



US1M

DIODE

SURFACE MOUNT ULTRA FAST RECTIFIER

DESCRIPTION

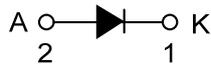
The UTC **US1M** is a surface mount ultra fast rectifier, it uses UTC's advanced technology to provide customers with ultra fast switching, high forward surge current and low reverse leakage, etc.

The UTC **US1M** is suitable for surface mounted applications.

FEATURES

- * Ultra fast switching for high efficiency
- * Low reverse leakage
- * High forward surge current capability

SYMBOL



ORDERING INFORMATION

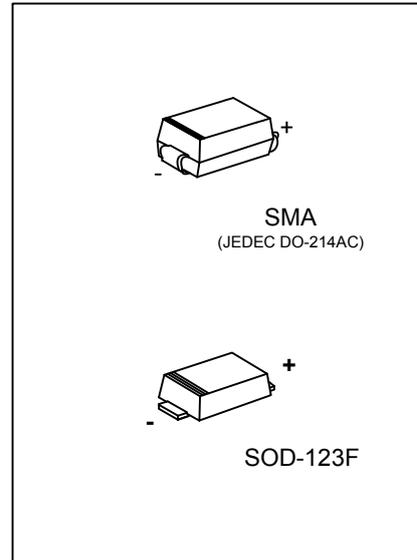
Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
US1ML-SMA-R	US1MG-SMA-R	SMA	K	A	Tape Reel
US1ML-CA2F-R	US1MG-CA2F-R	SOD-123F	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>US1MG-SMA-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) SMA: SMA, CA2F: SOD-123F (3) G: Halogen Free and Lead Free, L: Lead Free
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MARKING

SOD-123F	SMA
<p>L: Lead Free G: Halogen Free</p>	<p>UTC □□□□ → Date Code US1M □ → L: Lead Free G: Halogen Free ← Cathode Band for uni-directional Only</p>



■ ABSOLUTE MAXIMUM RATINGS

Ratings at 25°C ambient temperature 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 $T_L=55^\circ\text{C}$	$I_{(AV)}$	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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	SMA	50	°C/W
	SOD-123F	200	°C/W

Note: P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas.

■ ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

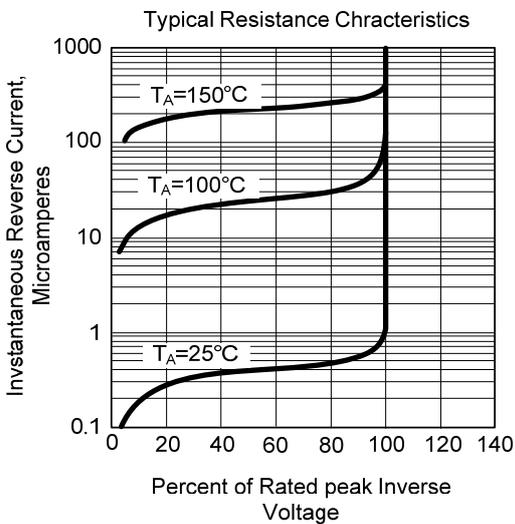
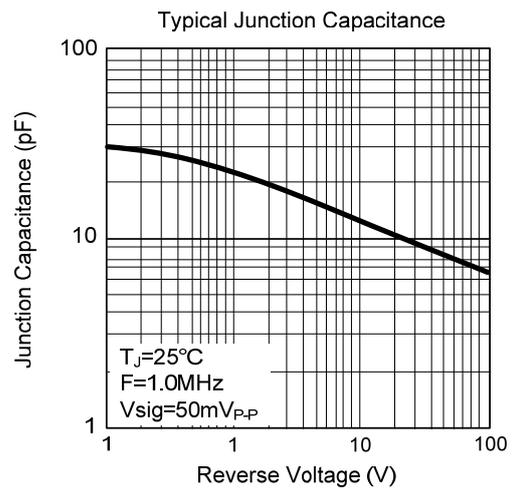
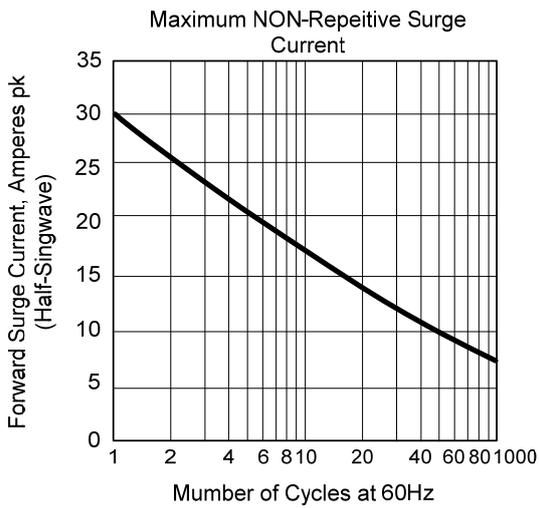
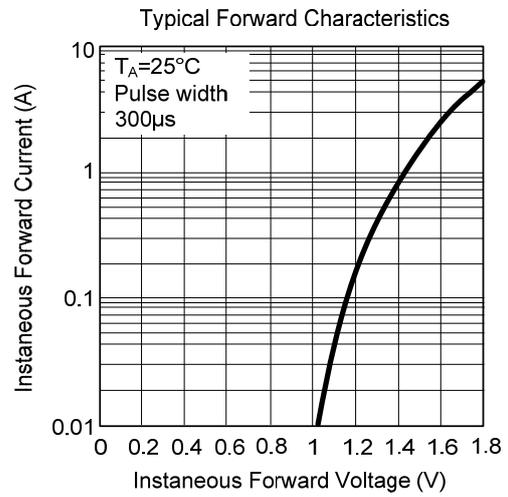
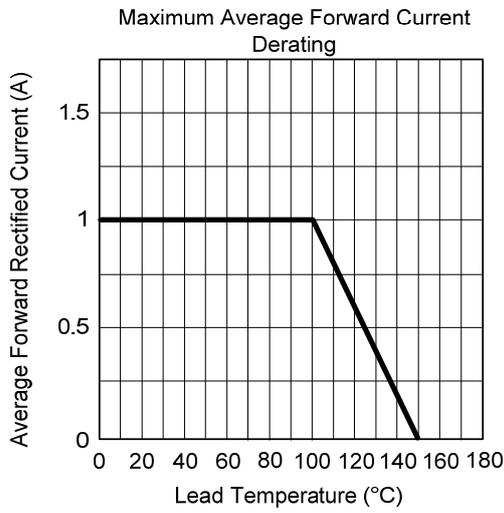
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage	V_F	$I_F=1.0\text{A}$			1.7	V
DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$			5.0	μA
		$T_A=100^\circ\text{C}$			50.0	μA
Reverse Recovery Time (Note 1)	t_{rr}				75	ns
Junction Capacitance (Note 2)	C_J			15.0		pF

Notes: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$.

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

■ TYPICAL CHARACTERISTICS



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