



## RS1M

DIODE

### SURFACE MOUNT FAST RECOVERY RECTIFIER

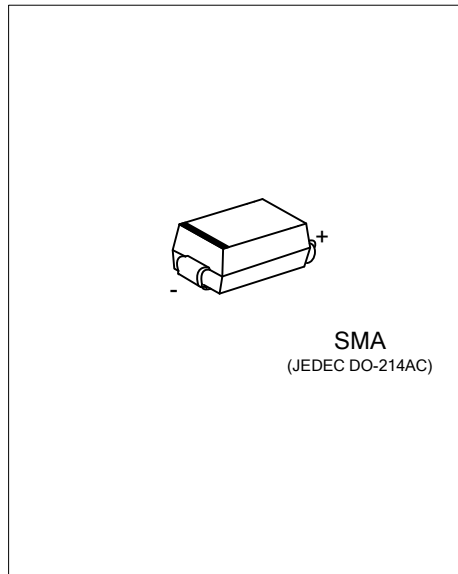
#### DESCRIPTION

The UTC **RS1M** is a surface mount fast recovery rectifier, it uses UTC's advanced technology to provide customers with fast switching, high forward surge current and low reverse leakage, etc.

The UTC **RS1M** is suitable for surface mounted applications.

#### FEATURES

- \* Low reverse leakage
- \* Fast switching for high efficiency
- \* High forward surge current capability



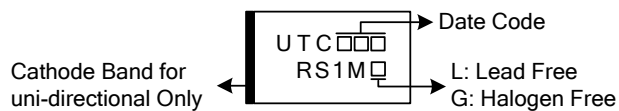
#### ORDERING INFORMATION

| Ordering Number |              | Package | Pin Assignment |   | Packing   |
|-----------------|--------------|---------|----------------|---|-----------|
| Lead Free       | Halogen Free |         | 1              | 2 |           |
| RS1ML-SMA-R     | RS1MG-SMA-R  | SMA     | K              | A | Tape Reel |

Note: Pin Assignment: A: Anode K: Cathode

|   |  |
|---|--|
| <p>RS1ML-SMA-R</p> <p>(1) Packing Type<br/>(2) Package Type<br/>(3) Lead Free</p> | <p>(1) R: Tape Reel<br/>(2) SMA: SMA<br/>(3) L: Lead Free, G: Halogen Free</p> |
|---|--|

#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| PARAMETER  | SYMBOL    | RATINGS  | UNIT               |
|--|-----------|----------|--------------------|
| Repetitive Peak Reverse Voltage  | $V_{RRM}$ | 1000     | V                  |
| RMS Voltage  | $V_{RMS}$ | 700      | V                  |
| DC Blocking Voltage  | $V_{DC}$  | 1000     | V                  |
| Average Forward Rectified Current at $T_L=90^{\circ}\text{C}$                                    | $I_O$     | 1.0      | A                  |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) | $I_{FSM}$ | 30.0     | A                  |
| Junction Temperature   | $T_J$     | -65~+150 | $^{\circ}\text{C}$ |
| Storage Temperature  | $T_{STG}$ | -65~+150 | $^{\circ}\text{C}$ |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

| PARAMETER                  | SYMBOL        | RATINGS | UNIT                        |
|----------------------------|---------------|---------|-----------------------------|
| Junction to Ambient (Note) | $\theta_{JA}$ | 60      | $^{\circ}\text{C}/\text{W}$ |

Note:  $8.0\text{mm}^2$  (0.13mm thick) land pads.

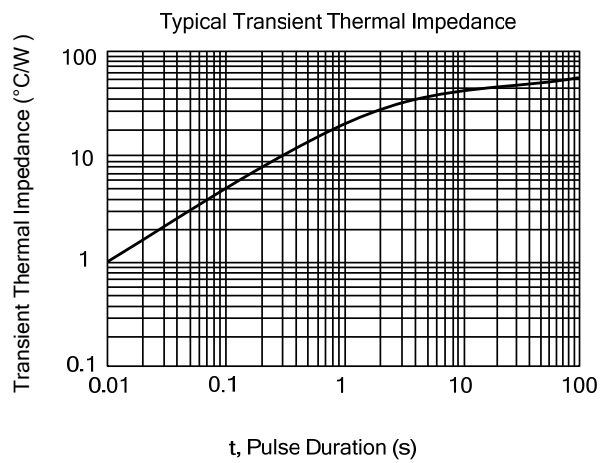
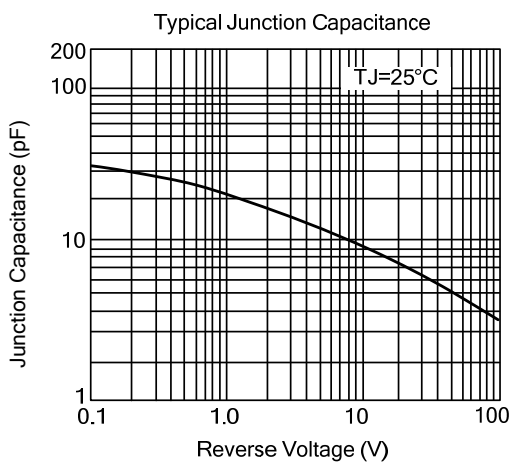
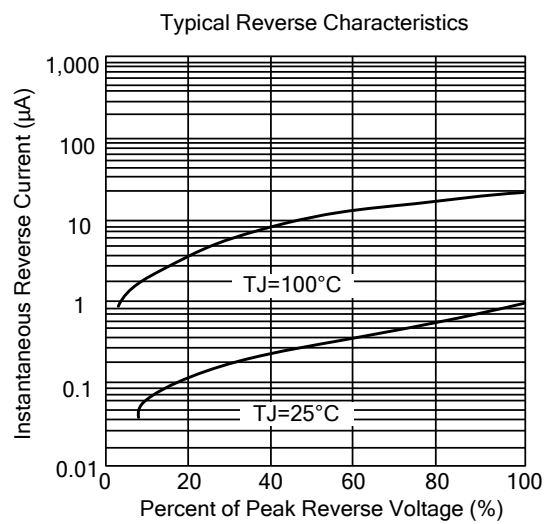
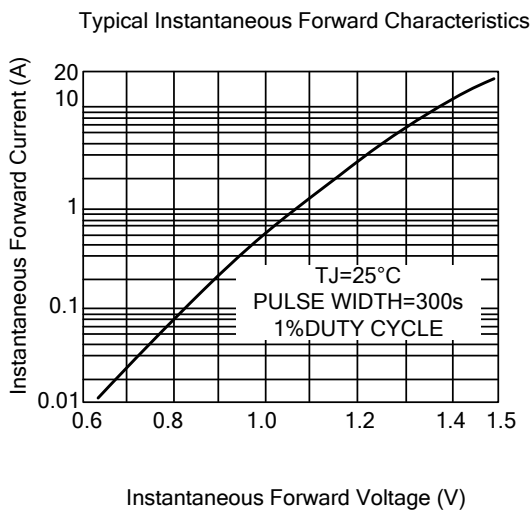
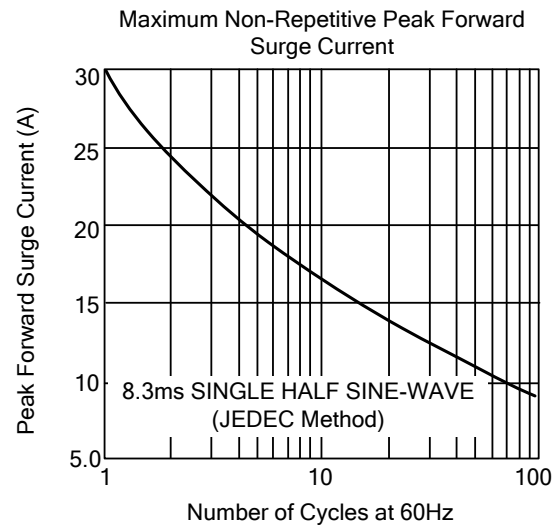
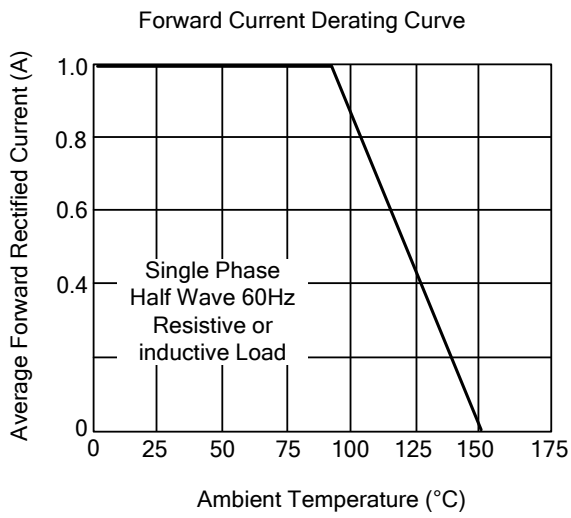
■ ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ , unless otherwise specified)

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

| PARAMETER                                       | SYMBOL   | TEST CONDITIONS  | MIN | TYP  | MAX  | UNIT          |
|---|----------|--|-----|------|------|---------------|
| Instantaneous Forward Voltage                   | $V_F$    | $I_F=1.0\text{A}$  |     |      | 1.3  | V             |
| DC Reverse Current at Rated DC Blocking Voltage | $I_R$    | $T_A=25^{\circ}\text{C}$   |     |      | 5.0  | $\mu\text{A}$ |
|   |          | $T_A=100^{\circ}\text{C}$  |     |      | 50.0 | $\mu\text{A}$ |
| Reverse Recovery Time                           | $t_{rr}$ | $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ ,<br>$I_{rr}=0.25\text{A}$ |     |      | 500  | ns            |
| Junction Capacitance (Note)                     | $C_J$    |  |     | 15.0 |      | pF            |

Note: Measured at 1MHz and applied reverse voltage of 4.0V D.C.

## ■ TYPICAL CHARACTERISTICS



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