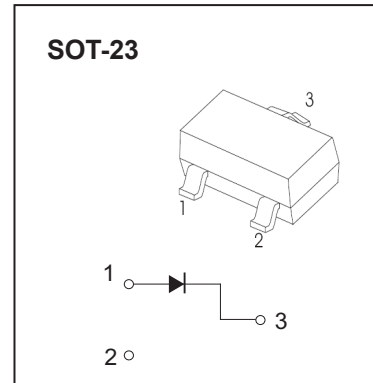
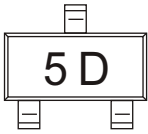


### FEATURES

High-Speed Switching Diode  
Compliant to Halogen-free  
Suffix "-Q1" for AEC-Q101

MARKING: 5D



### Maximum Ratings @Ta=25°C

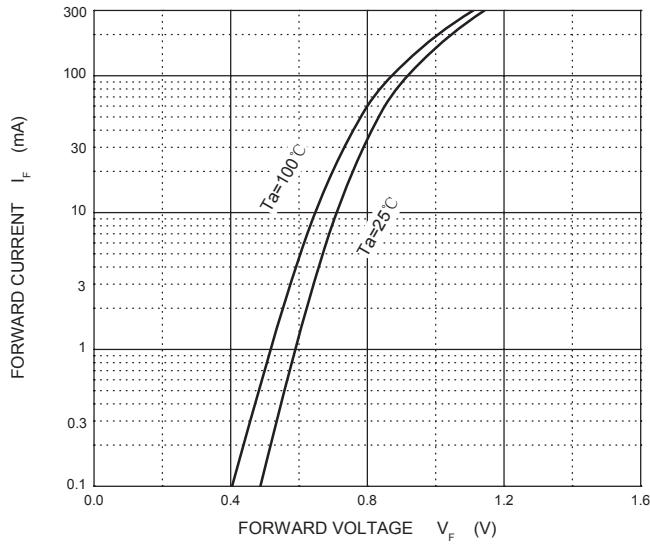
| Parameter   | Symbol          | Limit    | Unit |
|---|-----------------|----------|------|
| Non-Repetitive Peak Reverse Voltage                   | $V_{RM}$        | 100      | V    |
| Peak Repetitive Peak Reverse Voltage                  | $V_{RRM}$       | 100      | V    |
| Working Peak Reverse Voltage                          | $V_{RWM}$       |          |      |
| DC Blocking Voltage                                   | $V_R$           |          |      |
| Average Rectified Output Current                      | $I_O$           | 300      | mA   |
| Non-Repetitive Peak Forward Surge Current<br>@t=8.3ms | $I_{FSM}$       | 2        | 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                                   | $T_{STG}$       | -55~+150 | °C   |

### Electrical Characteristics@Ta=25°C

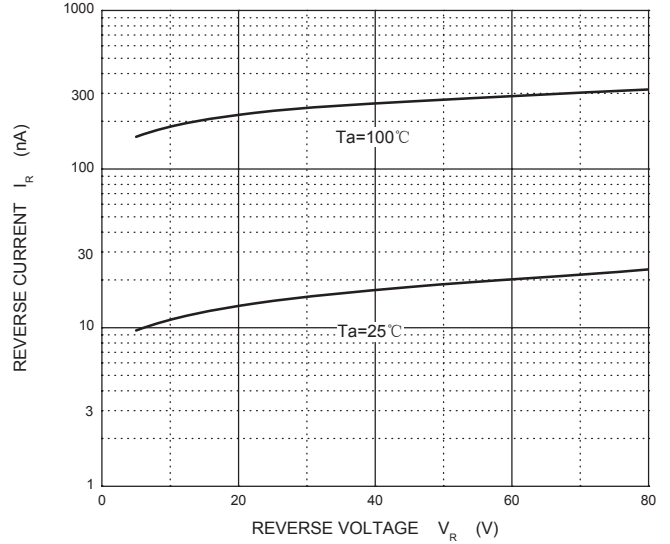
| Parameter                 | Symbol     | Min | Typ | Max  | Unit | Conditions                          |
|---------------------------|------------|-----|-----|------|------|-------------------------------------|
| Reverse Breakdown Voltage | $V_{(BR)}$ | 100 |     |      | V    | $I_R=100\mu A$                      |
| Forward Voltage           | $V_{F1}$   |     |     | 715  | mV   | $I_F=1mA$                           |
|                           | $V_{F2}$   |     |     | 855  | mV   | $I_F=10mA$                          |
|                           | $V_{F3}$   |     |     | 1000 | mV   | $I_F=50mA$                          |
|                           | $V_{F4}$   |     |     | 1250 | mV   | $I_F=150mA$                         |
| Reverse Current           | $I_{R1}$   |     |     | 1    | uA   | $V_R=75V$                           |
|                           | $I_{R2}$   |     |     | 25   | nA   | $V_R=20V$                           |
| Diode Capacitance         | $C_D$      |     |     | 2    | pF   | $V_R=0, f=1MHz$                     |
| Reverse Recovery Time     | $t_{rr}$   |     |     | 4    | ns   | $I_F=I_R=10mA,$<br>$I_{rr}=0.1*I_R$ |

### Typical Characteristics

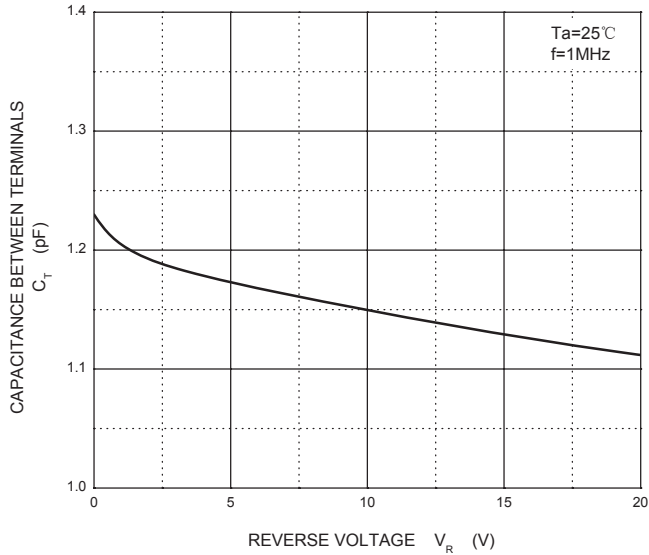
**Forward Characteristics**



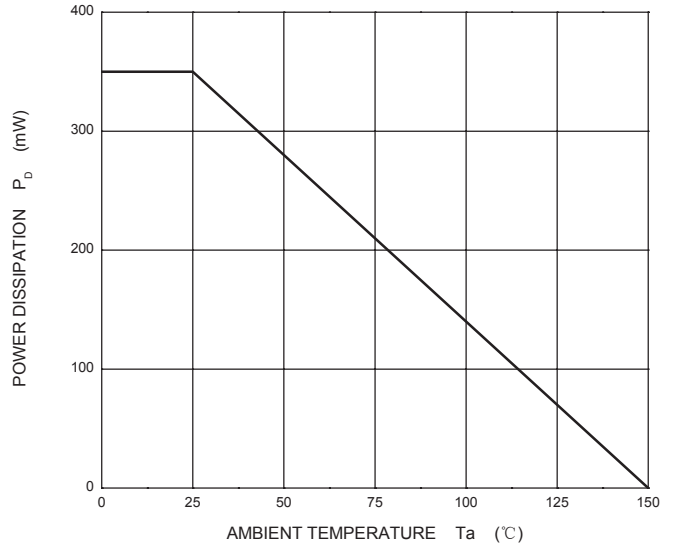
**Reverse Characteristics**



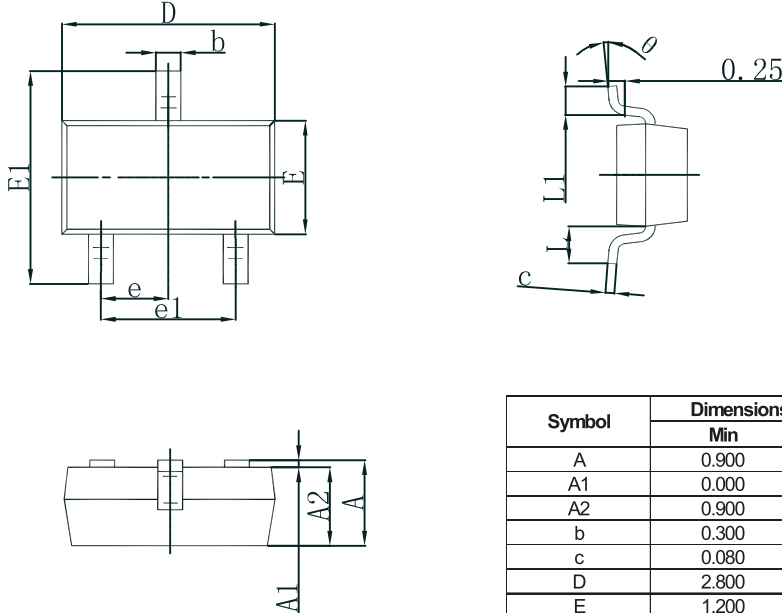
**Capacitance Characteristics**



**Power Derating Curve**

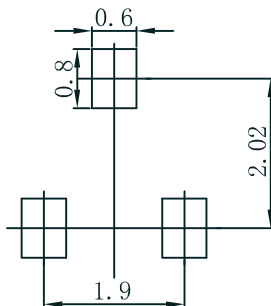


### SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min                       | Max   | Min                  | Max   |
| A      | 0.900                     | 1.150 | 0.035                | 0.045 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.900                     | 1.050 | 0.035                | 0.041 |
| b      | 0.300                     | 0.500 | 0.012                | 0.020 |
| c      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 2.800                     | 3.000 | 0.110                | 0.118 |
| E      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E1     | 2.250                     | 2.550 | 0.089                | 0.100 |
| e      | 0.950 TYP                 |       | 0.037 TYP            |       |
| e1     | 1.800                     | 2.000 | 0.071                | 0.079 |
| L      | 0.550 REF                 |       | 0.022 REF            |       |
| L1     | 0.300                     | 0.500 | 0.012                | 0.020 |
| θ      | 0°                        | 8°    | 0°                   | 6°    |

### SOT-23 Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$  mm.
3. The pad layout is for reference purposes only.