PEC3808CS-AU ~ PEC3836CS-AU Series

ESD Protection

Voltage **8~36 V**

SOD-323

Features

- ISO10605(C=330pF, R=330Ω) :
  -±30kV Air, ±30kV Contact for 8V ~ 27V
  -±25kV Air, ±20kV Contact for 36V
- HBM ≧ ±8KV & CDM ≧ ±2KV
- ISO7637-3(Note 3) :
  -Pulse 3a : VS = -150V
  -Pulse 3b : VS = +100V
- IEC61000-4-5(Lightning) : 8~1.5A(8/20uS)
- 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

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

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

PEC3808CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	8	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	8.5	-	12.5	V
Reverse Leakage Current	I_R	V_R = 8 V	-	-	500	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	14	V
		I_{PP} = 8 A, t_P = 8/20 us	-	-	18	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	70	pF

PEC3812CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	12	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	13	-	18	V
Reverse Leakage Current	I_R	V_R = 12 V	-	-	500	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	19	V
		I_{PP} = 4.5 A, t_P = 8/20 us	-	-	27	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	45	pF

PEC3815CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	15	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	16	-	22.5	V
Reverse Leakage Current	I_R	V_R = 15 V	-	-	500	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	24	V
		I_{PP} = 3.5 A, t_P = 8/20 us	-	-	33	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	40	pF

PEC3808CS-AU ~ PEC3836CS-AU Series

PEC3824CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	24	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	25.5	-	35.5	V
Reverse Leakage Current	I_R	V_R = 24 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	40	V
		I_{PP} = 3 A, t_P = 8/20 us	-	-	45	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	20	pF

PEC3827CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	27	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	28	-	38	V
Reverse Leakage Current	I_R	V_R = 27 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	43	V
		I_{PP} = 3 A, t_P = 8/20 us	-	-	48	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	18	pF

PEC3836CS-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNITS**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	36	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	37.5	-	52.5	V
Reverse Leakage Current	I_R	V_R = 36 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	-	61	V
		I_{PP} = 1.5 A, t_P = 8/20 us	-	-	70	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	15	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.
3. Not applicable to parts with V_{RWM} lower than battery voltage.

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TYPICAL CHARACTERISTIC CURVES

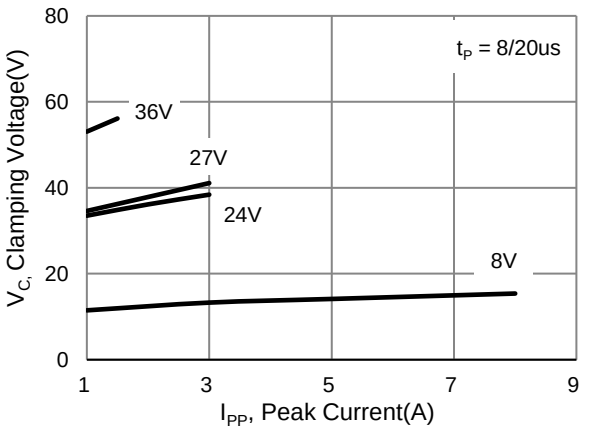

Fig.1 Typical Peak Clamping Voltage

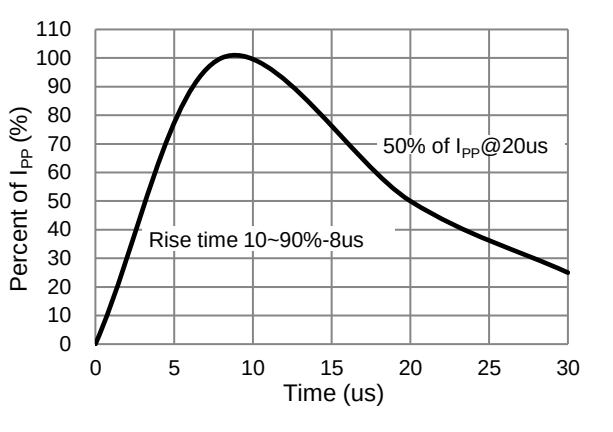

Fig.2 Pulse Waveform

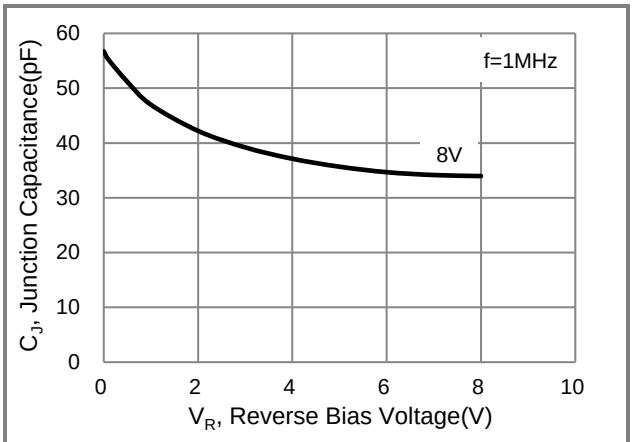

Fig.3 Typical Junction Capacitance

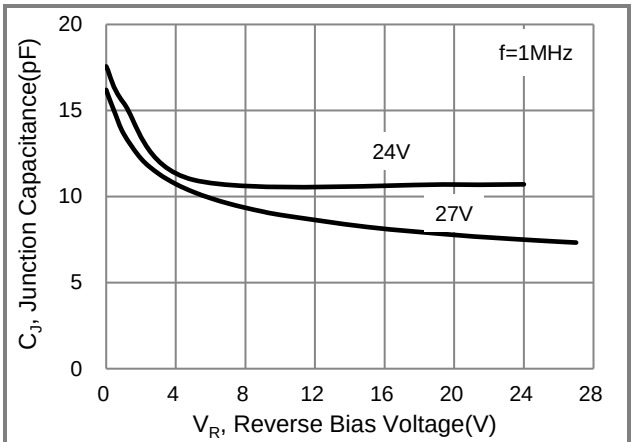

Fig.4 Typical Junction Capacitance

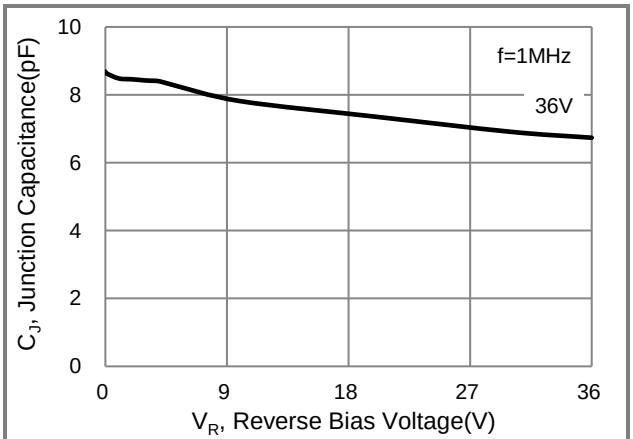

Fig.5 Typical Junction Capacitance

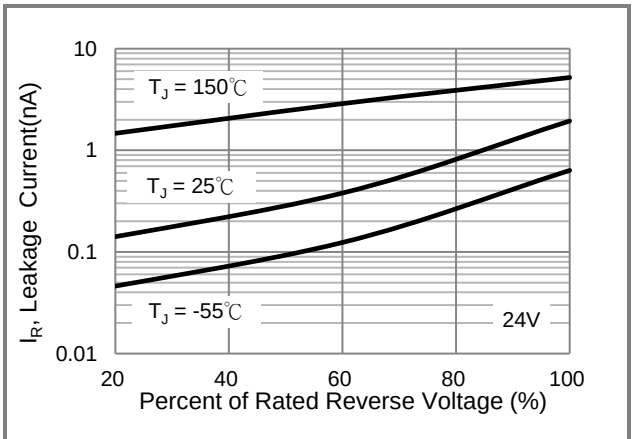

Fig.6 Typical Reverse Characteristics

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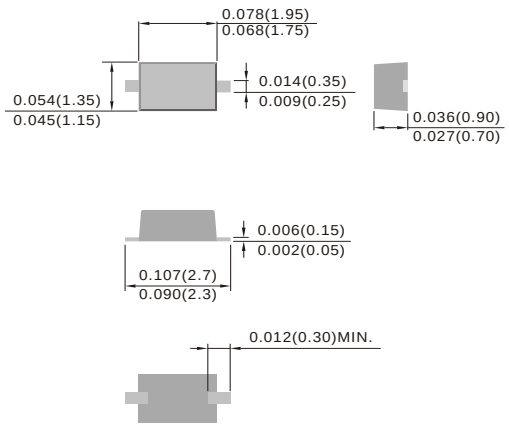
Product and Packing Information

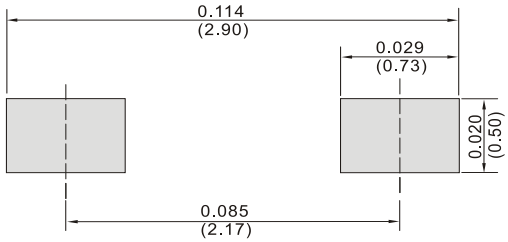
Part No.	Package Type	Packing Type	Marking
PEC3808CS-AU	SOD-323	5K pcs / 7" reel	AFH
PEC3812CS-AU	SOD-323	5K pcs / 7" reel	BFH
PEC3815CS-AU	SOD-323	5K pcs / 7" reel	CFH
PEC3824CS-AU	SOD-323	5K pcs / 7" reel	EFH
PEC3827CS-AU	SOD-323	5K pcs / 7" reel	FFH
PEC3836CS-AU	SOD-323	5K pcs / 7" reel	DFH

Packaging Information & Mounting Pad Layout

SOD-323 Dimension — Unit: inch(mm)



SOD-323 Pad Layout — Unit: inch(mm)



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