



ES1A THRU ES1J

DIODE

1.0AMP SURFACE MOUNT GLASS SUPERFAST RECOVERY RECTIFIER

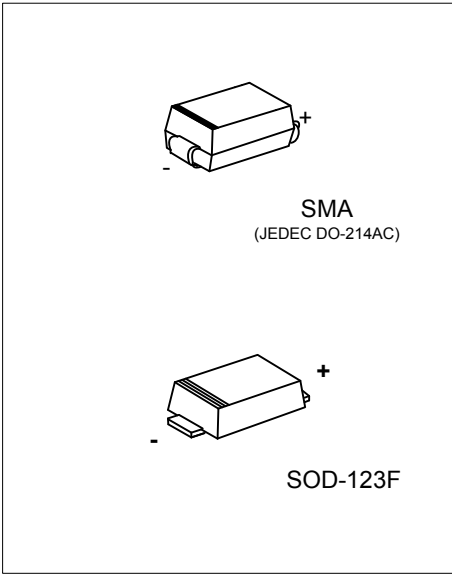
■ **DESCRIPTION**

The UTC **ES1A thru ES1J** is a surface mount glass superfast recovery rectifier, it uses UTC's advanced technology to provide customers with low power loss and high efficiency, etc.

■ **FEATURES**

- *Glass passivated Junction chip
- *Low reverse leakage
- *High forward surge current capability

■ **ORDERING INFORMATION**



Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
ES1XL-SMA-R	ES1XG-SMA-R	SMA	K	A	Tape Reel
ES1XL-CA2-R	ES1XG-CA2-R	SOD-123F	A	K	Tape Reel
ES1GL-SMA-R	ES1GP-SMA-R	SMA	K	A	Tape Reel
ES1GL-CA2F-R	ES1GP-CA2F-R	SOD-123F	A	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>ES1AG-SMA-R</p>	<p>(1) R: Tape Reel (2) SMA: SMA, CA2F: SOD-123F (3) G: Halogen Free and Lead Free, L: Lead Free P: Halogen Free and Lead Free For ES1G only</p>
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■ **MARKING**

SMA	SOD-123F

■ 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
		ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	150	200	300	400	600	V
DC Blocking Voltage	V_{DC}	50	100	150	200	300	400	600	V
RMS Voltage	V_{RMS}	35	70	105	140	210	280	420	V
Average Rectified Output Current $T_A=75^\circ\text{C}$	I_O	1.0							A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	30							A
Operating Junction Temperature Range	T_J	-55 ~ +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +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	SMA	80	$^\circ\text{C}/\text{W}$
	SOD-123F	160	$^\circ\text{C}/\text{W}$

Note: P.C.B. mounted with 8.0mm^2 (.013mm thick) copper pad areas.

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

Ratings at 25°C ambient temperature unless otherwise specified.

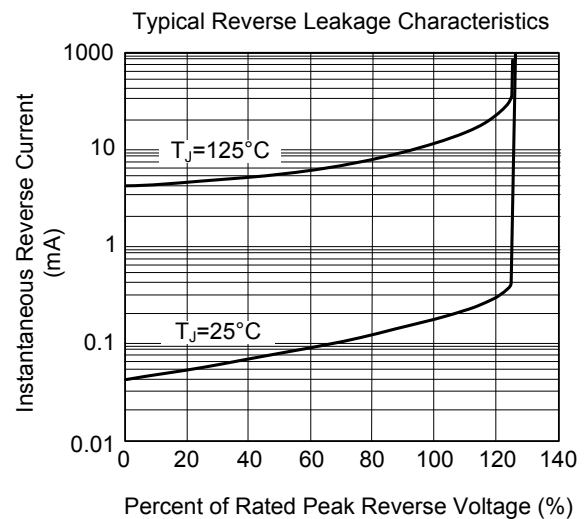
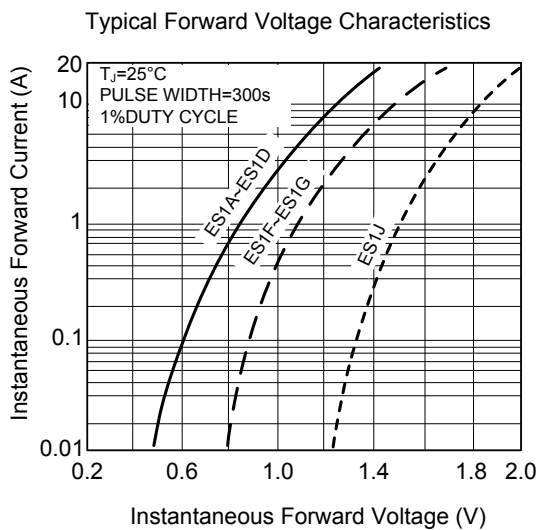
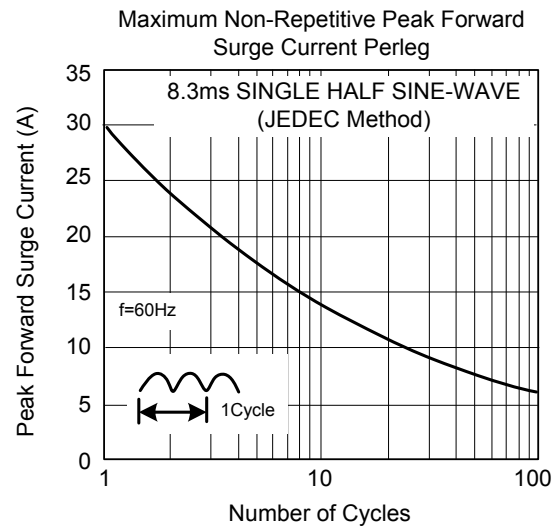
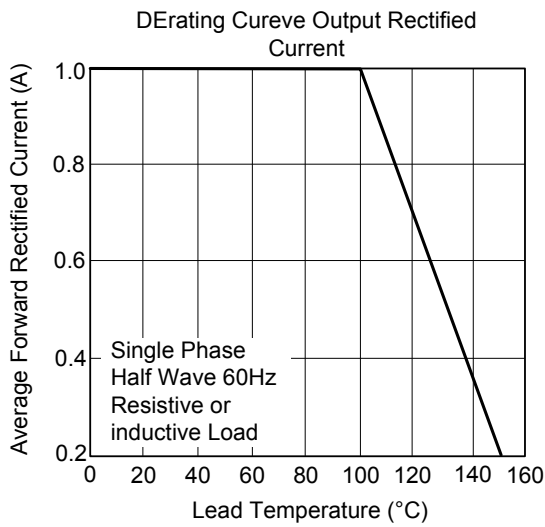
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS							UNIT
			ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	
Forward Voltage	V_{FM}	$I_F=1.0\text{A}$	0.95	0.95	0.95	0.95	1.25	1.25	1.7	V
Peak Reverse Current at Rated DC Blocking Voltage	I_R	$T_A=25^\circ\text{C}$	5.0							μA
		$T_A=125^\circ\text{C}$	500							μA
Reverse Recovery Time (Note 1)	t_{rr}		35							ns
Junction Capacitance (Note 2)	C_J		18							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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