

SOT-323

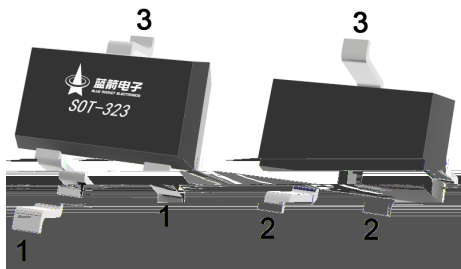
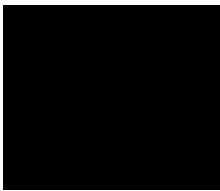
Silicon Diode in a SOT-323 Plastic Package.

SMD

AEC-Q101

Very small plastic SMD package, High switching speed, High Continuous reverse and Repetitive peak reverse voltage, High Repetitive peak forward current, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Applications for High-speed switching, surface mounted circuits, Meet the stringent requirements of automotive applications.



PIN: See Equivalent Circuit.

|         |     |
|---------|-----|
| Marking | QA7 |
|---------|-----|

Absolute Maximum Ratings(Ta=25℃ ; )

| @ f<br>Parameter                    | Symbol                      | f ><br>Rating | % y<br>Unit |
|-------------------------------------|-----------------------------|---------------|-------------|
| Repetitive Reverse Voltage          | V <sub>RRM</sub>            | 85            | V           |
| Continuous reverse voltage          | V <sub>R</sub>              | 75            | V           |
| Continuous forward current          | I <sub>F(1)</sub>           | 150           | mA          |
|                                     | I <sub>F(2)</sub>           | 130           | mA          |
| Repetitive peak forward current     | I <sub>FRM</sub>            | 500           | mA          |
| Non-repetitive Peak Forward Current | I <sub>FSM(1)(t=1 S)</sub>  | 0.5           | A           |
|                                     | I <sub>FSM(2)(t=1 mS)</sub> | 1.0           | A           |
|                                     | I <sub>FSM(3)(t=1 S)</sub>  | 4.0           | A           |
| Power Dissipation                   | P <sub>D</sub>              | 200           | mW          |
| Junction Temperature                | T <sub>j</sub>              | 150           |             |
| Storage Temperature Range           | T <sub>stg</sub>            | -55 ~ +150    |             |

Electrical Characteristics(Ta=25℃ ; )

| @ f<br>Parameter                                   | Symbol          | y i Ú ^<br>Test Conditions                                            | Min | Typ | Max  | % y<br>Unit |
|----------------------------------------------------|-----------------|-----------------------------------------------------------------------|-----|-----|------|-------------|
| Forward Voltage                                    | V <sub>F</sub>  | I <sub>F</sub> =1mA                                                   |     |     | 715  | mV          |
|                                                    |                 | I <sub>F</sub> =10mA                                                  |     |     | 855  | mV          |
|                                                    |                 | I <sub>F</sub> =50mA                                                  |     |     | 1    | V           |
|                                                    |                 | I <sub>F</sub> =150mA                                                 |     |     | 1.25 | V           |
| Instantaneous Reverse Current<br>Total Capacitance | I <sub>R</sub>  | V <sub>R</sub> =25V                                                   |     |     | 30   | nA          |
|                                                    |                 | V <sub>R</sub> =75V                                                   |     |     | 1    | A           |
|                                                    |                 | V <sub>R</sub> =25V    T <sub>j</sub> =150                            |     |     | 30   | A           |
|                                                    |                 | V <sub>R</sub> =75V    T <sub>j</sub> =150                            |     |     | 50   | A           |
| Diode capacitance                                  | C <sub>d</sub>  | V <sub>R</sub> =0    f=1MHz                                           |     |     | 1.5  | pF          |
| Reverse Recovery Time                              | t <sub>rr</sub> | I <sub>R</sub> =1mA    R <sub>L</sub> =100<br>I <sub>F</sub> =1R=10mA |     |     | 4    | ns          |
| Forward recovery voltage                           | V <sub>fr</sub> | I <sub>F</sub> =10mA    t <sub>r</sub> =20ns                          |     |     | 1.75 | V           |

Ô ? d • Ž ¢ / Electrical Characteristic Curve

Ø □ = ) ¢ / Package Dimensions

, M y f / Marking Instructions

QA7

<sup>a</sup> ¢ y

7 y V ñ —) í D } ö œ

' y ° Z W A

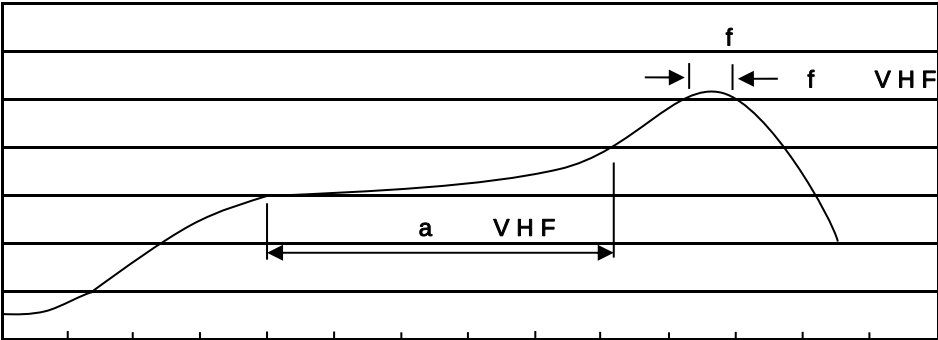
Note:

Q: Automobile halogen-free product Code

A7: Product Type Code

šWD t...•Žč (x/ ) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

7HPSHUDWXUH



7LPH VHF

ačy

Note:

- 1o•Ä½“† 150½200 - kž• 60½120sec;
- 2o•Q>“† 255 r5 - kž•4 Ò 5 r0.5sec;
- 3o•D Nò i Ò 0 ,† 2½10 - /sec.
- 1.Preheating:150~200 - , Time:60~120sec.
- 2.Peak Temp.:255 r5 - , Duration:5 r0.5sec.
3. Cooling Speed: 2~10 - /sec.

ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“†y 260 r5 - ž•y 10 r1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

2 & x / REEL

| Package Type<br>7>û ~ E | Units ;>û H      |                          |                       |                                |                        | Dimension ;>û p . (unit Åmm³) |             |             |
|-------------------------|------------------|--------------------------|-----------------------|--------------------------------|------------------------|-------------------------------|-------------|-------------|
|                         | Units/Reel<br>/- | Reels/Inner Box<br>-- /- | Units/Inner Box<br>/- | Inner Boxes/Outer Box<br>- /1ç | Units/Outer Box<br>/1ç | Reel                          | Inner Box   | Outer Boxç  |
| SOT-323                 | 3,000            | 10                       | 30,000                | 6                              | 180,000                | 7 T×8                         | 180×120×180 | 390×385×205 |

„Đ y f / Notices