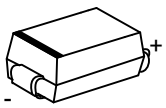
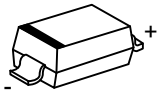
ES1A THRU ES1J

DIODE

1.0AMP SURFACE MOUNT GLASS SUPERFAST RECOVERY RECTIFIER



SMA
(JEDEC DO-214AC)



SOD-123

■ 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

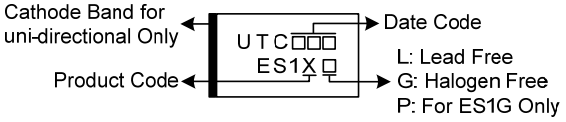
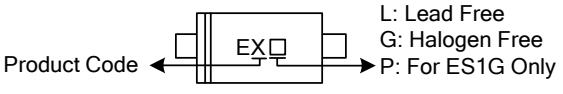
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
ES1AL-SMA-R	ES1AG-SMA-R	SMA	K	A	Tape Reel
ES1AL-CA2-R	ES1AG-CA2-R	SOD-123	A	K	Tape Reel
ES1BL-SMA-R	ES1BG-SMA-R	SMA	K	A	Tape Reel
ES1BL-CA2-R	ES1BG-CA2-R	SOD-123	A	K	Tape Reel
ES1CL-SMA-R	ES1CG-SMA-R	SMA	K	A	Tape Reel
ES1CL-CA2-R	ES1CG-CA2-R	SOD-123	A	K	Tape Reel
ES1DL-SMA-R	ES1DG-SMA-R	SMA	K	A	Tape Reel
ES1DL-CA2-R	ES1DG-CA2-R	SOD-123	A	K	Tape Reel
ES1EL-SMA-R	ES1EG-SMA-R	SMA	K	A	Tape Reel
ES1EL-CA2-R	ES1EG-CA2-R	SOD-123	A	K	Tape Reel
ES1GL-SMA-R	ES1GP-SMA-R	SMA	K	A	Tape Reel
ES1GL-CA2-R	ES1GP-CA2-R	SOD-123	A	K	Tape Reel
ES1JL-SMA-R	ES1JG-SMA-R	SMA	K	A	Tape Reel
ES1JL-CA2-R	ES1JG-CA2-R	SOD-123	A	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

(1) R: Tape Reel
(2) SMA: SMA, CA2: SOD-123
(3) L: Lead Free, G: Halogen Free and Lead Free
P: Halogen Free and Lead Free For ES1G only

■ MARKING

SMA	SOD-123
	

■ 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
		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°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							°C
Storage Temperature Range	T_{STG}	-55 ~ +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	SMA	θ_{JA}	80	°C/W
	SOD-123		160	°C/W

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

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

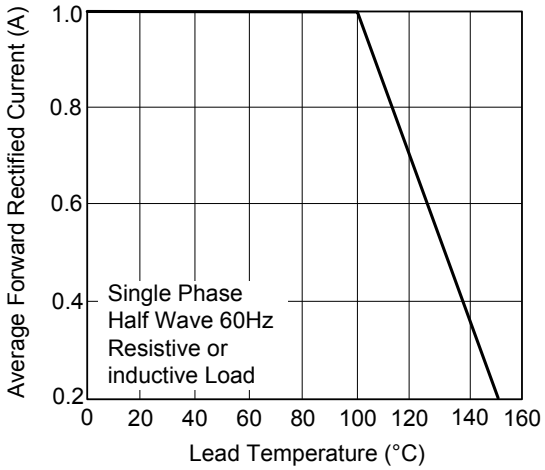
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS							UNIT
			ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	
Forward Voltage	V_{FM}	I_F=1.0A	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°C	5.0							μA
		T_A=125°C	500							μA
Reverse Recovery Time (Note 1)	t_{rr}		35							ns
Junction Capacitance (Note 2)	C_J		18							pF

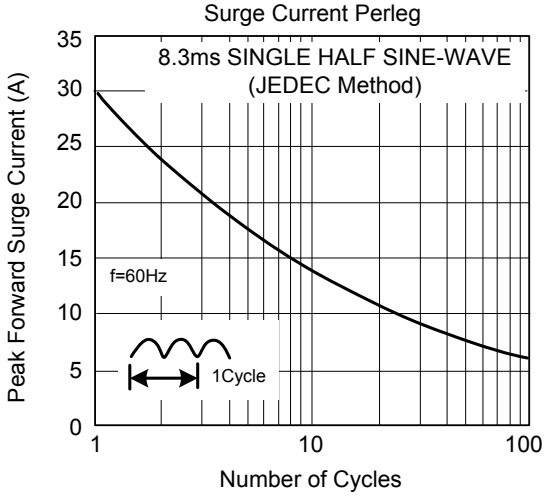
Notes: 1. Reverse recovery condition I_F=0.5A, I_R=1.0A, I_{rr}=0.25A.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

■ TYPICAL CHARACTERISTICS

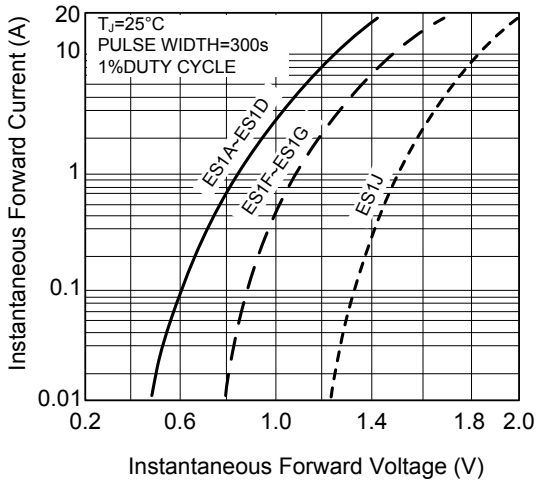
DErating Cureve Output Rectified Current



Maximum Non-Repetitive Peak Forward Surge Current Perleg



Typical Forward Voltage Characteristics



Typical Reverse Leakage Characteristics