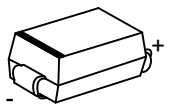
US1D

DIODE

SURFACE MOUNT ULTRA FAST RECTIFIER



SMA
(JEDEC DO-214AC)

■ DESCRIPTION

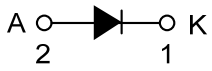
The UTC **US1D** is a surface mount ultra fast rectifier, it uses UTC's advanced technology to provide customers with ultra fast switching, high forward surge current and low reverse leakage, etc.

The UTC **US1D** is suitable for surface mounted applications.

■ FEATURES

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

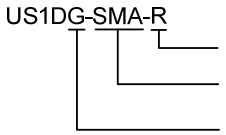
■ SYMBOL



■ ORDERING INFORMATION

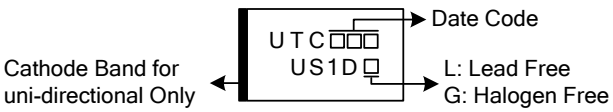
Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
US1DL-SMA-R	US1DG-SMA-R	SMA	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode



(1) R: Tape Reel
(2) SMA: SMA
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING



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■ 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}	200	V
RMS Voltage	V_{RMS}	140	V
DC Blocking Voltage	V_{DC}	200	V
Average Forward Rectified Current at T_L=55°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	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 (Note 3)	θ_{JA}	50	°C/W

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

■ ELECTRICAL CHARACTERISTICS

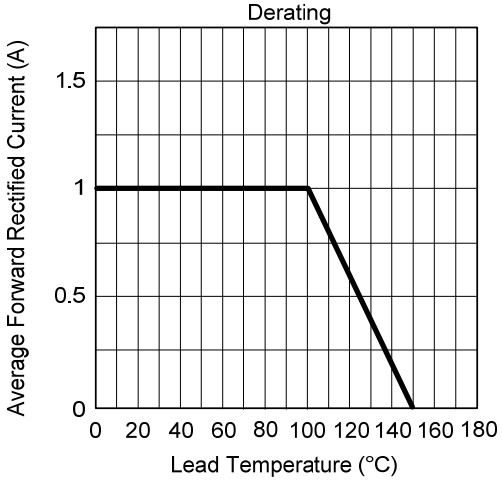
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage	V_F	I_F=1.0A			1.0	V
DC Reverse Current at Rated DC Blocking Voltage	I_R	T_A=25°C			5.0	μA
		T_A=100°C			50	μA
Reverse Recovery Time (Note 1)	t_{rr}				50	ns
Junction Capacitance (Note 2)	C_J			15		pF

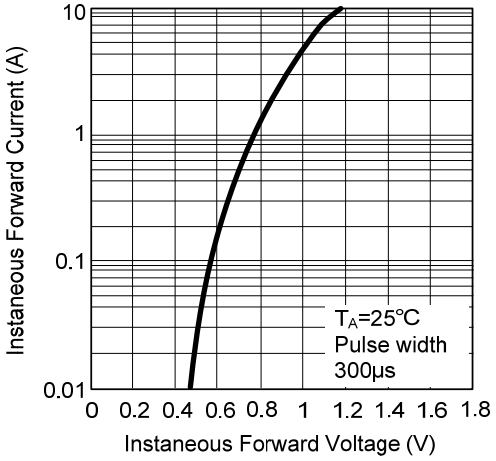
Notes: 1. Reverse recovery condition I_F=0.5A, I_R=1.0A, Irr=0.25A.
2. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

■ TYPICAL CHARACTERISTICS

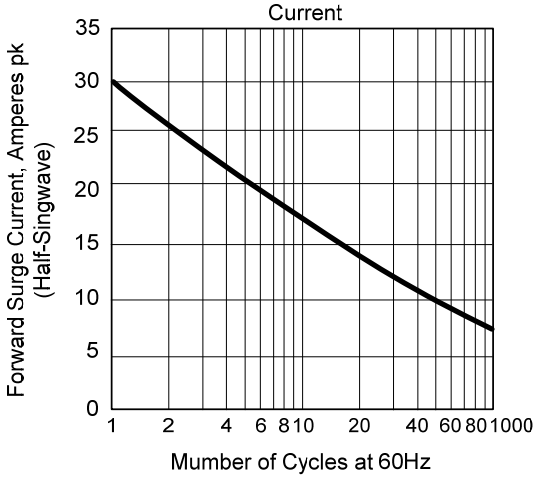
Maximum Average Forward Current Derating



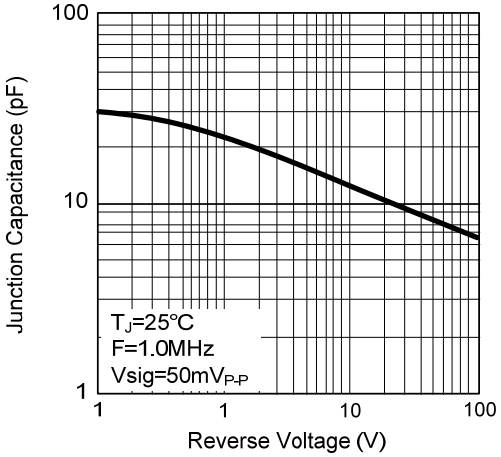
Typical Forward Characteristics



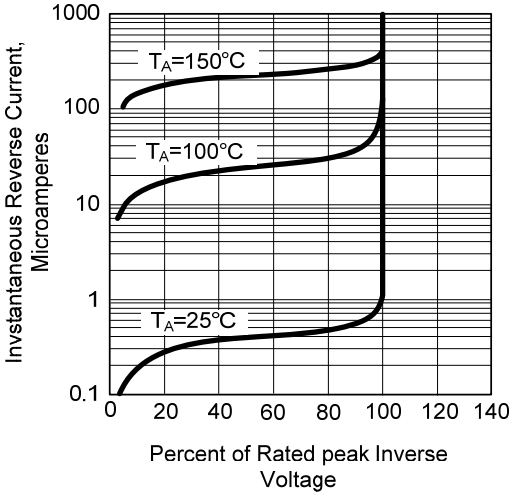
Maximum NON-Repeitive Surge Current



Typical Junction Capacitance



Typical Resistance Chracteristics



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