



## PEC3808AS-AU ~ PEC3836AS-AU Series

### ESD Protection

**Voltage**

**8~36 V**

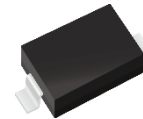
### Features

- ISO10605(C=330pF, R=330Ω) :  
-±30kV Air, ±30kV Contact for 8V ~ 24V  
-±25kV Air, ±20kV Contact for 36V
- HBM  $\geq \pm 8KV$  & CDM  $\geq \pm 2KV$
- ISO7637-3(Notes 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-123 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0004 ounces, 0.0104 grams

SOD-123



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance(Notes 1)	R <sub>θJA</sub>	510	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



## PEC3808AS-AU ~ PEC3836AS-AU Series

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

PEC3808AS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage <sup>(Note 2)</sup>	$V_{RWM}$	-	-	-	8	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{ mA}$	8.5	-	12.5	V
Reverse Leakage Current	$I_R$	$V_R = 8\text{ V}$	-	-	500	nA
Clamping Voltage	$V_{CL}$	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	-	14	V
		$I_{PP} = 8\text{ A}, t_P = 8/20\text{ us}$	-	-	18	V
Off State Junction Capacitance	$C_J$	0Vdc Bias $f = 1\text{ MHz}$	-	-	70	pF

PEC3812AS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage <sup>(Note 2)</sup>	$V_{RWM}$	-	-	-	12	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{ mA}$	13	-	18	V
Reverse Leakage Current	$I_R$	$V_R = 12\text{ V}$	-	-	500	nA
Clamping Voltage	$V_{CL}$	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	-	19	V
		$I_{PP} = 4.5\text{ A}, t_P = 8/20\text{ us}$	-	-	27	V
Off State Junction Capacitance	$C_J$	0Vdc Bias $f = 1\text{ MHz}$	-	-	45	pF

PEC3815AS-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage <sup>(Note 2)</sup>	$V_{RWM}$	-	-	-	15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1\text{ mA}$	16	-	22.5	V
Reverse Leakage Current	$I_R$	$V_R = 15\text{ V}$	-	-	500	nA
Clamping Voltage	$V_{CL}$	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	-	24	V
		$I_{PP} = 3.5\text{ A}, t_P = 8/20\text{ us}$	-	-	33	V
Off State Junction Capacitance	$C_J$	0Vdc Bias $f = 1\text{ MHz}$	-	-	40	pF



## PEC3808AS-AU ~ PEC3836AS-AU Series

### PEC3824AS-AU

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

### PEC3836AS-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage <sup>(Note 2)</sup>	$V_{RWM}$	-	-	-	36	V
Reverse Breakdown Voltage	$V_{BR}$	$I_{BR} = 1 \text{ mA}$	37.5	-	52.5	V
Reverse Leakage Current	$I_R$	$V_R = 36 \text{ V}$	-	-	50	nA
Clamping Voltage	$V_{CL}$	$I_{PP} = 1 \text{ A}, t_P = 8/20 \text{ us}$	-	-	61	V
		$I_{PP} = 1.5 \text{ A}, t_P = 8/20 \text{ us}$	-	-	70	V
Off State Junction Capacitance	$C_J$	0Vdc Bias $f = 1 \text{ MHz}$	-	-	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

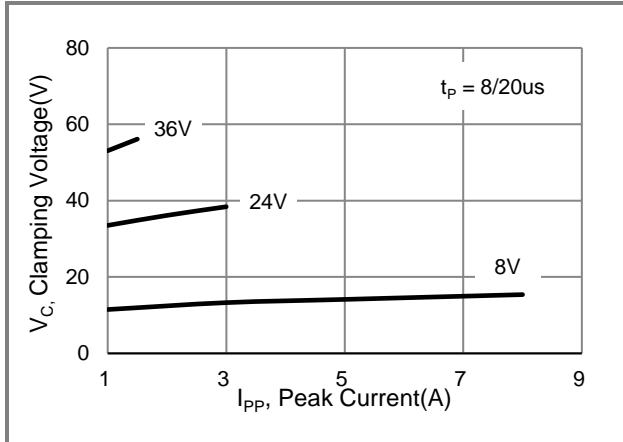


Fig.1 Typical Peak Clamping Voltage

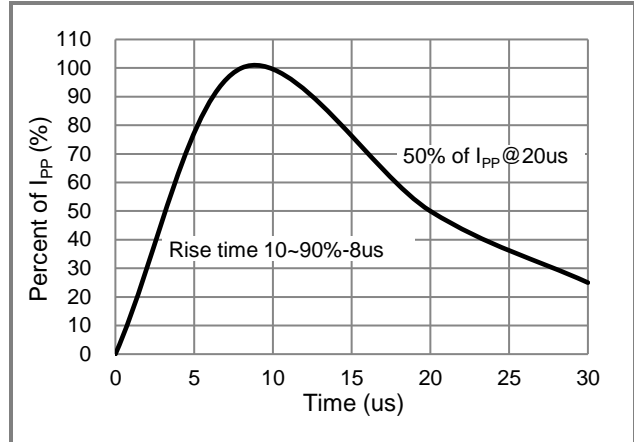


Fig.2 Pulse Waveform

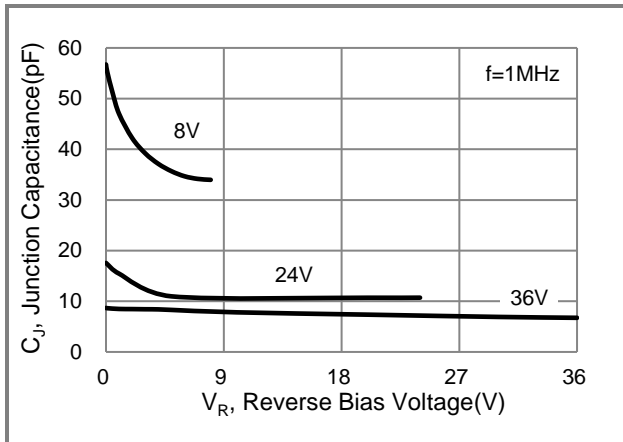


Fig.3 Typical Junction Capacitance

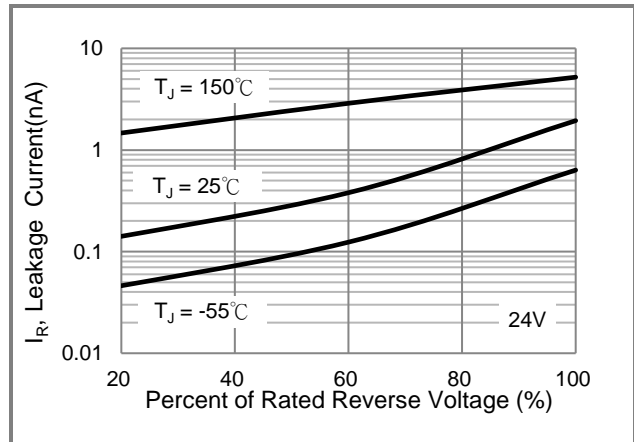


Fig.4 Typical Reverse Characteristics



## PEC3808AS-AU ~ PEC3836AS-AU Series

### Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PEC3808AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	5AS	Halogen free RoHS compliant
PEC3812AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	6AS	Halogen free RoHS compliant
PEC3815AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	7AS	Halogen free RoHS compliant
PEC3824AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	8AS	Halogen free RoHS compliant
PEC3836AS-AU_R1_000A1	SOD-123	3K pcs / 7" reel	9AS	Halogen free RoHS compliant

### Packaging Information & Mounting Pad Layout

