



## Surface Mount Switching Diode

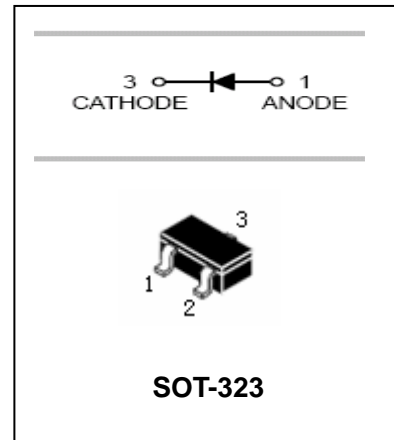
## M1MA174

### FEATURES

- Fast  $t_{rr} < 4.0\text{ns}$ .
- Low  $C_D, < 1.0\text{pF}$ .
- Pb-free packages are available.



Lead-free



### APPLICATIONS

- For high speed switching applications.

### ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| M1MA174  | J6      | SOT-323      |

### MAXIMUM RATING @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter                                      | Symbol          | Limits      | Unit                      |
|--|-----------------|-------------|---------------------------|
| Continuous reverse voltage                     | $V_R$           | 100         | V                         |
| Forward output Current                         | $I_F$           | 200         | mA                        |
| Peak Forward Surge Current (10 $\mu\text{s}$ ) | $I_{FSM}$       | 500         | mA                        |
| Power Dissipation                              | $P_d$           | 200         | mW                        |
| Thermal resistance, junction to ambient        | $R_{\theta JA}$ | 625         | $^\circ\text{C}/\text{W}$ |
| Junction temperature                           | $T_j$           | 150         | $^\circ\text{C}$          |
| Storage temperature range                      | $T_{stg}$       | -55 to +150 | $^\circ\text{C}$          |

### ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter                 | Symbol     | Test conditions                      | MIN | MAX       | UNIT                |
|---------------------------|------------|--------------------------------------|-----|-----------|---------------------|
| Reverse Breakdown voltage | $V_{(BR)}$ | $I_R=100\mu\text{A}$                 | 100 |           | V                   |
| Reverse current           | $I_R$      | $V_R=20\text{V}$<br>$V_R=75\text{V}$ |     | 25<br>5.0 | nA<br>$\mu\text{A}$ |
| Forward voltage           | $V_F$      | $I_F=10\text{mA}$                    |     | 1.0       | V                   |
| Diode capacitance         | $C_D$      | $V_R=0\text{V}, f=1\text{MHz}$       |     | 4.0       | pF                  |
| Reverse recovery time     | $t_{rr}$   | $I_F=I_R=10\text{mA}$                |     | 4.0       | ns                  |



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TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

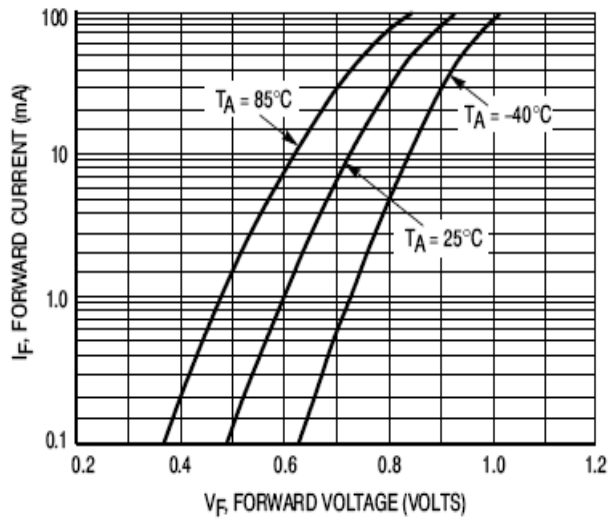


Figure 2. Forward Voltage

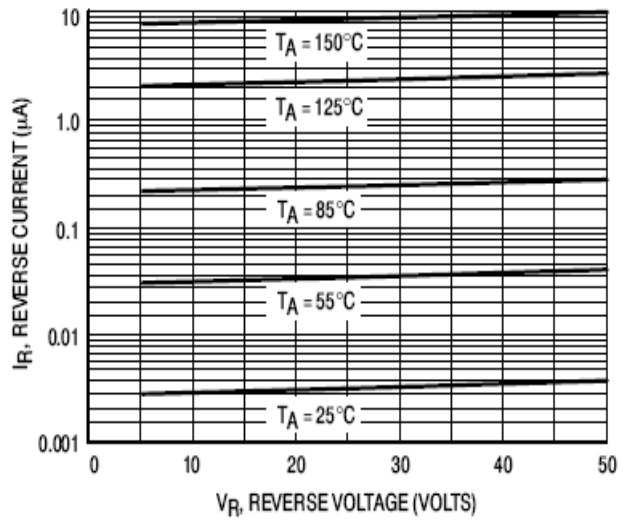


Figure 3. Leakage Current

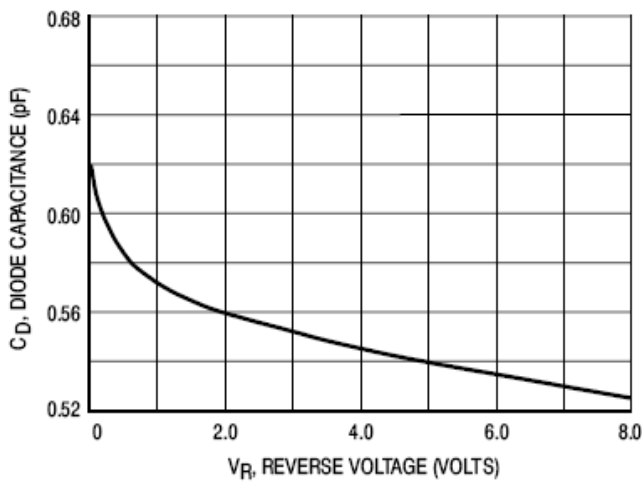


Figure 4. Capacitance



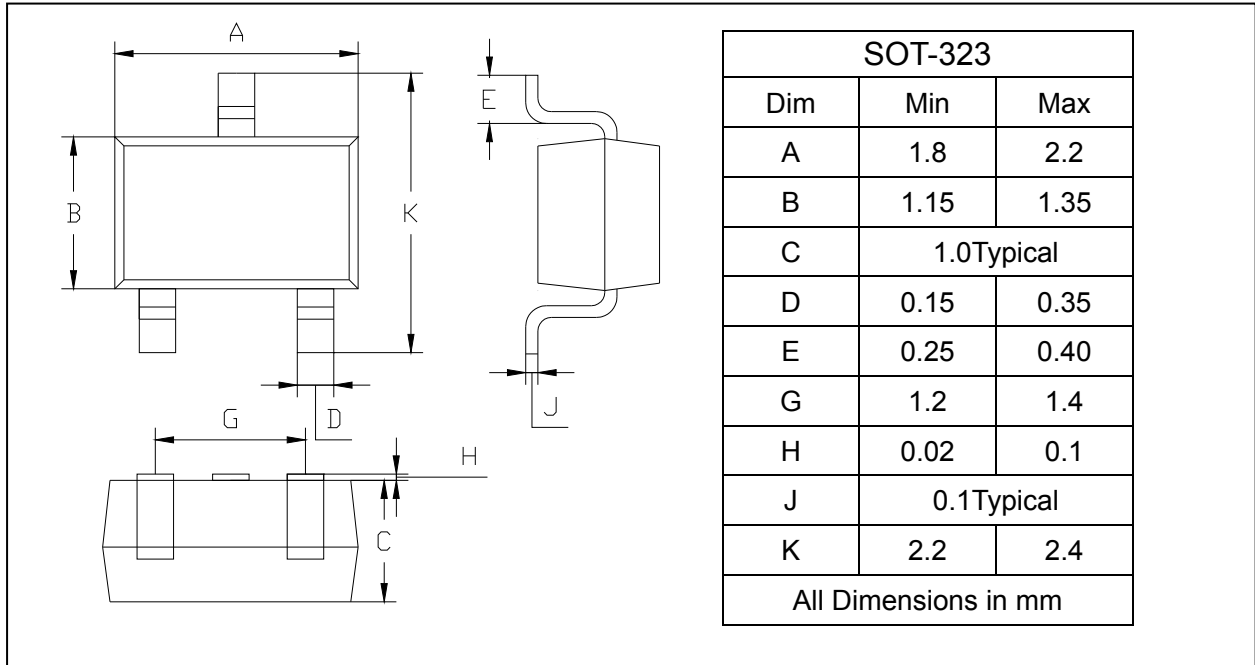
**Surface Mount Switching Diode**

**M1MA174**

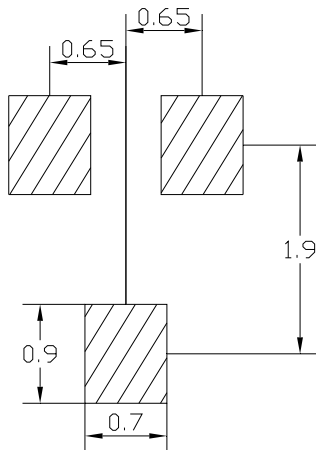
**PACKAGE OUTLINE**

Plastic surface mounted package

SOT-323



**SOLDERING FOOTPRINT**



Unit : mm

**PACKAGE INFORMATION**

| Device  | Package | Shipping       |
|---------|---------|----------------|
| M1MA174 | SOT-323 | 3000/Tape&Reel |