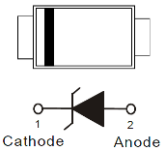
PE4505CS ~ PE4536CS Series

ESD Protection

Voltage **5~36 V**

SOD-323



Features

- IEC61000-4-2(ESD) : ±30kV Air, ±30kV Contact
- IEC61000-4-5(Lightning) : 6~31.2A(8/20uS)
- 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

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

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air) ESD IEC61000-4-2(Contact)	V_{ESD}	±30 ±30	kV
Typical Thermal Resistance(Note 1)	$R_{\theta JA}$	650	°C/W
Operating Junction Temperature Range	T_J	-55~150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

PE4505CS ~ PE4536CS Series

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

PE4505CS						
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

PE4507CS						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	7	V
Reverse Breakdown Voltage	V_{BR}	I_{BT} = 1mA	7.7	-	9	V
Reverse Leakage Current	I_R	V_R = 7V	-	-	1	uA
Clamping Voltage	V_C	I_{PP} = 28.8A, t_P = 8/20us	-	-	16.5	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1MHz	-	-	355	pF

PE4509CS						
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

PE4512CS						
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

PE4505CS ~ PE4536CS Series

PE4515CS						
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	uA
Clamping Voltage	V_C	I_{PP} = 13.2A, t_P = 8/20us	-	-	35.5	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1MHz	-	-	127	pF

PE4520CS						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
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	-	-	0.1	uA
Clamping Voltage	V_C	I_{PP} = 11.4A, t_P = 8/20us	-	-	40	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1MHz	-	-	105	pF

PE4524CS						
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	uA
Clamping Voltage	V_C	I_{PP} = 8.4A, t_P = 8/20us	-	-	55	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1MHz	-	-	82.5	pF

PE4536CS						
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	uA
Clamping Voltage	V_C	I_{PP} = 6A, t_P = 8/20us	-	-	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.

PE4505CS ~ PE4536CS Series

TYPICAL CHARACTERISTIC CURVES

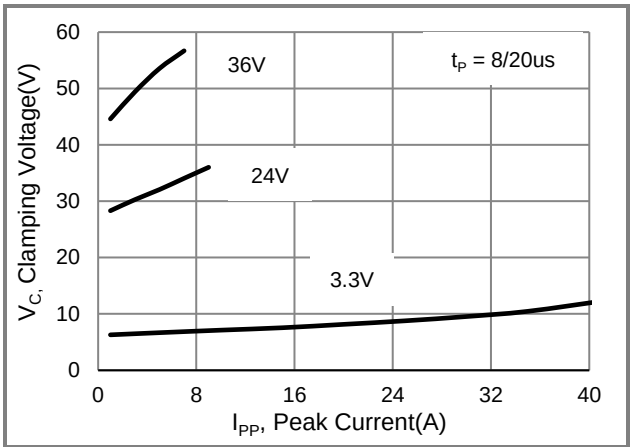


Fig.1 Typical Peak Clamping Voltage

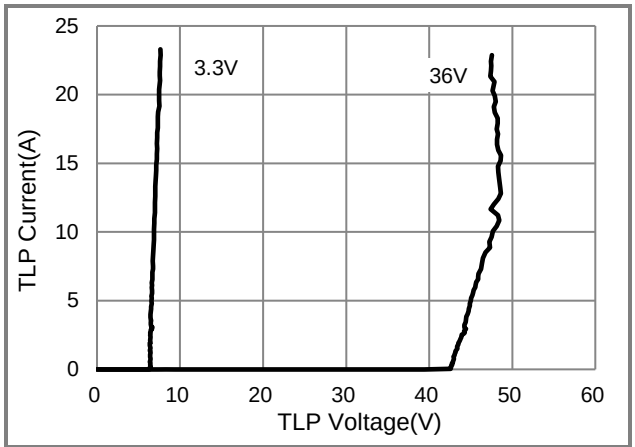


Fig.2 TLP MeCSurement

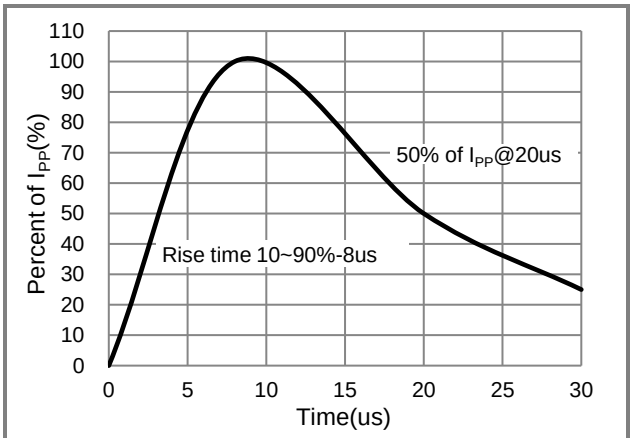


Fig.3 Pulse Waveform

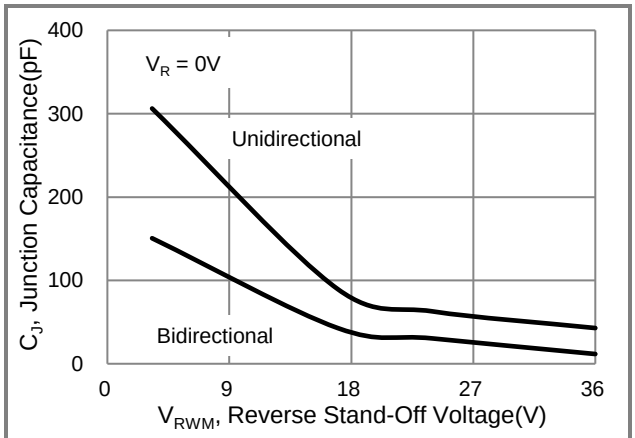


Fig.4 Typical Junction Capacitance

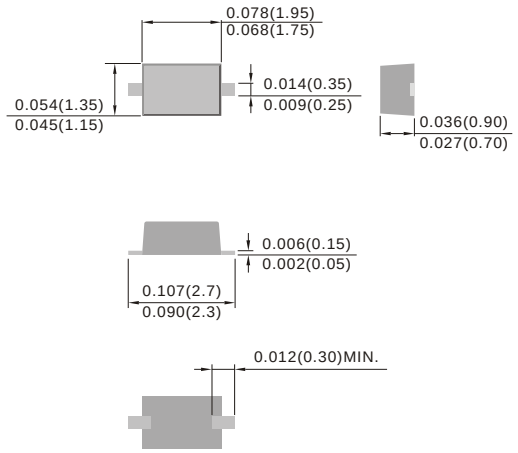
PE4505CS ~ PE4536CS Series

Product and Packing Information

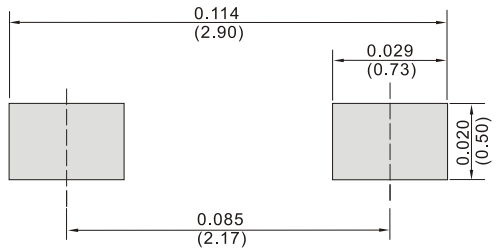
Part No.	Package Type	Packing Type	Marking
PE4505CS	SOD-323	5K pcs / 7" reel	AEA
PE4507CS	SOD-323	5K pcs / 7" reel	AEB
PE4509CS	SOD-323	5K pcs / 7" reel	AEC
PE4512CS	SOD-323	5K pcs / 7" reel	AED
PE4515CS	SOD-323	5K pcs / 7" reel	AEE
PE4520CS	SOD-323	5K pcs / 7" reel	AEF
PE4524CS	SOD-323	5K pcs / 7" reel	AEG
PE4536CS	SOD-323	5K pcs / 7" reel	AEJ

Packaging Information & Mounting Pad Layout

SOD-323 Dimension — Unit: inch(mm)



SOD-323 Pad Layout — Unit: inch(mm)



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