

**BR1N4148WSQ**  
Rev.A Jun.-2022



**/ Descriptions**

SOD-323

Silicon Diode in a SOD-323 Plastic Package.

**/ Features**

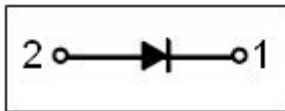
AEC-Q101

Fast switching diodes, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

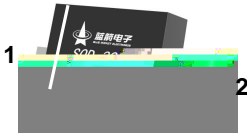
**/ Applications**

Small signal diode, Meet the stringent requirements of automotive applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1:Cathode

PIN2:Anode

**/ Marking**

|         |     |
|---------|-----|
| Marking | QA2 |
|---------|-----|

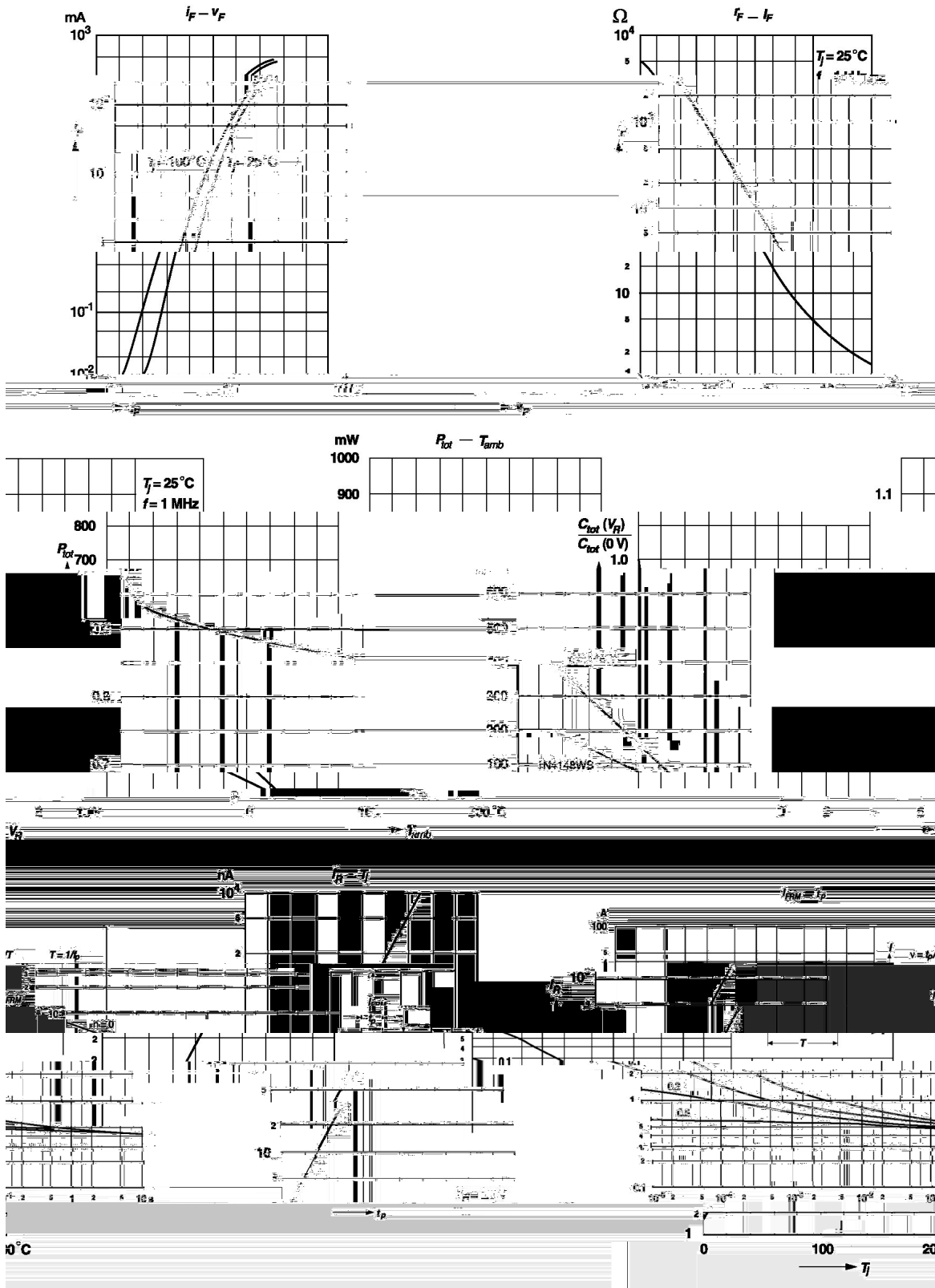
## / Absolute Maximum Ratings(Ta=25 )

| Parameter                                  | Symbol                 | Rating  | Unit |
|--|------------------------|---------|------|
| Reverse Voltage                            | $V_R$                  | 75      | V    |
| Peak Reverse Voltage                       | $V_{RM}$               | 100     | V    |
| Average Rectified Output Current           | $I_O$                  | 150     | mA   |
| Forward Continuous Current                 | $I_{FM}$               | 300     | mA   |
| Non-Repetitive Peak Forward Surge Current  | $I_{FSM} (t=1.0\mu s)$ | 2.0     | A    |
|  | $I_{FSM} (t=1.0s)$     | 1.0     | A    |
| Power Dissipation                          | $P_{tot}$              | 200     | mW   |
| Junction Temperature                       | $T_j$                  | 150     | °C   |
| Storage Temperature Range                  | $T_{stg}$              | -55~150 | °C   |
| Thermal Resistance Junction to Ambient Air | $R_{\theta JA}$        | 625     | °C/W |

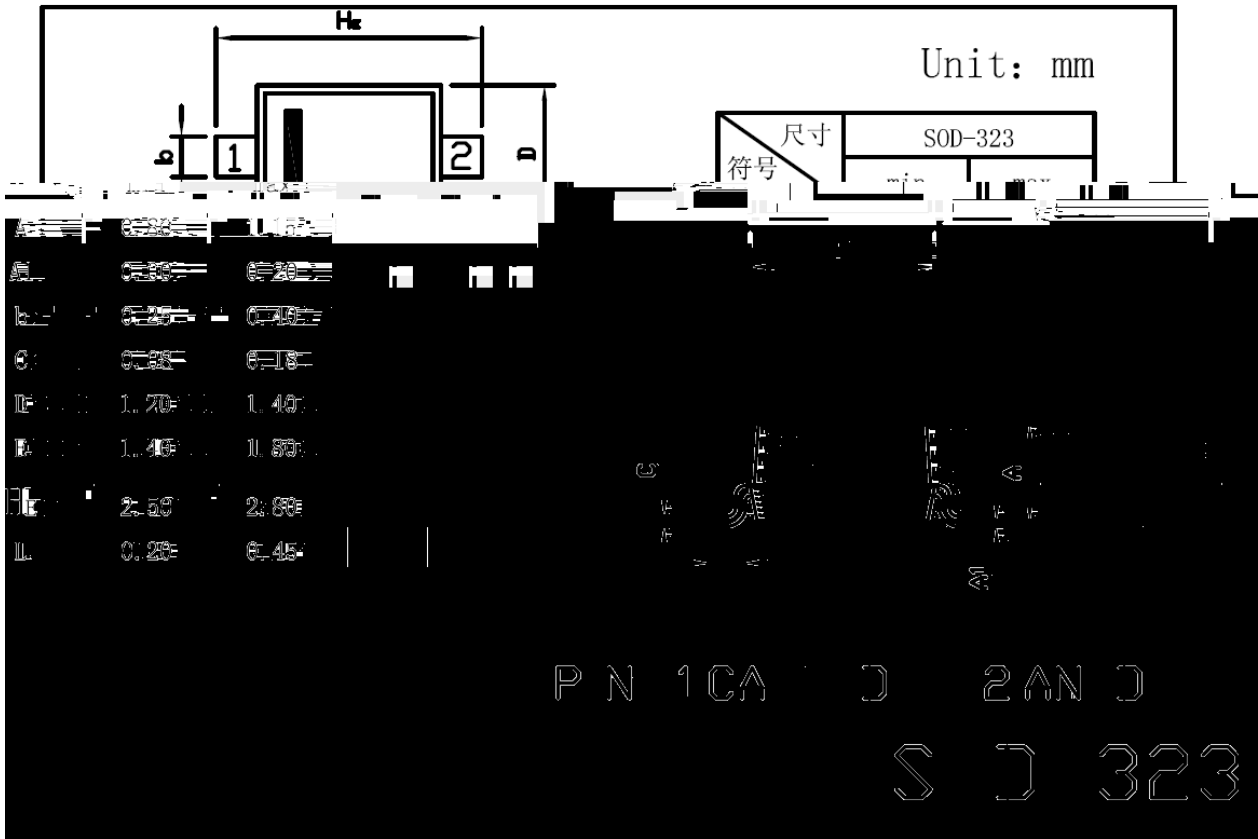
## / Electrical Characteristics(Ta=25 )

| Parameter                             | Symbol    | Test Conditions                              | Min | Typ | Max | Unit    |
|---------------------------------------|-----------|--|-----|-----|-----|---------|
| Forward Voltage                       | $V_F$     | $I_F=10mA$                                   |     |     | 1.0 | V       |
| Instantaneous Reverse Current         | $I_R$     | $V_R=20V$                                    |     |     | 25  | nA      |
|                                       |           | $V_R=75V$                                    |     |     | 5   | $\mu A$ |
|                                       |           | $V_R=20V$ $T_j=150^\circ C$                  |     |     | 50  | $\mu A$ |
| Capacitance                           | $C_{tot}$ | $V_F=V_R=0V$                                 |     |     | 4   | pF      |
| Reverse Recovery Time                 | $t_{rr}$  | $I_F=10mA$ $V_R=6.0V$<br>$I_R=1mA$ $R_L=100$ |     |     | 4   | ns      |
| Voltage Rise when Switching On tested | $V_{fr}$  | $t_p=0.1\mu s$ $f_p=5to100kHz$<br>Time<30ns  |     |     | 2.5 | V       |
| Total Capacitance                     | $C_T$     | $V_R=0$ $f=1.0MHz$                           |     |     | 2.0 | pF      |

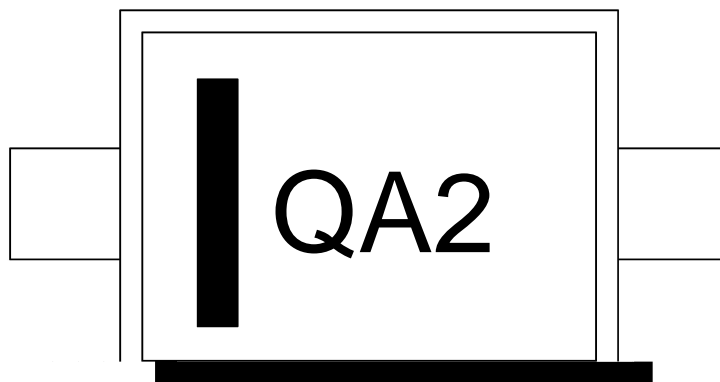
/ Electrical Characteristic Curve



/ Package Dimensions



/ Marking Instructions



Q

A2

Note:

Q: Automobile halogen-free product Code

A2: Product Type



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说明：

- 1、预热温度 150~200℃，时间 60~120sec;
- 2、峰值温度 255±5℃，时间持续为 5±0.5sec;
- 3、焊接制程冷却速度为 2~10℃/sec.

Note:

- 1.Preheating:150~200℃, Time:60~120sec.
- 2.Peak Temp.:255±5℃, Duration:5±0.5sec.
- 3. Cooling Speed: 2~10℃/sec.

**/ Resistance to Soldering Heat Test Conditions**

温度：260±5℃

时间：10±1 sec.

Temp.:260±5℃

Time:10±1 sec

**/ Packaging SPEC.**

卷盘包装 / REEL

| Package Type | Units              |                         |                        |                              |                        | Dimension (unit mm <sup>3</sup> ) |           |           |
|--------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------|-----------|-----------|
|              | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                              | Inner Box | Outer Box |