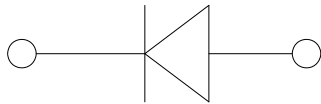


Surface Mount Super Fast Recovery Rectifier



Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super Fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer, and telecommunication.

Mechanical Data

- **Package:** DO-214AC (SMA)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■Maximum Ratings ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES1AW	ES1BW	ES1CW	ES1DW	ES1FW	ES1GW	ES1HW	ES1JW
Device marking code			ES1AW	ES1BW	ES1CW	ES1DW	ES1FW	ES1GW	ES1HW	ES1JW
Repetitive peak reverse voltage	VRRM	V	50	100	150	200	300	400	500	600
Average rectified output current @ 60Hz sine wave, Resistance load, TL (FIG.1)	IO	A	1.0							
Surge(non-repetitive)forward current @ 60Hz Half-sine wave,1 cycle, $T_j = 25^\circ\text{C}$	IFSM	A	30							
Current squared time @ $1\text{ms} \leq t \leq 8.3\text{ms}$, $T_j = 25^\circ\text{C}$, Rating of per diode	I^2t	A^2S	3.7							
Storage temperature	Tstg	$^\circ\text{C}$	-55~+150							
Junction temperature	T_j	$^\circ\text{C}$	-55~+150							

■Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES1AW	ES1BW	ES1CW	ES1DW	ES1FW	ES1GW	ES1HW	ES1JW
Maximum instantaneous forward voltage drop per diode	VF	V	IFM=1.0A	0.95			1.3		1.7		
Maximum reverse recovery time	T_{RR}	ns	$I_F=0.5\text{A}, I_R=1.0\text{A}, I_R=0.25\text{A}$	35							
Maximum DC reverse current at rated DC blocking voltage per diode @ VRM=VRRM	IRRM	μA	$T_j = 25^\circ\text{C}$	5							
			$T_j = 125^\circ\text{C}$	100							



ES1AW THRU ES1JW

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES1AW	ES1BW	ES1CW	ES1DW	ES1FW	ES1GW	ES1HW	ES1JW	ES1KW
Typical Thermal Resistance	R θ J-A	$^\circ\text{C}/\text{W}$	65 ¹⁾								
	R θ J-L		25 ¹⁾								
	R θ J-C		20 ¹⁾								

Note

(1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

■ Characteristics (Typical)

FIG.1: Io-TL Curve

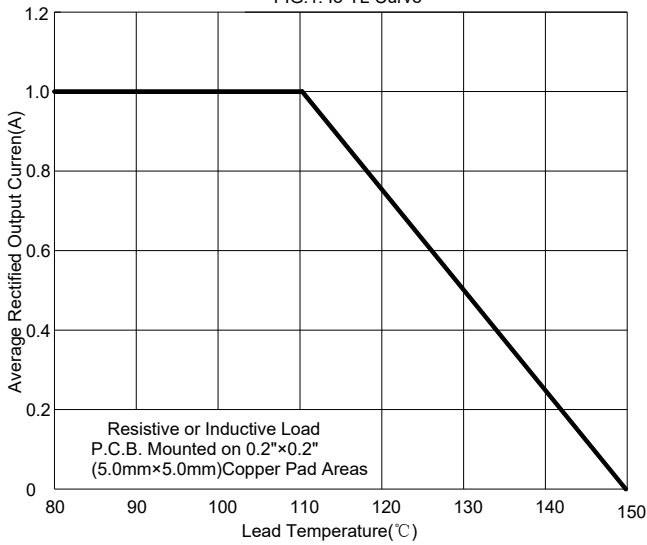


FIG2: Surge Forward Current Capability

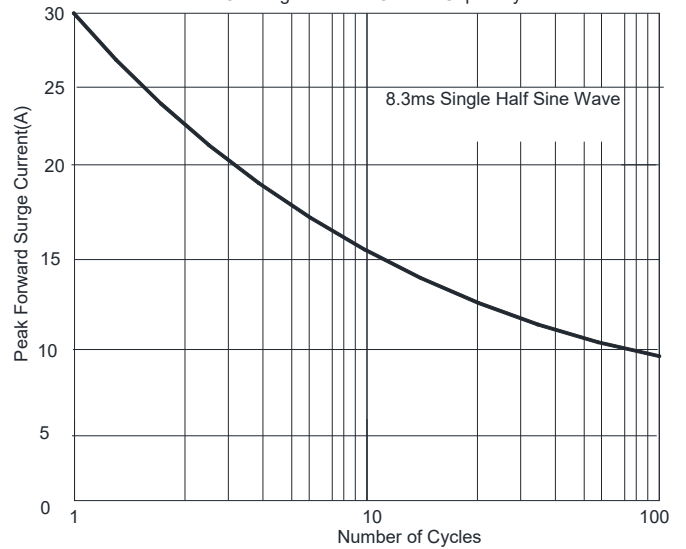


FIG3: Forward Voltage

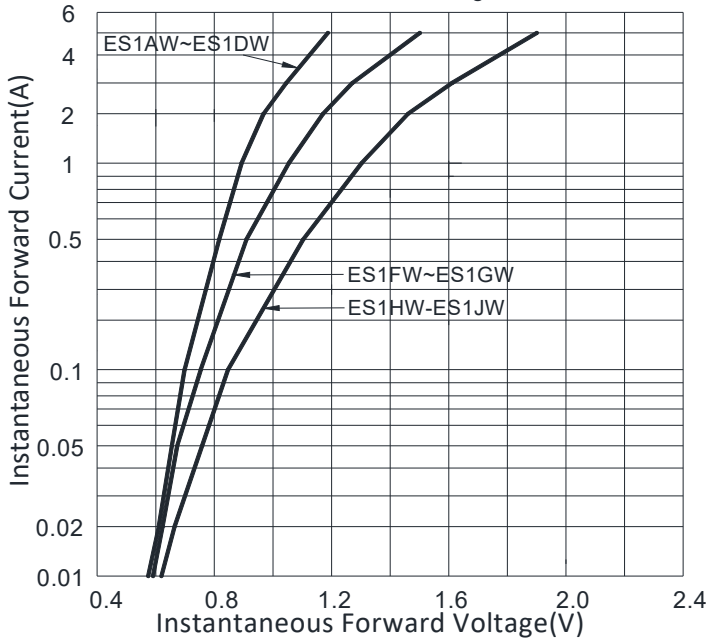
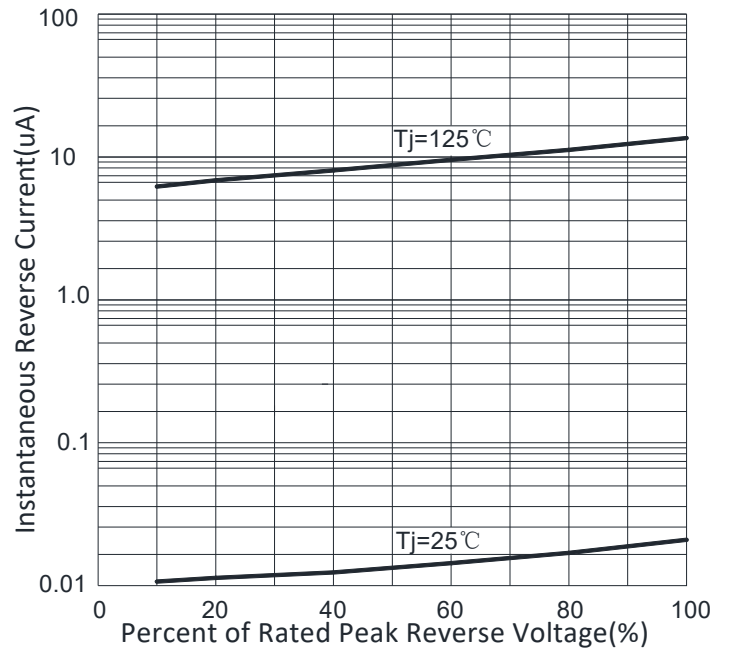


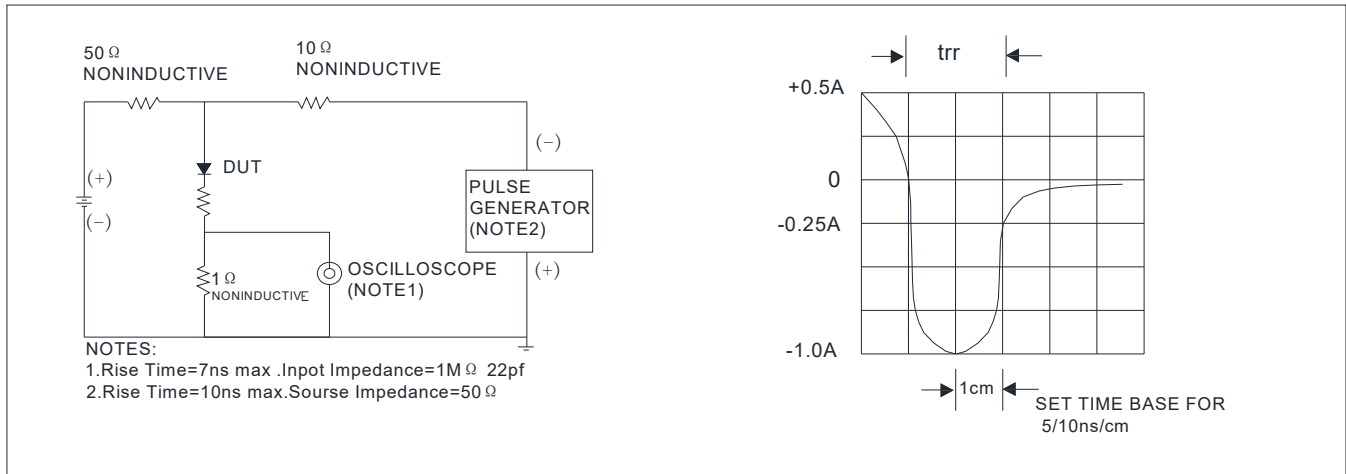
FIG4: Typical Reverse Characteristics





ES1AW THRU ES1JW

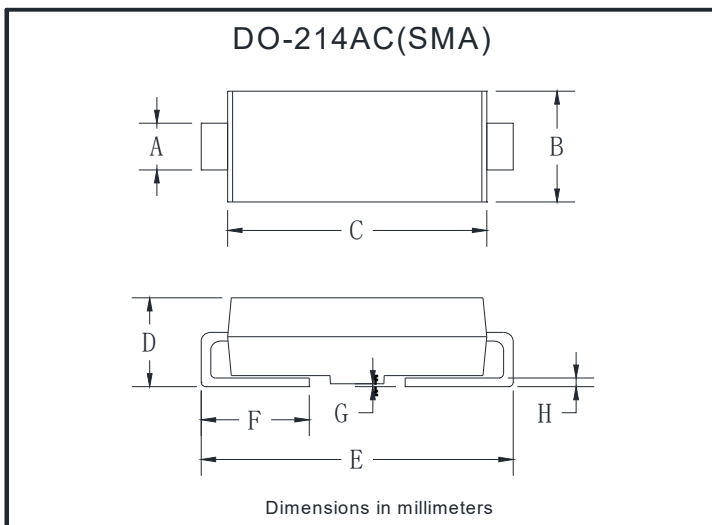
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES1AW- ES1JW	F1	Approximate 0.059	5000	10000	80000	13" reel
ES1AW- ES1JW	F2	Approximate 0.059	7500	15000	120000	13" reel
ES1AW- ES1JW	F3	Approximate 0.059	7500	15000	60000	13" reel
ES1AW- ES1JW	F4	Approximate 0.059	1800	7200	57600	7" reel
ES1AW- ES1JW	F5	Approximate 0.059	2000	8000	64000	7" reel
ES1AW- ES1JW	F6	Approximate 0.059	5000	10000	100000	13" reel

Outline Dimensions

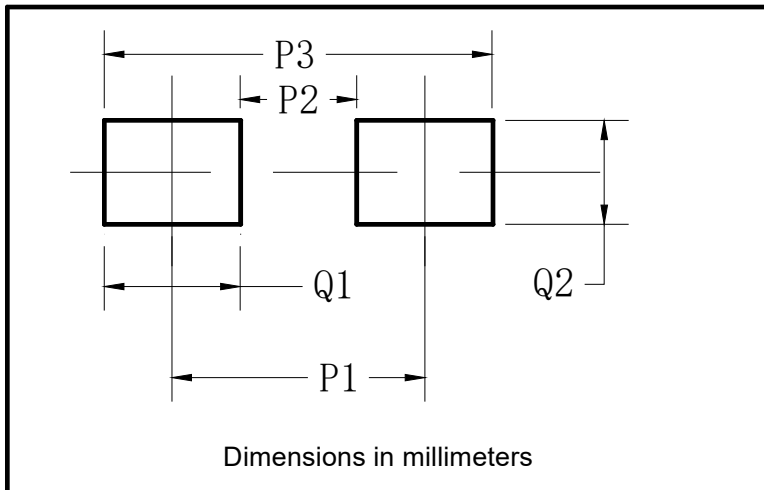


DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.25	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.08	0.20
H	0.15	0.31



ES1AW THRU ES1JW

■ Suggested Pad Layout



DO-214AC(SMA)	
Dim	Millimeters
P1	4.00
P2	1.50
P3	6.50
Q1	2.50
Q2	1.70



ES1AW THRU ES1JW

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