



ES1D

Preliminary

DIODE

SURFACE MOUNT SUPER FAST RECTIFIER

DESCRIPTION

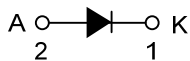
The UTC **ES1D** is a surface mount super fast rectifier, it uses UTC's advanced technology to provide customers with super fast switching, high forward surge current and low reverse leakage, etc.

The UTC **ES1D** is suitable for surface mounted applications.

FEATURES

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

SYMBOL



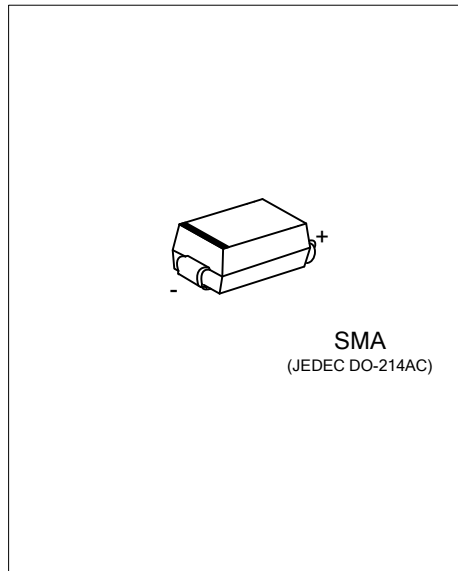
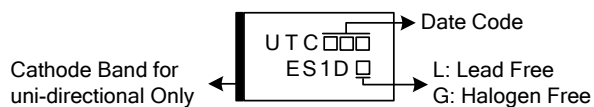
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
ES1DL-SMA-R	ES1DG-SMA-R	SMA	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

	<p>(1) R: Tape Reel (2) SMA: SMA (3) L: Lead Free, G: Halogen Free</p>
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MARKING



■ 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 $T_L=55^\circ\text{C}$	$I_{(AV)}$	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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient (Note 3)	θ_{JA}	60	°C/W

■ 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	$I_F=1.0\text{A}$			0.95	V
DC Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$			5	μA
		$T_A=100^\circ\text{C}$			50	μA
Reverse Recovery Time (Note 1)	t_{rr}				35	ns
Junction Capacitance (Note 2)	C_J				15	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.

3. P.C.B. mounted with 0.2×0.2" (5.0×5.0mm) copper pad areas.

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