



| G | 2020-7-28      | 1   |                                                                    |  |  |
|---|----------------|-----|--------------------------------------------------------------------|--|--|
| A | 2021-12-2<br>5 | all | BR Q<br>AEC-Q101<br>H Q 245±5°C<br>5±0.5sec<br>255±5°C<br>5±0.5sec |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |
|   |                |     |                                                                    |  |  |



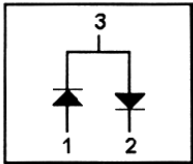
SOT-23

Silicon Diode in a SOT-23 Plastic Package.

AEC-Q101

Small signal diode, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

High Conductance Ultra Fast Diode, Meet the stringent requirements of automotive applications.



PIN: See Equivalent Circuit.

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

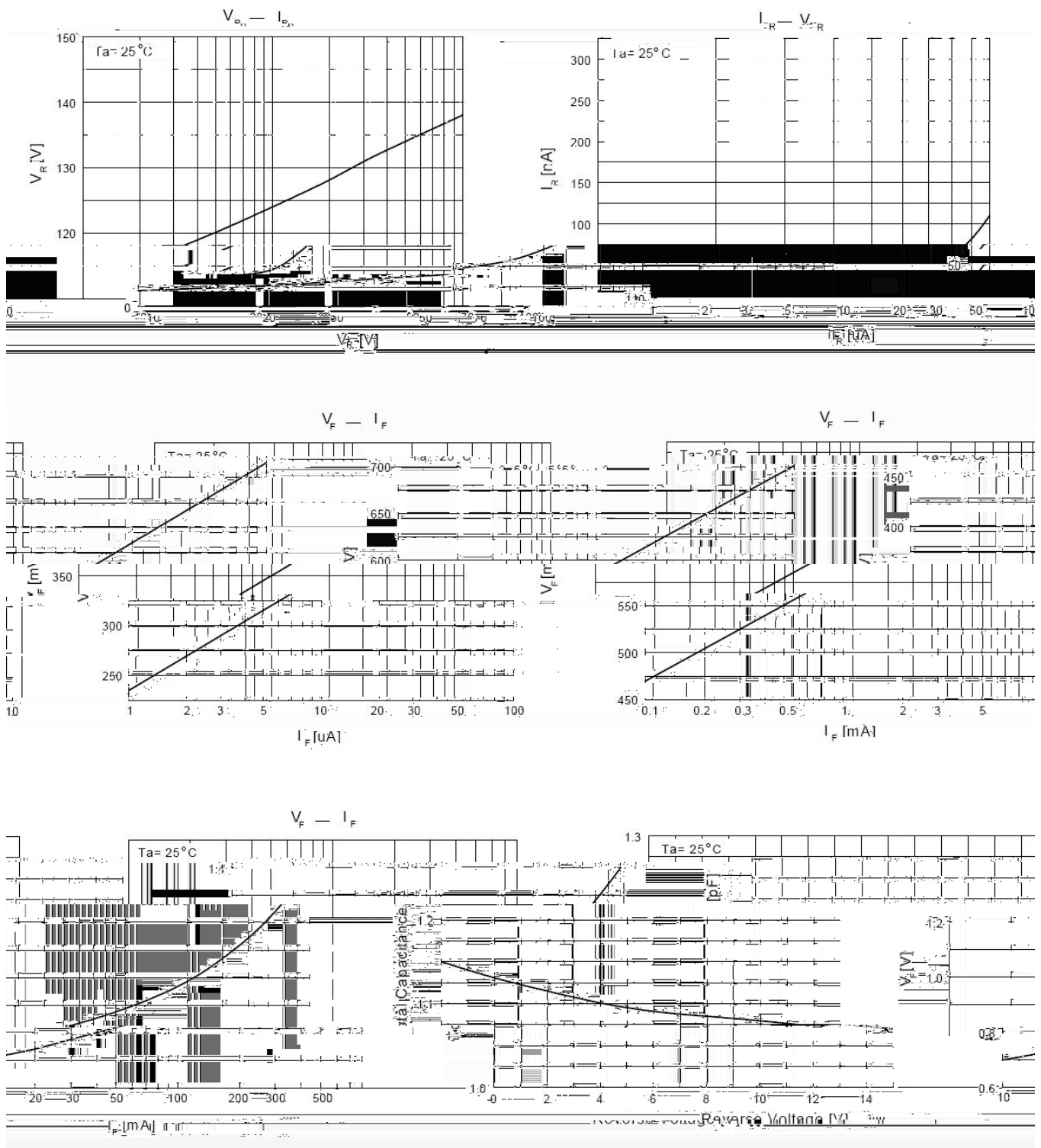


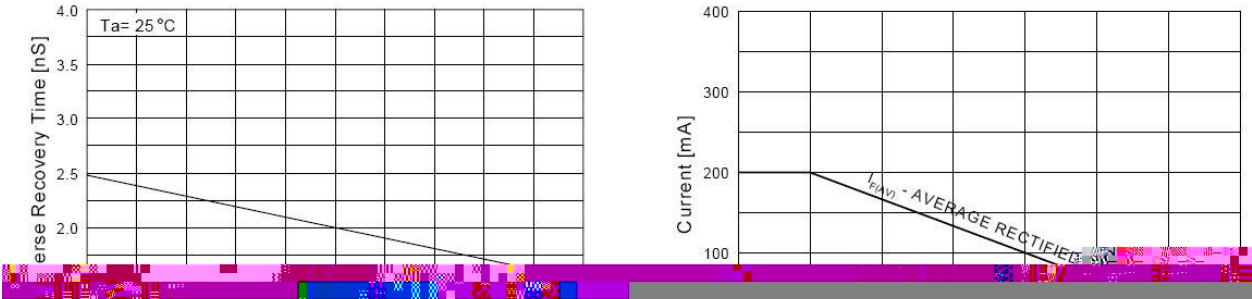
| 参数<br>Parameter                           | 符号<br>Symbol                     | 数值<br>Rating | 单位<br>Unit |
|-------------------------------------------|----------------------------------|--------------|------------|
| Maximum Repetitive Reverse Voltage        | $V_{RRM}$                        | 70           | V          |
| Average Rectified Forward Current         | $I_{F(AV)}$                      | 200          | mA         |
| Non-repetitive Peak Forward Surge Current | $I_{FSM(1)}$ (pulse width=1.0S)  | 1.0          | A          |
|                                           | $I_{FSM(2)}$ (pulse width=1.0mS) | 2.0          | A          |
| Power Dissipation                         | $P_D$                            | 350          | mW         |
| Thermal Resistance, Junction to Ambient   | $R_{\theta JA}$                  | 357          | °C/W       |
| Junction Temperature                      | $T_J$                            | 150          | °C         |
| Storage Temperature Range                 | $T_{stg}$                        | -55~150      | °C         |

| 参数<br>Parameter               | 符号<br>Symbol | 测试条件<br>Test Conditions                              | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
|-------------------------------|--------------|------------------------------------------------------|------------|------------|------------|------------|
| Breakdown Voltage             | $V_R$        | $I_R=100\mu A$                                       | 70         |            |            | V          |
| Forward Voltage               | $V_F$        | $I_F=1.0mA$                                          |            |            | 715        | mV         |
|                               |              | $I_F=10mA$                                           |            |            | 855        | mV         |
|                               |              | $I_F=50mA$                                           |            |            | 1.0        | V          |
|                               |              | $I_F=150mA$                                          |            |            | 1.25       | V          |
| Instantaneous Reverse Current | $I_R$        | $V_R=70V$                                            |            |            | 2.5        | $\mu A$    |
|                               |              | $V_R=25V \quad T_A=150^\circ C$                      |            |            | 30         | $\mu A$    |
|                               |              | $V_R=70V \quad T_A=150^\circ C$                      |            |            | 50         | $\mu A$    |
| Total Capacitance             | $C_T$        | $V_R=0 \quad f=1.0MHz$                               |            |            | 1.5        | pF         |
| Reverse Recovery Time         | $t_{rr}$     | $I_F=I_R=10mA$<br>$I_{RR}=1.0mA \quad R_L=100\Omega$ |            |            | 4.0        | ns         |



Rev.A Feb.-2022

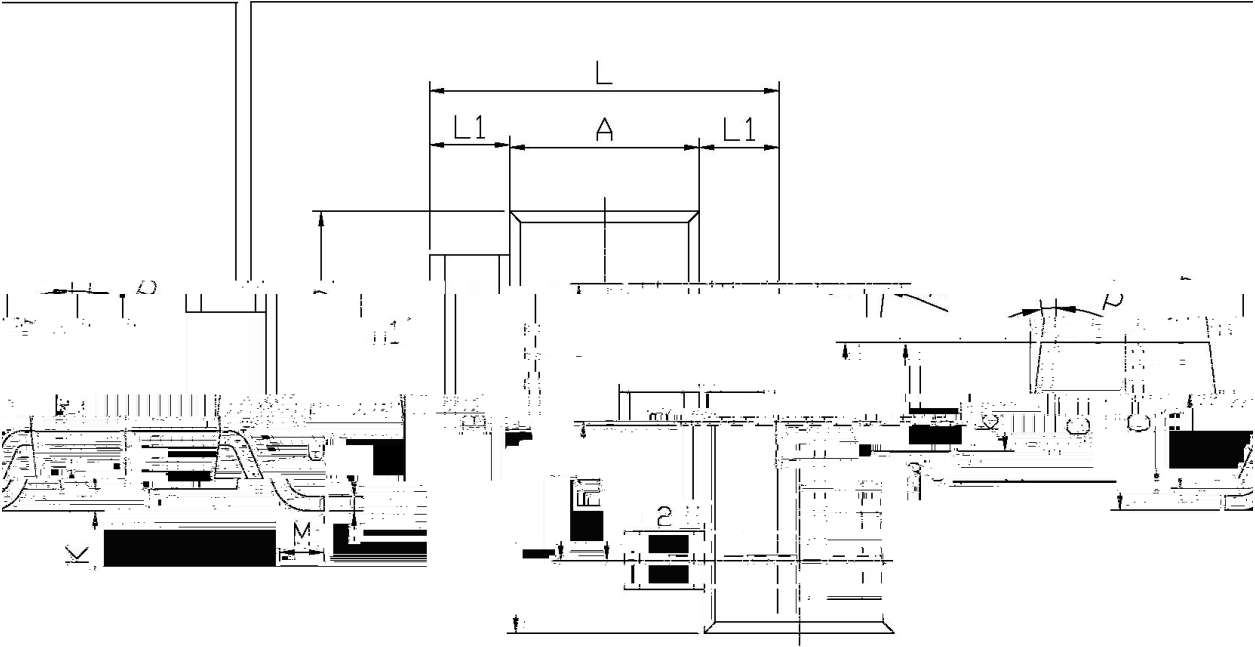




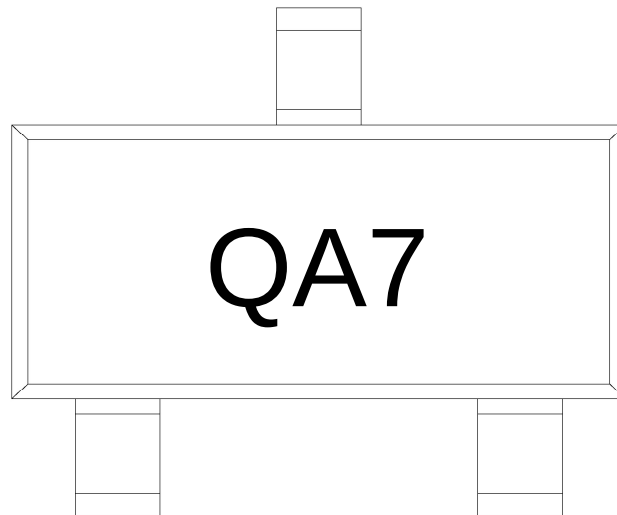


# FSBREC - 23

FSBREC - 23



| Symbol | Dimensions In Millimeters |      | Symbol | Dimensions In Millimeters |      |
|--------|---------------------------|------|--------|---------------------------|------|
|        | Min                       | Max  |        | Min                       | Max  |
| L      | 2.2                       | 2.7  | C      | 1.30Max                   |      |
| L1     | 0.45                      | 0.65 | C1     | 0.90                      | 1.20 |
| A      | 1.15                      | 1.50 | C      | 0.05                      | 0.20 |
| B      | 2.70                      | 3.10 | K      | 0                         | 0.10 |
| E      | 0.10                      | 0.20 | E      | 0.10                      | 0.20 |
| E1     | 0.85                      | 1.05 | P      | 7°                        |      |
| b      | 0.35                      | 0.55 |        |                           |      |



说明：

Q： 为汽车无卤产品标识

A7： 为型号代码

Note:

Q: Automobile halogen-free product Code

A7: Product Type Code



### Temperature Profile for IR Reflow Soldering(Pb-Free)

|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |
|  |

#### Note:

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

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

/ REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (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 盒 | Outer Box 箱 |