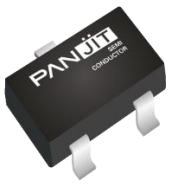
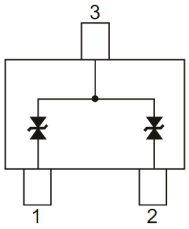
PEC3848C2A-AU ~ PEC3872C2A-AU Series

ESD Protection

Voltage **48~72 V**

SOT-23





Features

- ISO10605(C=330pF, R=330Ω) :
  ±30kV Air, ±30kV Contact for 48V ~ 60V
  ±25kV Air, ±20kV Contact for 72V
- HBM ≧ ±8KV & CDM ≧ ±2KV
- ISO7637-2(Note 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

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(Note 1)	$R_{\theta JA}$	350	°C/W
Operating Junction Temperature Range	T_J	-55~150	°C
Storage Temperature Range	T_{STG}	-55~150	°C

PEC3848C2A-AU ~ PEC3872C2A-AU Series

Electrical Characteristics (T_A = 25 °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 mA	51	-	71	V
Reverse Leakage Current	I_R	V_R = 48 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	67	-	V
		I_{PP} = 3 A, t_P = 8/20 us	-	78	-	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 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 mA	56	-	76	V
Reverse Leakage Current	I_R	V_R = 54 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	69	-	V
		I_{PP} = 3 A, t_P = 8/20 us	-	82	-	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	9	pF

PEC3860C2A-AU						
PARAMETER	**SYMBOL**	**TEST CONDITION**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Reverse Stand-Off Voltage(Note 2)	V_{RWM}	-	-	-	60	V
Reverse Breakdown Voltage	V_{BR}	I_{BR} = 1 mA	62	-	82	V
Reverse Leakage Current	I_R	V_R = 60 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	88	-	V
		I_{PP} = 2.5 A, t_P = 8/20 us	-	100	-	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 MHz	-	-	8	pF

PEC3848C2A-AU ~ PEC3872C2A-AU Series

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 mA	75	-	105	V
Reverse Leakage Current	I_R	V_R = 72 V	-	-	50	nA
Clamping Voltage	V_{CL}	I_{PP} = 1 A, t_P = 8/20 us	-	106	-	V
		I_{PP} = 1.5 A, t_P = 8/20 us	-	112	-	V
Off State Junction Capacitance	C_J	0Vdc Bias f = 1 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.

PEC3848C2A-AU ~ PEC3872C2A-AU Series

TYPICAL CHARACTERISTIC CURVES

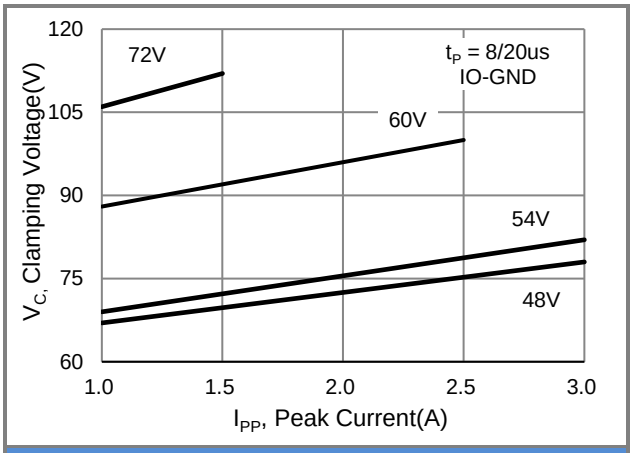


Fig.1 Typical Peak Clamping Voltage

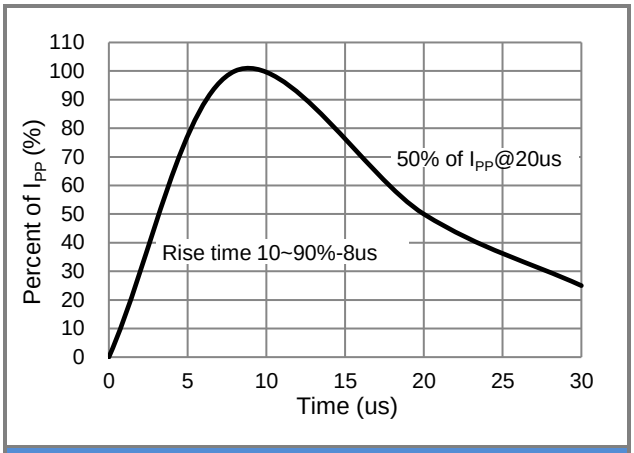


Fig.2 Pulse Waveform

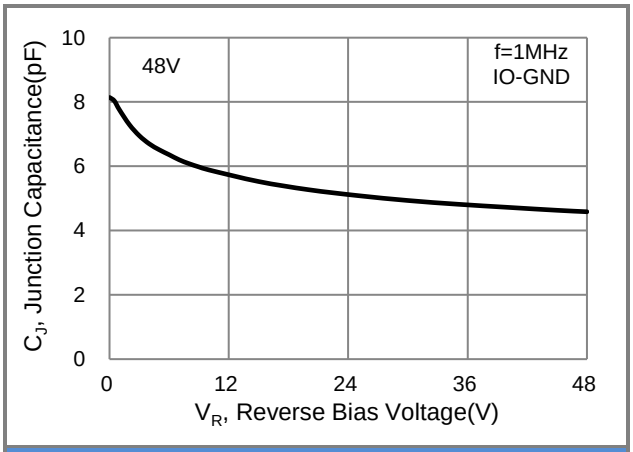


Fig.3 Typical Junction Capacitance

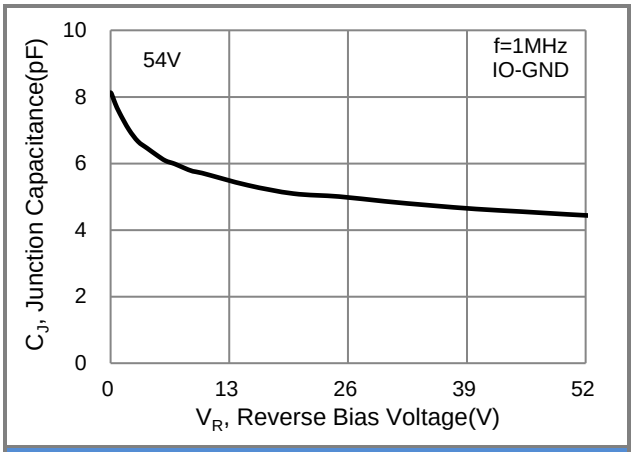


Fig.4 Typical Junction Capacitance

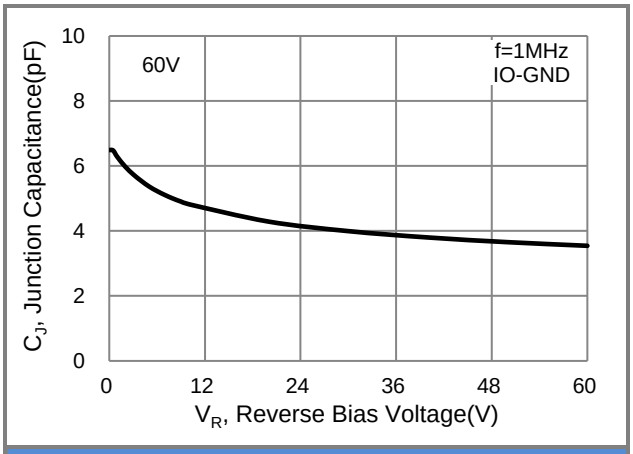


Fig.5 Typical Junction Capacitance

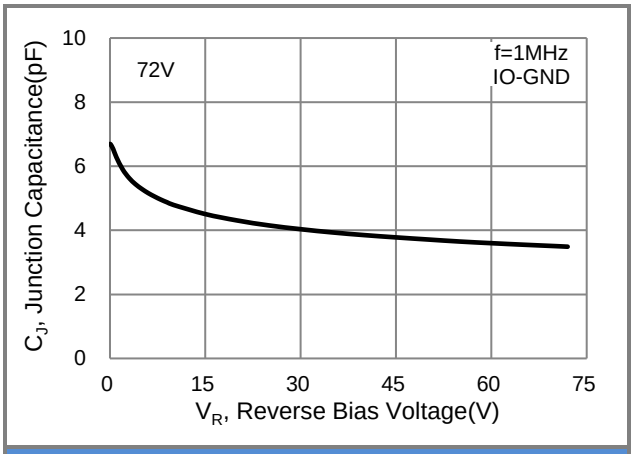


Fig.6 Typical Junction Capacitance

PEC3848C2A-AU ~ PEC3872C2A-AU Series

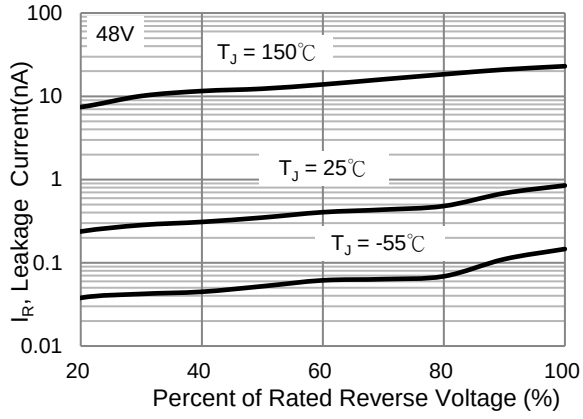


Fig.7 Typical Reverse Characteristics

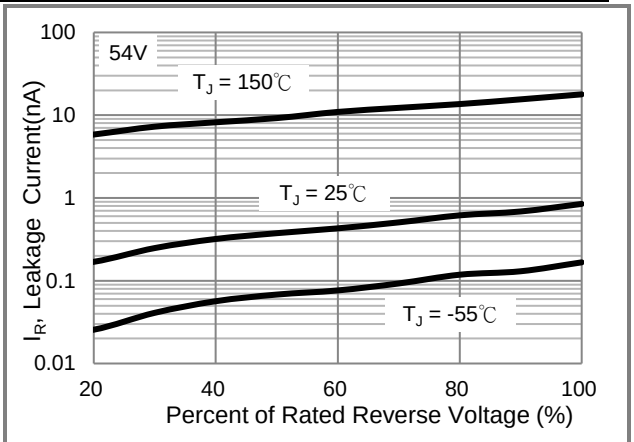


Fig.8 Typical Reverse Characteristics

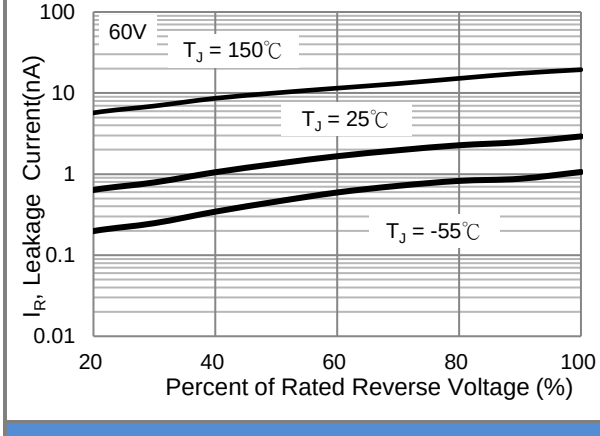


Fig.9 Typical Reverse Characteristics

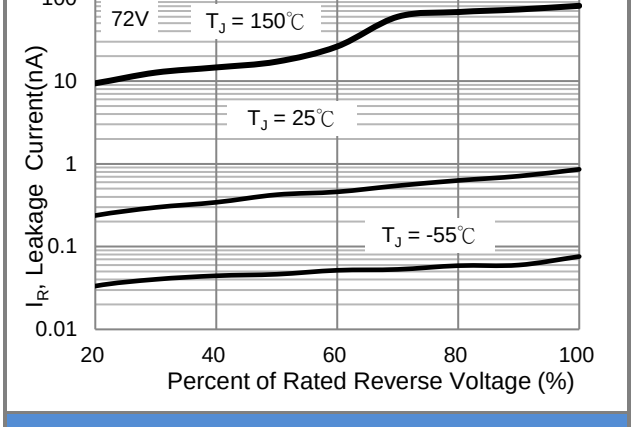


Fig.10 Typical Reverse Characteristics

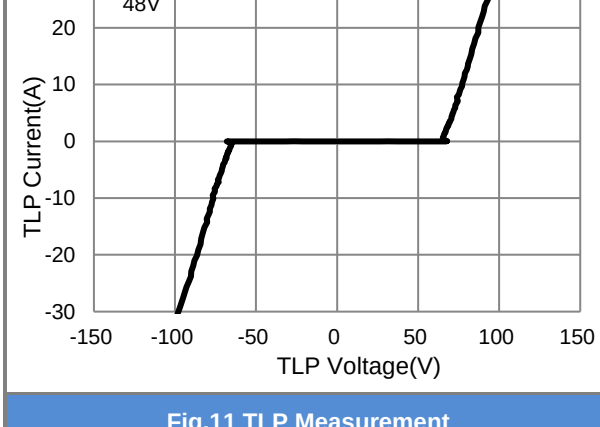


Fig.11 TLP Measurement

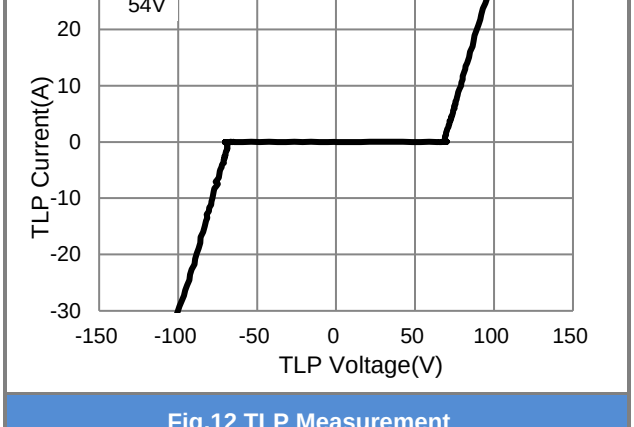


Fig.12 TLP Measurement

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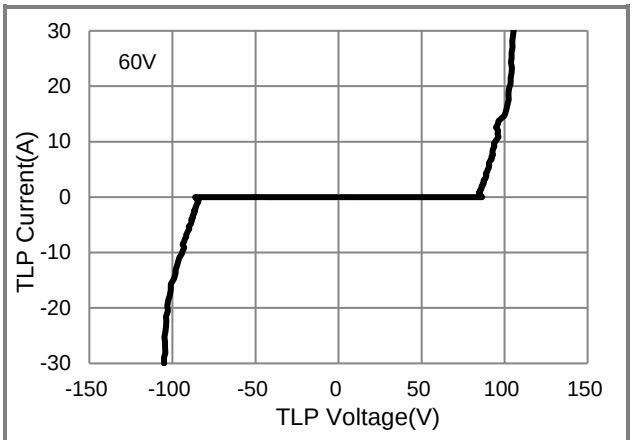


Fig.13 TLP Measurement

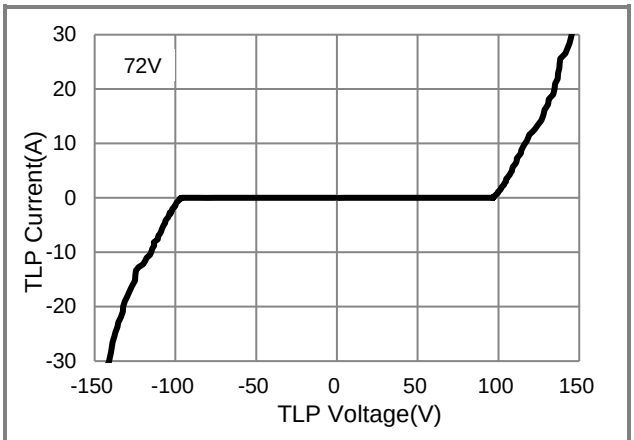


Fig.14 TLP Measurement

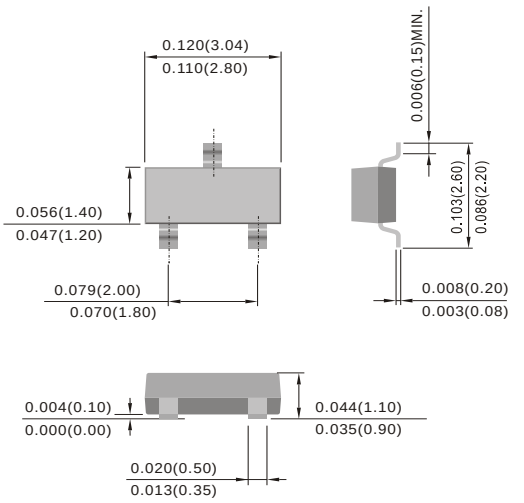
PEC3848C2A-AU ~ PEC3872C2A-AU Series

Product and Packing Information

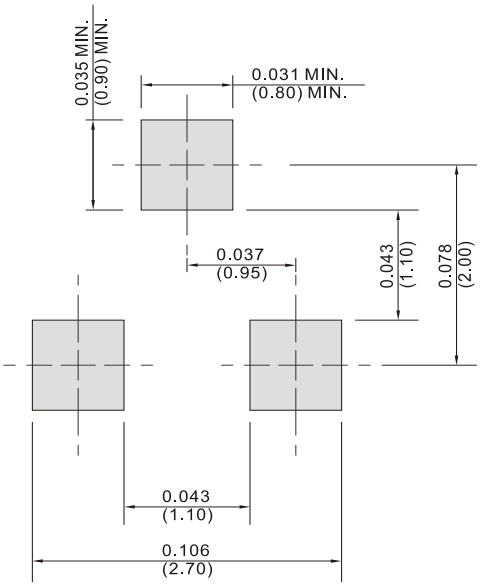
Part No.	Package Type	Packing Type	Marking
PEC3848C2A-AU	SOT-23	3K pcs / 7” reel	8AA
PEC3854C2A-AU	SOT-23	3K pcs / 7” reel	8AB
PEC3860C2A-AU	SOT-23	3K pcs / 7” reel	8AD
PEC3872C2A-AU	SOT-23	3K pcs / 7” reel	8AC

Packaging Information & Mounting Pad Layout

SOT-23 Dimension — Unit: inch(mm)



SOT-23 Pad Layout — Unit: inch(mm)



PEC3848C2A-AU ~ PEC3872C2A-AU Series

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