



PEC3808C2E-AU ~ PEC3836C2E-AU Series

ESD Protection

Voltage

8~36 V

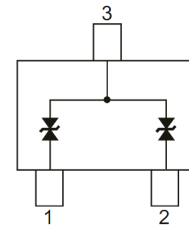
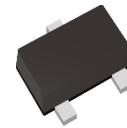
Features

- ISO10605(C=330pF, R=330Ω) :
-±30kV Air, ±30kV Contact for 8V ~ 24V
-±25kV Air, ±20kV Contact for 36V
- HBM ≥ ±8KV & CDM ≥ ±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 : SOT-523 Package
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.002 grams

SOT-523



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}	630	°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)

PEC3808C2E-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

PEC3812C2E-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

PEC3815C2E-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



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PEC3824C2E-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	24	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1 \text{ mA}$	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

PEC3836C2E-AU						
PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	36	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1 \text{ mA}$	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

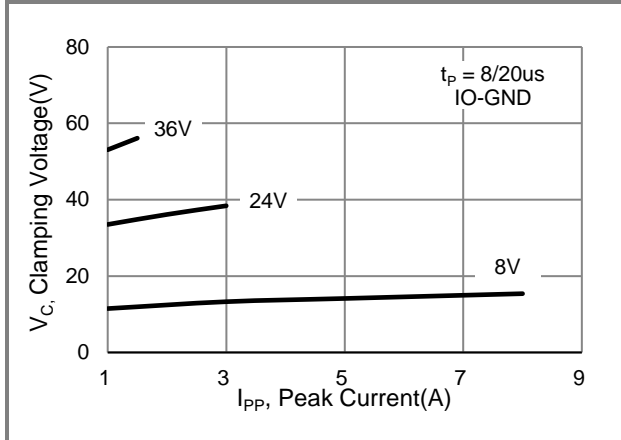


Fig.1 Typical Peak Clamping Voltage

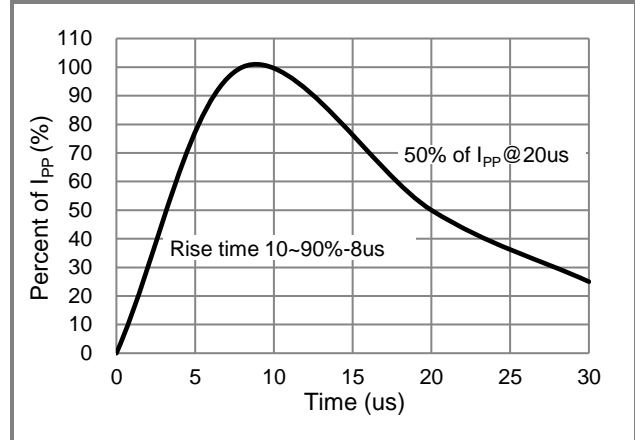


Fig.2 Pulse Waveform

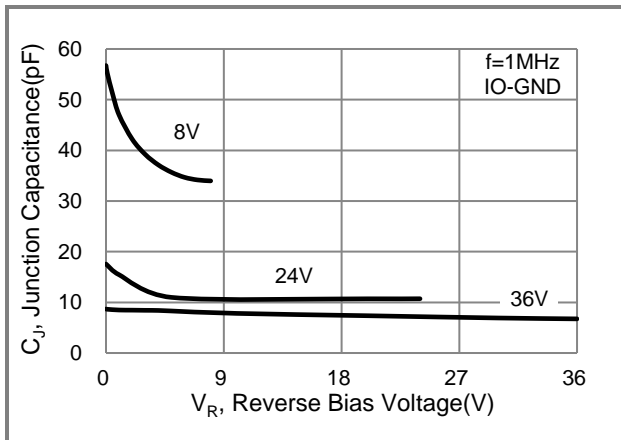


Fig.3 Typical Junction Capacitance

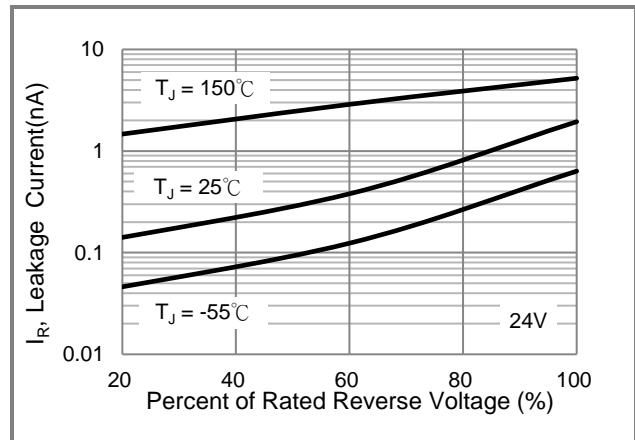


Fig.4 Typical Reverse Characteristics

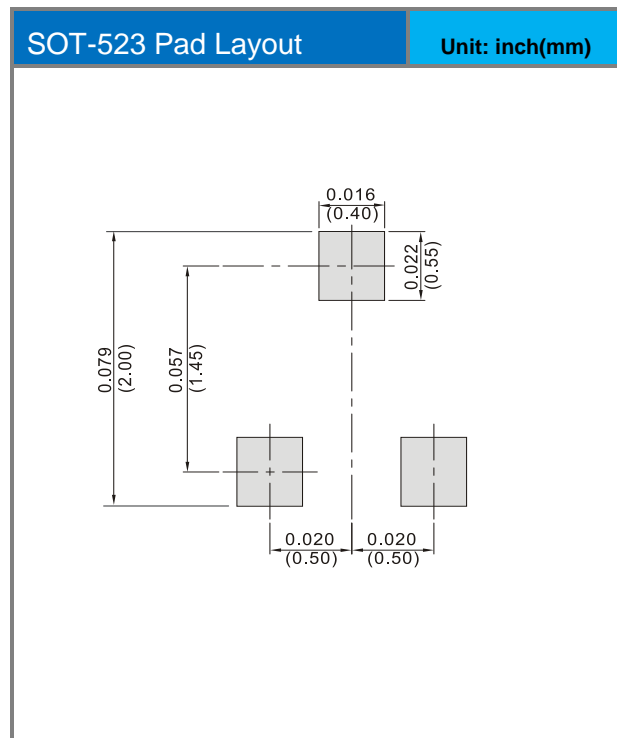
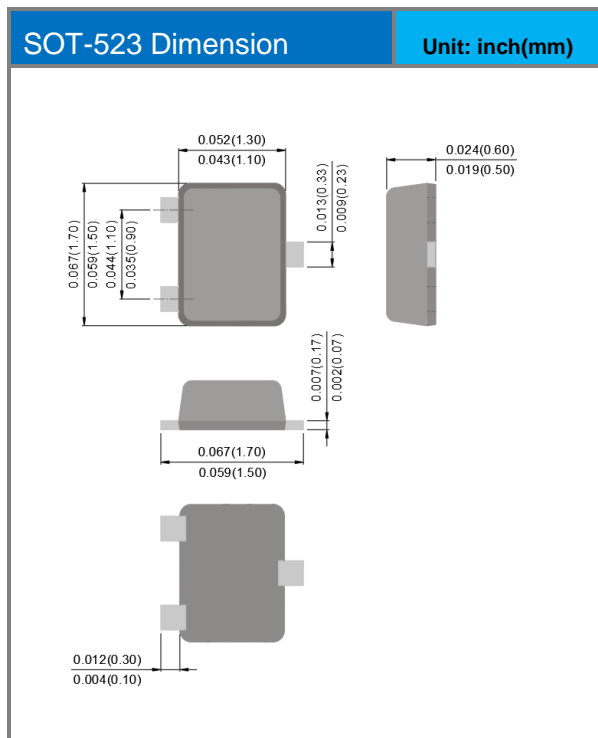


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Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PEC3808C2E-AU_R1_000A1	SOT-523	4K pcs / 7" reel	CA	Halogen free RoHS compliant
PEC3812C2E-AU_R1_000A1	SOT-523	4K pcs / 7" reel	CB	Halogen free RoHS compliant
PEC3815C2E-AU_R1_000A1	SOT-523	4K pcs / 7" reel	CD	Halogen free RoHS compliant
PEC3824C2E-AU_R1_000A1	SOT-523	4K pcs / 7" reel	CE	Halogen free RoHS compliant
PEC3836C2E-AU_R1_000A1	SOT-523	4K pcs / 7" reel	CF	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout





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