

1A, 200V Surface Mount Ultra Fast Rectifier

FEATURES

- Glass passivated junction chip
- Ideal for automated placement
- Ultra fast recovery time for high efficiency
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21





DO-214AC (SMA)

MECHANICAL DATA

Case: DO-214AC (SMA) Molding compound: UL flammability classification rating 94V-0 Moisture sensitivity level (MSL): level 1, per J-STD-020 Part No. with suffix "H" means AEC-Q101 qualified Packing code with suffix "G" means green compound (halogen-free) Terminal: Matte tin plated leads, solderable per JESD22-B102 Meet JESD 201 class 2 whisker test Polarity: Indicated by cathode band Weight: 0.06 g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | |
|--|--------------------------------------|--------------|------|--|
| PARAMETER | SYMBOL | ES1DV | UNIT | |
| Maximum repetitive peak reverse voltage | V _{RRM} | 200 | V | |
| Maximum RMS voltage | V _{RMS} | 140 | V | |
| Maximum DC blocking voltage | V _{DC} | 200 | V | |
| Maximum average forward rectified current | I _{F(AV)} | 1 | A | |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 30 | А | |
| Maximum instantaneous forward voltage (Note 1) @ 1 A | V _F | 0.92 | V | |
| Maximum reverse current @ rated V_R T _J =25°C T _J =125°C | I _R | 5 100 | μA | |
| Maximum reverse recovery time (Note 2) | t _{rr} | 15 | ns | |
| Typical junction capacitance (Note 3) | CJ | 17 | pF | |
| Typical thermal resistance | R _{θJL} R _{θJA} | 35 85 | °C/W | |
| Operating junction temperature range | TJ | - 55 to +150 | °C | |
| Storage temperature range | T _{STG} | - 55 to +150 | °C | |

Note 1: Pulse test with PW=300µs, 1% duty cycle

Note 2: Test conditions: I_F =0.5A, I_R =1.0A, I_{RR} =0.25A

Note 3: Measured at 1 MHz and applied $V_{\rm R}\text{=}4.0~\text{V}$



Taiwan Semiconductor

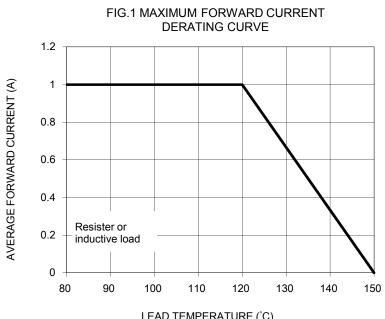
| ORDERING INFORMATION | | | | | |
|----------------------|----------|---------|-----------------------|--------------------------|--------------------------|
| PART NO. | PART NO. | PACKING | PACKING CODE | PACKAGE | PACKING |
| | SUFFIX | CODE | SUFFIX ^(*) | | |
| | | R3 | | SMA | 1,800 / 7" Plastic reel |
| ES1DV H | R2 | G | SMA | 7,500 / 13" Paper reel | |
| | M2 | | SMA | 7,500 / 13" Plastic reel | |
| | F3 | 9 | Folded SMA | 1,800 / 7" Plastic reel | |
| | | F2 | | Folded SMA | 7,500 / 13" Paper reel |
| | | F4 | | Folded SMA | 7,500 / 13" Plastic reel |

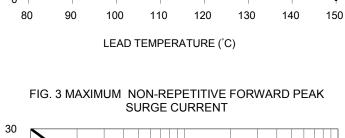
*: Optional available

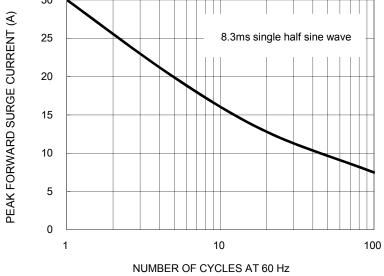
| EXAMPLE | | | | | |
|-----------|----------|----------|--------------|--------------|--------------------------------------|
| EXAMPLE | PART NO. | PART NO. | PACKING CODE | PACKING CODE | DESCRIPTION |
| PART NO. | PART NO. | SUFFIX | PACKING CODE | SUFFIX | DESCRIPTION |
| ES1DVHR3G | ES1DV | Н | R3 | G | AEC-Q101 qualified Green compound |

RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)









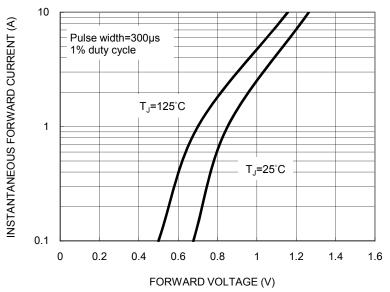
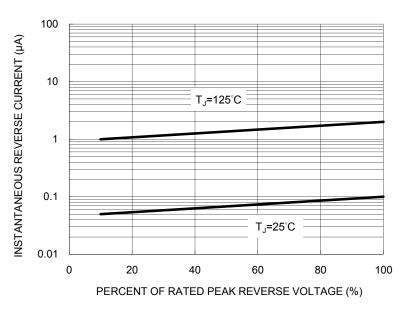


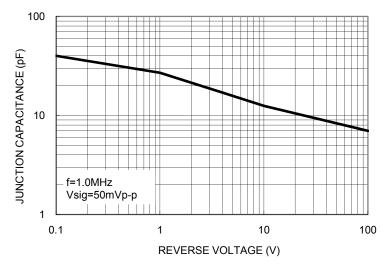
FIG. 4 TYPICAL REVERSE CHARACTERISTICS



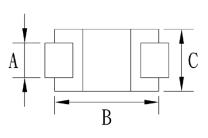
Version: B1601



FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS DO-214AC (SMA)



G

F

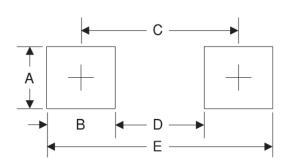
Н

| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Мах |
| Α | 1.27 | 1.58 | 0.050 | 0.062 |
| В | 4.06 | 4.60 | 0.160 | 0.181 |
| С | 2.29 | 2.83 | 0.090 | 0.111 |
| D | 1.99 | 2.50 | 0.078 | 0.098 |
| Е | 0.90 | 1.41 | 0.035 | 0.056 |
| F | 4.95 | 5.33 | 0.195 | 0.210 |
| G | 0.10 | 0.20 | 0.004 | 0.008 |
| Н | 0.15 | 0.31 | 0.006 | 0.012 |



E

D



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A | 1.68 | 0.066 |
| В | 1.52 | 0.060 |
| С | 3.93 | 0.155 |
| D | 2.41 | 0.095 |
| E | 5.45 | 0.215 |

MARKING DIAGRAM



- P/N = Specific Device 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.

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.