

2A, 200V-1000V Surface Mount Rectifier

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switch Mode Power Supply
- Inverters and Converters
- Free Wheeling diodes

MECHANICAL DATA

- Case: DO-214AC (SMA)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.06 g (approximately)

| KEY PARAMETERS | | |
|----------------|----------------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 2 | A |
| V_{RRM} | 200-1000 | V |
| I_{FSM} | 50 | A |
| T_{JMAX} | 150 | °C |
| Package | DO-214AC (SMA) | |



DO-214AC (SMA)



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | | | |
|---|------------------------------------|-------------|--------|--------|--------|--------|------|---|
| PARAMETER | SYMBOL | S2DA-T | S2GA-T | S2JA-T | S2KA-T | S2MA-T | UNIT | |
| Marking code on the device | | S2DA | S2GA | S2JA | S2KA | S2MA | V | |
| Repetitive peak reverse voltage | V_{RRM} | 200 | 400 | 600 | 800 | 1000 | V | |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 140 | 280 | 420 | 560 | 700 | V | |
| DC blocking voltage | V_{DC} | 200 | 400 | 600 | 800 | 1000 | V | |
| Forward current | I_F | 2 | | | | | A | |
| Surge peak forward current single half sine-wave superimposed on rated load per diode | 8.3 ms at $T_A = 25^\circ\text{C}$ | I_{FSM} | | | | | 50 | A |
| | 1.0 ms at $T_A = 25^\circ\text{C}$ | | | | | | 124 | A |
| Junction temperature | T_J | -55 to +150 | | | | | °C | |
| Storage temperature | T_{STG} | -55 to +150 | | | | | °C | |

| THERMAL PERFORMANCE | | | |
|--|-----------------|------------|-------------|
| PARAMETER | SYMBOL | TYP | UNIT |
| Junction-to-lead thermal resistance per diode | $R_{\theta JL}$ | 14 | °C/W |
| Junction-to-ambient thermal resistance per diode | $R_{\theta JA}$ | 86 | °C/W |
| Junction-to-case thermal resistance per diode | $R_{\theta JC}$ | 23 | °C/W |

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--|---------------|------------|------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP | MAX | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 1\text{A}, T_J = 25^\circ\text{C}$ | V_F | 0.90 | - | V |
| | $I_F = 2\text{A}, T_J = 25^\circ\text{C}$ | | 0.96 | 1.1 | V |
| | $I_F = 1\text{A}, T_J = 125^\circ\text{C}$ | | 0.79 | - | V |
| | $I_F = 2\text{A}, T_J = 125^\circ\text{C}$ | | 0.86 | 0.97 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 5 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 100 | μA |
| Junction capacitance per diode | 1 MHz, $V_R = 4.0\text{V}$ | C_J | 30 | - | pF |

Notes:

- (1) Pulse test with $PW = 0.3\text{ ms}$
- (2) Pulse test with $PW = 30\text{ ms}$

| ORDERING INFORMATION | | |
|-----------------------------|----------------|--------------------------|
| ORDERING CODE | PACKAGE | PACKING |
| S2XA-T R3G ⁽¹⁾ | SMA | 1,800 / 7" Plastic reel |
| S2XA-T M2G ⁽¹⁾ | SMA | 7,500 / 13" Plastic reel |
| S2XA-T R2G ⁽¹⁾ | SMA | 7,500 / 13" Paper reel |

Notes:

- (1) "X" defines voltage from 200V(S2DA-T) to 1000V(S2MA-T)

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

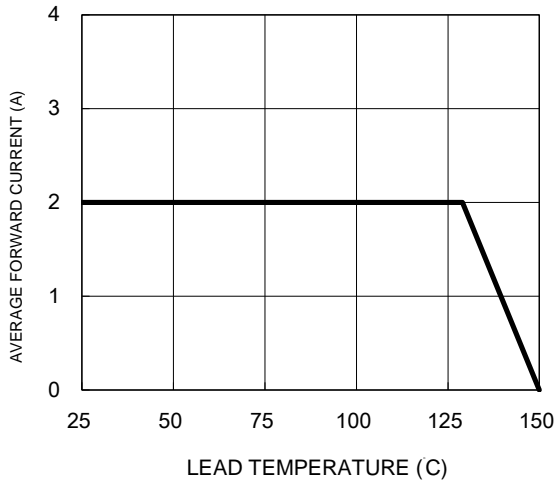


Fig.2 Typical Junction Capacitance

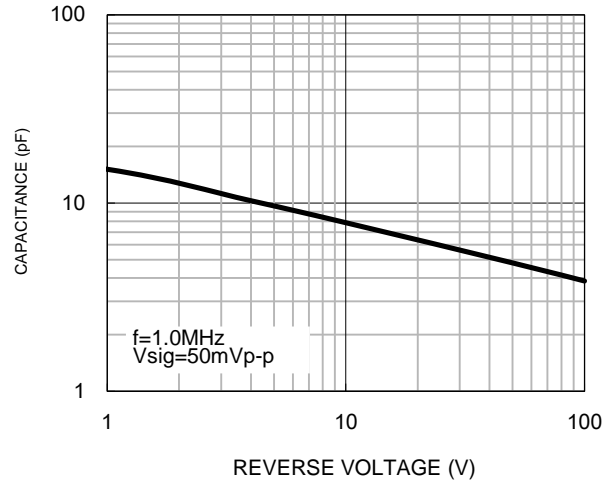


Fig.3 Typical Reverse Characteristics

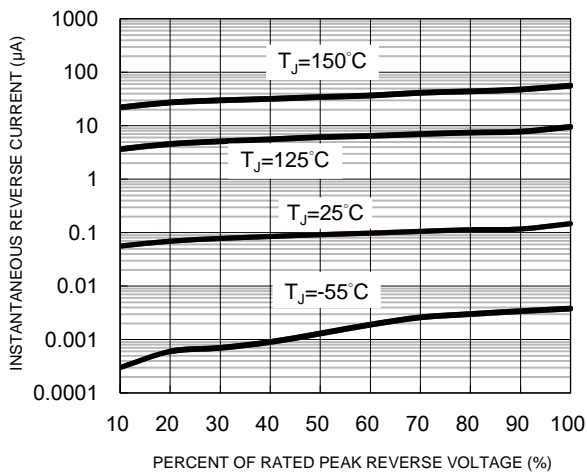


Fig.4 Typical Forward Characteristics

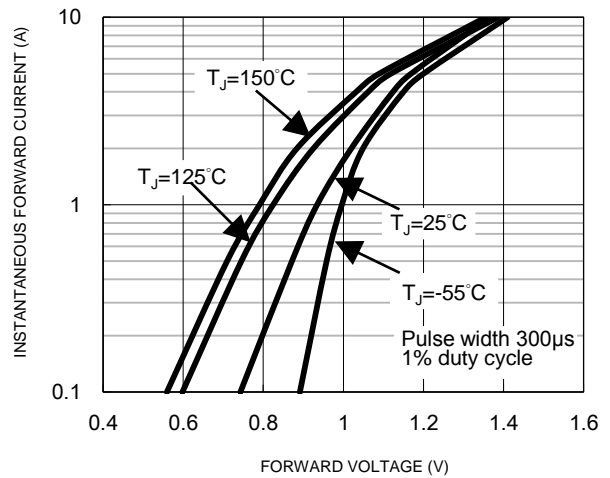
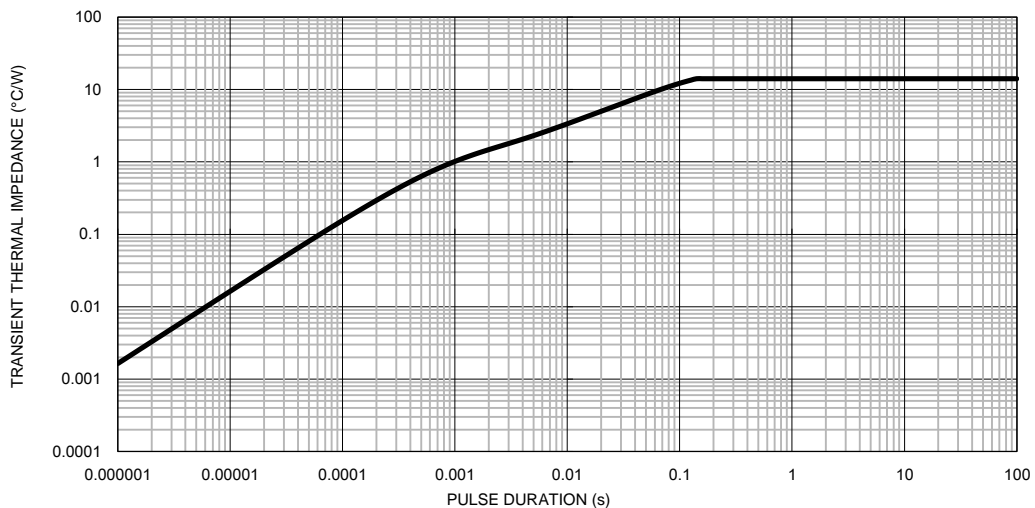
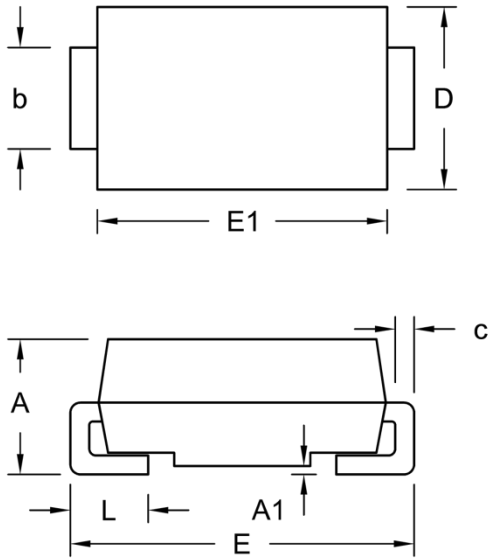


Fig.5 Typical Transient Thermal Impedance



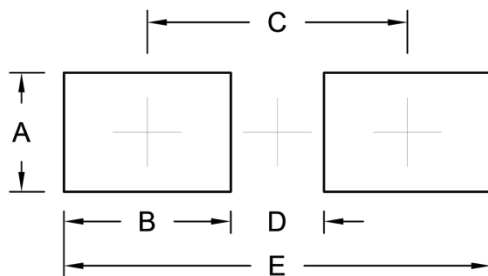
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 1.70 | 2.30 | 0.067 | 0.091 |
| A1 | 0.05 | 0.20 | 0.002 | 0.008 |
| b | 1.20 | 1.80 | 0.047 | 0.071 |
| c | 0.15 | 0.41 | 0.006 | 0.016 |
| D | 2.40 | 3.00 | 0.094 | 0.118 |
| E | 4.80 | 5.40 | 0.189 | 0.213 |
| E1 | 4.00 | 4.60 | 0.157 | 0.181 |
| L | 0.75 | 1.60 | 0.030 | 0.063 |

SUGGESTED PAD LAYOUT



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.82 | 0.072 |
| B | 2.56 | 0.101 |
| C | 3.99 | 0.157 |
| D | 1.43 | 0.056 |
| E | 6.55 | 0.258 |

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.