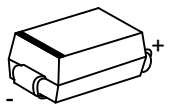
RS1M

DIODE

SURFACE MOUNT FAST RECOVERY RECTIFIER



SMA
(JEDEC DO-214AC)

■ 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

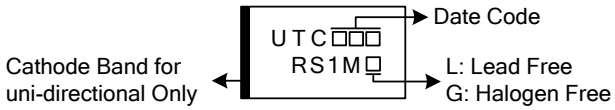
■ ORDERING INFORMATION

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

RS1ML-SMA-R
- (1)Packing Type — (1) R: Tape Reel
- (2)Package Type — (2) SMA: SMA
- (3)Lead Free — (3) L: Lead Free, G: Halogen Free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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°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	°C
Storage Temperature	T_{STG}	-65~+150	°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)	θ_{JA}	60	°C/W

Note: 8.0mm^2 (0.13mm thick) land pads.

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified)

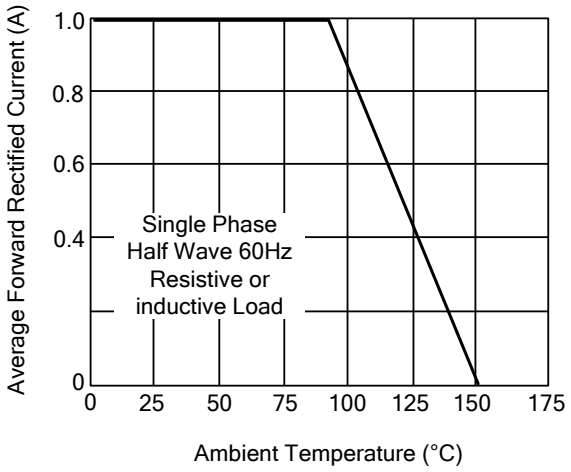
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage	V_F	I_F=1.0A			1.3	V
DC Reverse Current at Rated DC Blocking Voltage	I_R	T_A=25°C			5.0	μA
		T_A=100°C			50.0	μA
Reverse Recovery Time	t_{rr}	I_F=0.5A, I_R=1.0A, I_{rr}=0.25A			500	ns
Junction Capacitance (Note)	C_J			15.0		pF

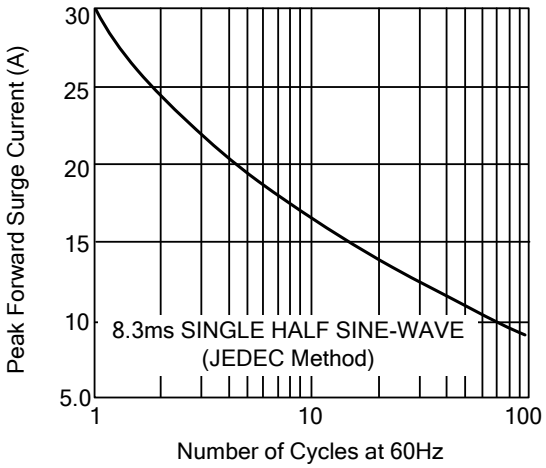
Note: Measured at 1MHz and applied reverse voltage of 4.0V D.C.

■ TYPICAL CHARACTERISTICS

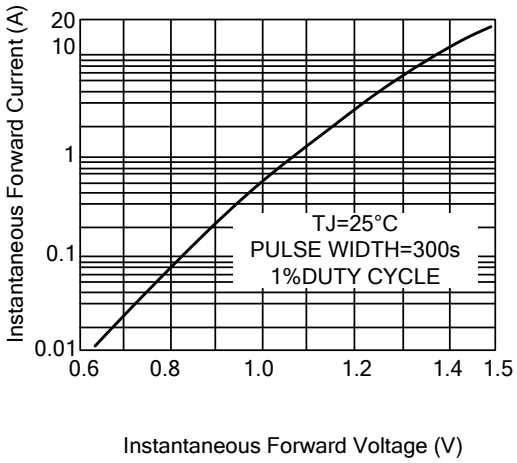
Forward Current Derating Curve



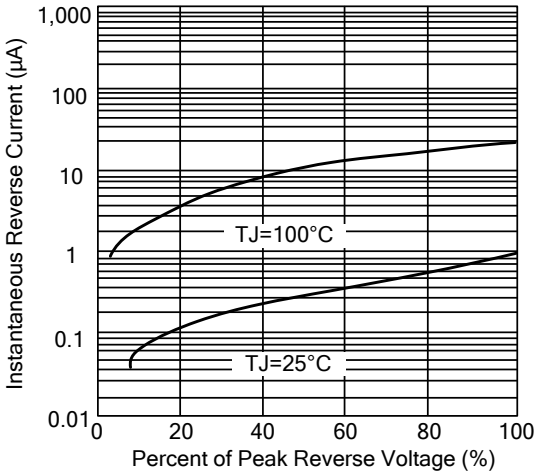
Maximum Non-Repetitive Peak Forward Surge Current



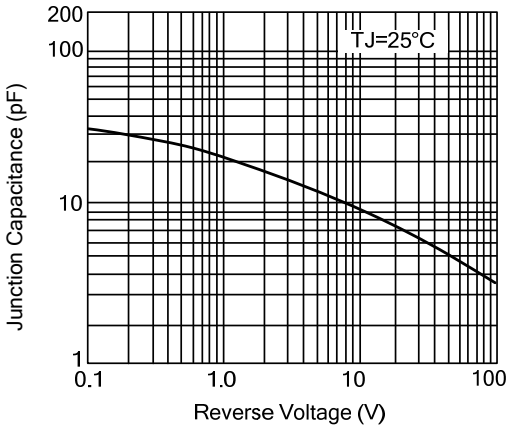
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Typical Transient Thermal Impedance