

PEC3848C2A-AU ~ PEC3872C2A-AU Series

ESD Protection

Voltage **48~72 V**

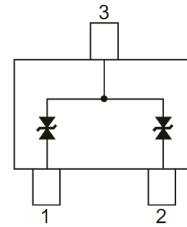
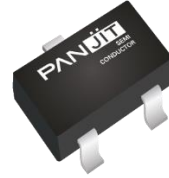
Features

- ISO10605(C=330pF, R=330Ω) :
±30kV Air, ±30kV Contact for 48V ~ 54V
±25kV Air, ±20kV Contact for 72V
- HBM ≥ ±8KV & CDM ≥ ±2KV
- ISO7637-2(Notes 3) :
-Pulse 2a : VS = +115V
-Pulse 3a : VS = -300V
-Pulse 3b : VS = +300V
- IEC61000-4-5(Lightning) : 3~1.5A(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-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	UNIT
ESD IEC61000-4-2(Air)	V _{ESD}	±30	kV
ESD IEC61000-4-2(Contact)		±30	
Typical Thermal Resistance(Notes 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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PEC3848C2A-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	48	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$	51	-	71	V
Reverse Leakage Current	I_R	$V_R = 48\text{ V}$	-	-	50	nA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	67	-	V
		$I_{PP} = 3\text{ A}, t_P = 8/20\text{ us}$	-	78	-	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$	-	-	10	pF

PEC3854C2A-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	54	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$	56	-	76	V
Reverse Leakage Current	I_R	$V_R = 54\text{ V}$	-	-	50	nA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	69	-	V
		$I_{PP} = 3\text{ A}, t_P = 8/20\text{ us}$	-	82	-	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$	-	-	9	pF

PEC3872C2A-AU

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage ^(Note 2)	V_{RWM}	-	-	-	72	V
Reverse Breakdown Voltage	V_{BR}	$I_{BR} = 1\text{ mA}$	75	-	105	V
Reverse Leakage Current	I_R	$V_R = 72\text{ V}$	-	-	50	nA
Clamping Voltage	V_{CL}	$I_{PP} = 1\text{ A}, t_P = 8/20\text{ us}$	-	106	-	V
		$I_{PP} = 1.5\text{ A}, t_P = 8/20\text{ us}$	-	112	-	V
Off State Junction Capacitance	C_J	0Vdc Bias $f = 1\text{ MHz}$	-	-	7.5	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

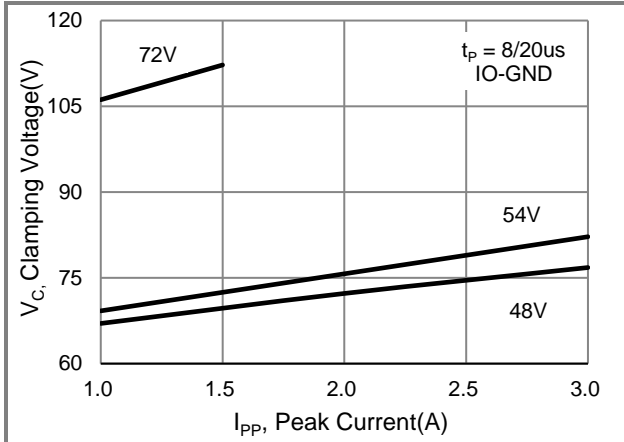


Fig.1 Typical Peak Clamping Voltage

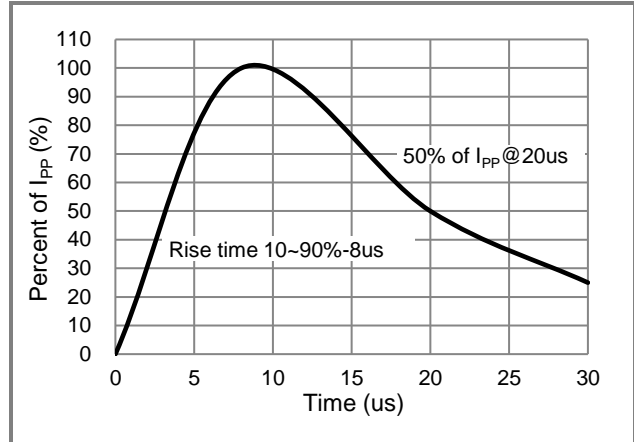


Fig.2 Pulse Waveform

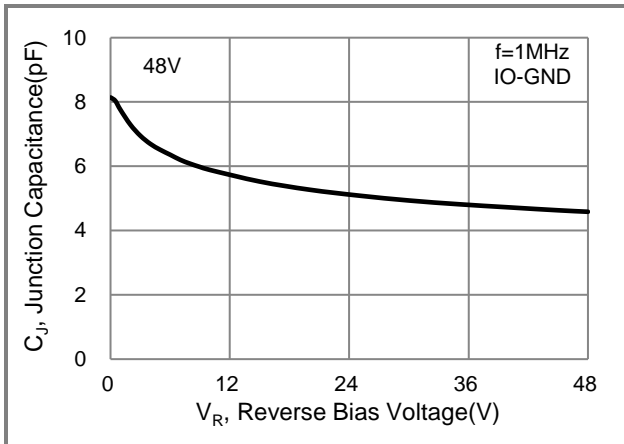


Fig.3 Typical Junction Capacitance

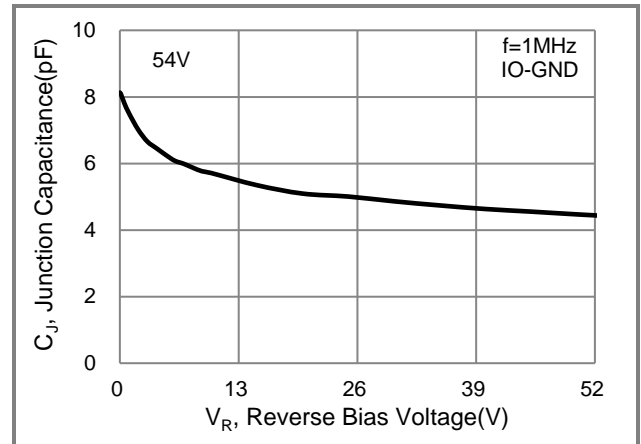


Fig.4 Typical Junction Capacitance

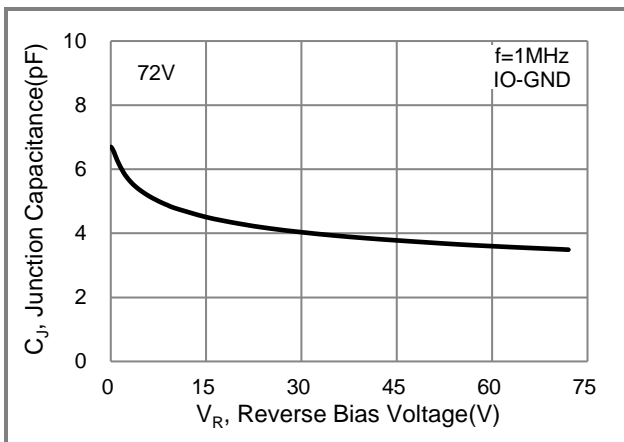


Fig.5 Typical Junction Capacitance

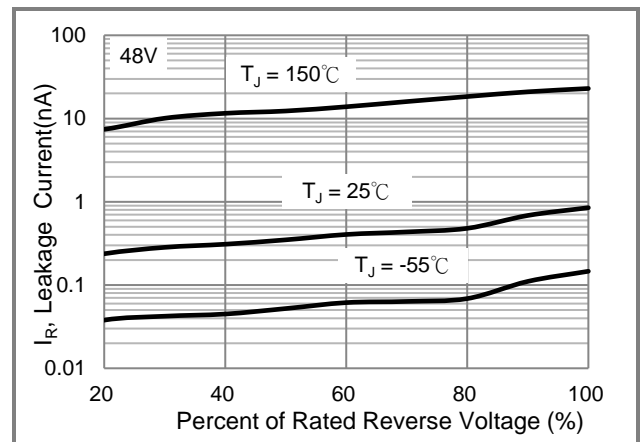
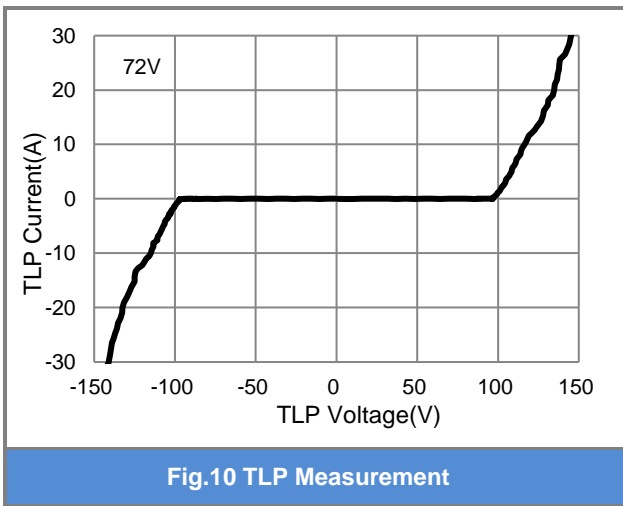
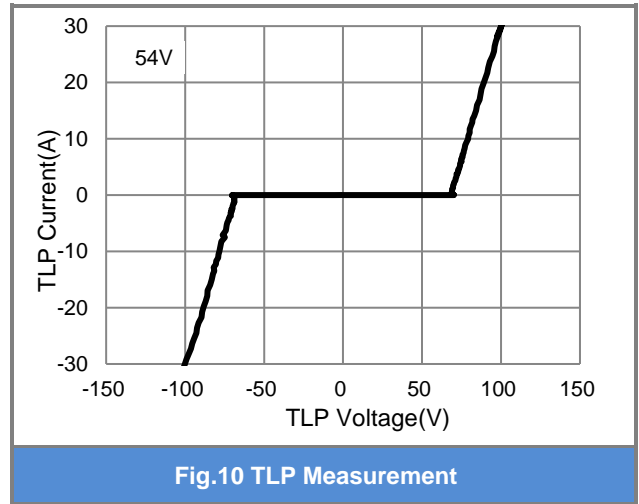
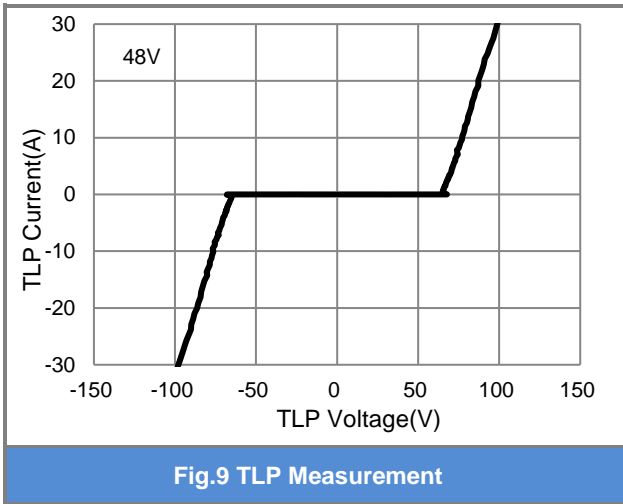
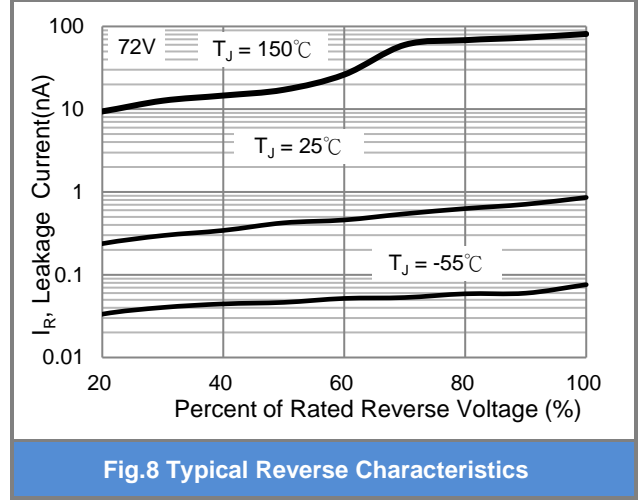
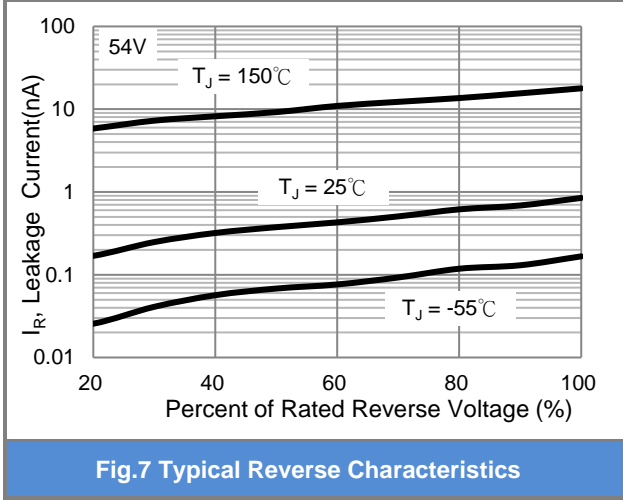


Fig.6 Typical Reverse Characteristics

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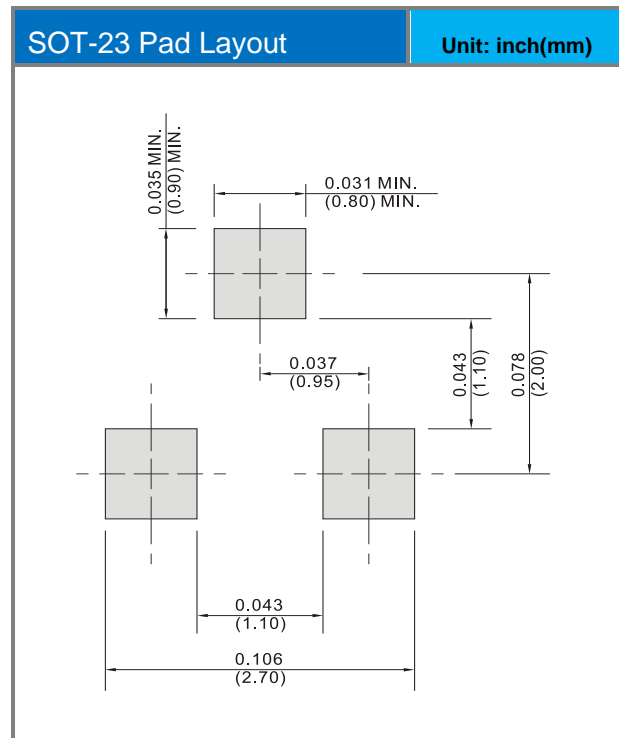
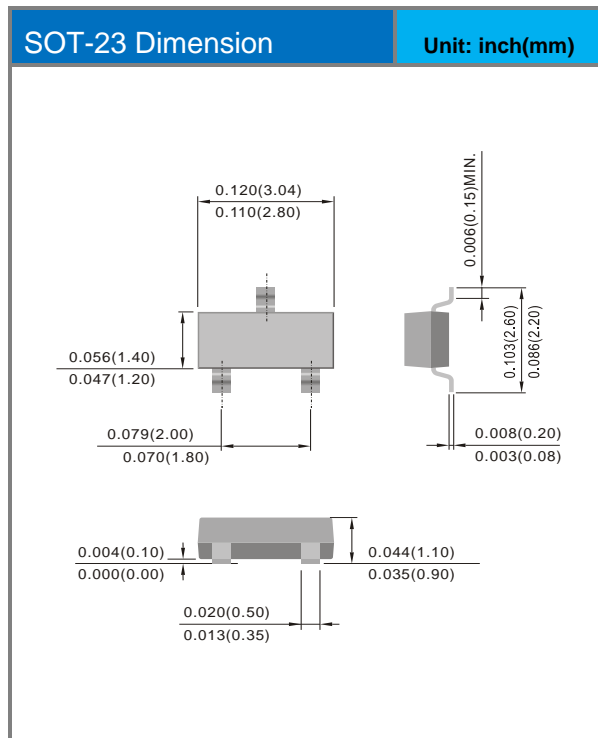


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
PEC3848C2A-AU	SOT-23	3K pcs / 7" reel	8AA
PEC3854C2A-AU	SOT-23	3K pcs / 7" reel	8AB
PEC3872C2A-AU	SOT-23	3K pcs / 7" reel	8AC

Packaging Information & Mounting Pad Layout



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