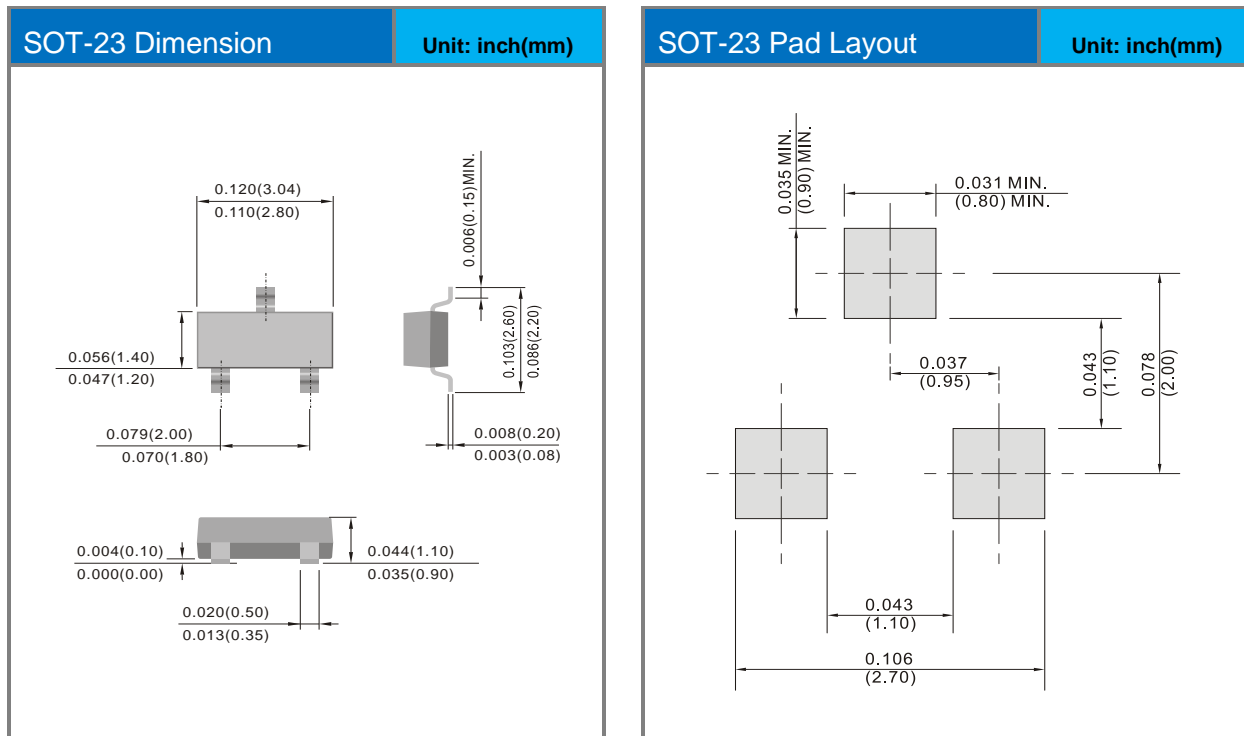
Fig.4 Typical Junction Capacitance

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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PE4503C2A	SOT-23	3K pcs / 7" reel	AEG
PE4505C2A	SOT-23	3K pcs / 7" reel	AEA
PE4509C2A	SOT-23	3K pcs / 7" reel	AEB
PE4512C2A	SOT-23	3K pcs / 7" reel	AEC
PE4515C2A	SOT-23	3K pcs / 7" reel	AED
PE4524C2A	SOT-23	3K pcs / 7" reel	AEE
PE4536C2A	SOT-23	3K pcs / 7" reel	AEF

Packaging Information & Mounting Pad Layout



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