

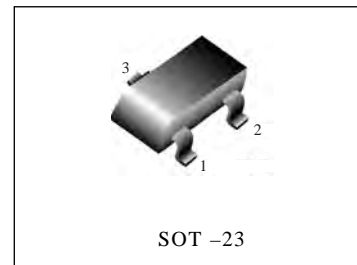
High Voltage Switching Diode

FEATURE

- We declare that the material of product compliance with RoHS requirements.

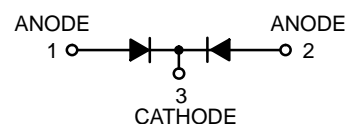
DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|--------|---------|----------------|
| FDS21C | JU | 3000/Tape&Reel |



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|----------------------------|-----------------|-------|------|
| Continuous Reverse Voltage | V_R | 250 | Vdc |
| Peak Forward Current | I_F | 225 | mAdc |
| Peak Forward Surge Current | $I_{FM(surge)}$ | 625 | mAdc |



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THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|--|-----------------|-------------|--------------------|
| Total Device Dissipation FR-5 Board, (1) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 225 | mW |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C/W}$ |
| Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 | mW |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417 | $^\circ\text{C/W}$ |
| Junction and Storage Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

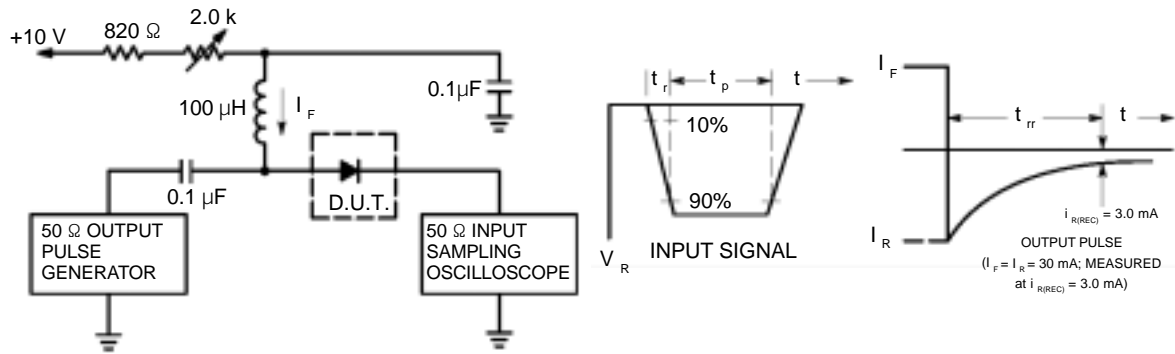
| Characteristic | Symbol | Min | Max | Unit |
|----------------|--------|-----|-----|------|
|----------------|--------|-----|-----|------|

OFF CHARACTERISTICS

| | | | | |
|---|------------|-----|--------------|-----------------|
| Reverse Voltage Leakage Current ($V_R = 250\text{Vdc}$) ($V_R = 200\text{Vdc}$) ($V_R = 200\text{Vdc}, T_J = 150^\circ\text{C}$) | I_R | — | 100 | μAdc |
| Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{Adc}$) | $V_{(BR)}$ | 250 | — | Vdc |
| Forward Voltage ($I_F = 100 \text{mAdc}$) ($I_F = 200 \text{mAdc}$) | V_F | — | 1000 1250 | mV |
| Diode Capacitance ($V_R = 0, f = 1.0 \text{MHz}$) | C_D | — | 5.0 | pF |
| Reverse Recovery Time ($I_F = I_R = 30\text{mAdc}, R_L = 100 \Omega$) | t_{rr} | — | 50 | ns |

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.



- Notes:
1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 30 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

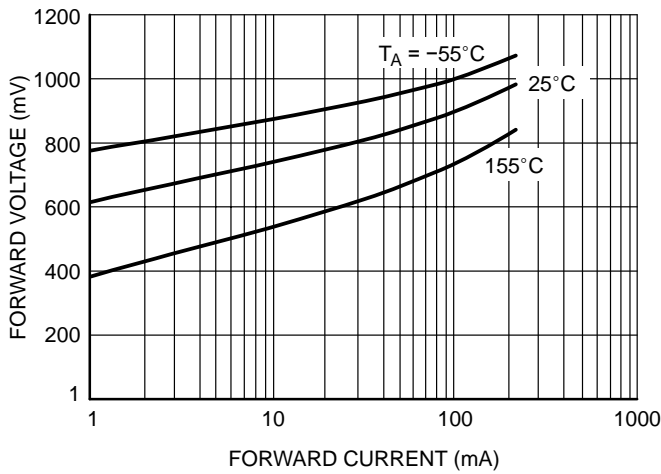


Figure 2. Forward Voltage

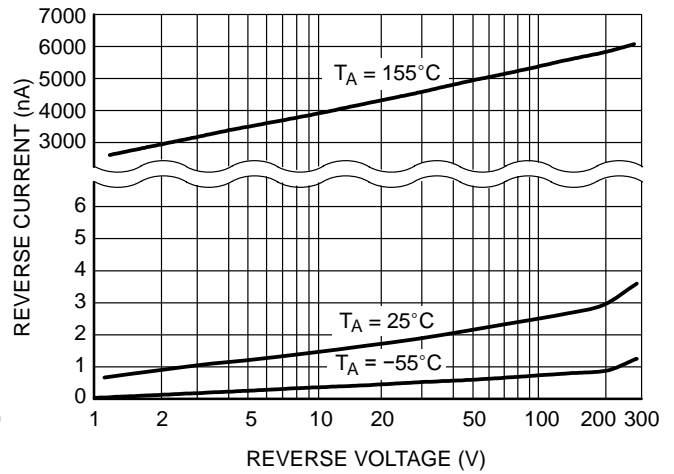
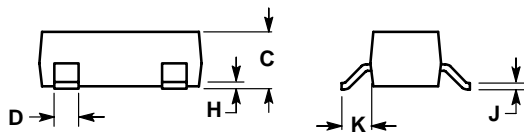
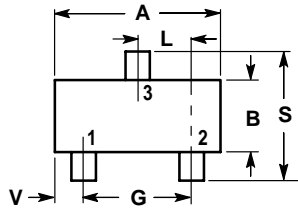


Figure 3. Reverse Leakage

SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|--------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.1102 | 0.1197 | 2.80 | 3.04 |
| B | 0.0472 | 0.0551 | 1.20 | 1.40 |
| C | 0.0350 | 0.0440 | 0.89 | 1.11 |
| D | 0.0150 | 0.0200 | 0.37 | 0.50 |
| G | 0.0701 | 0.0807 | 1.78 | 2.04 |
| H | 0.0005 | 0.0040 | 0.013 | 0.100 |
| J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| K | 0.0140 | 0.0285 | 0.35 | 0.69 |
| L | 0.0350 | 0.0401 | 0.89 | 1.02 |
| S | 0.0830 | 0.1039 | 2.10 | 2.64 |
| V | 0.0177 | 0.0236 | 0.45 | 0.60 |

