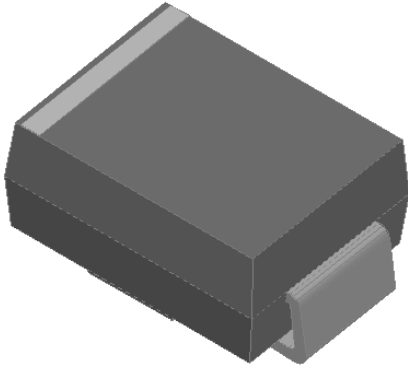


## Surface Mount Super Fast Recovery Rectifier

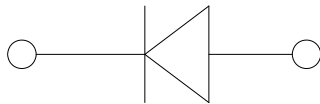


### Features

- 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
- Part no. with suffix "Q" means AEC-Q101 qualified

### Typical Applications

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



### Mechanical Data

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

### ■Maximum Ratings (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AQ	ES2BQ	ES2CQ	ES2DQ	ES2FQ	ES2GQ	ES2HQ	ES2JQ
Device marking code			ES2A	ES2B	ES2C	ES2D	ES2F	ES2G	ES2H	ES2J
Repetitive peak reverse voltage	V <sub>RRM</sub>	V	50	100	150	200	300	400	500	600
Average rectified output current @60Hz sine wave, resistance load, T <sub>L</sub> (Fig.1)	I <sub>O</sub>	A	2.0							
Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, T <sub>a</sub> =25°C	I <sub>FSM</sub>	A	50							
Storage temperature	T <sub>stg</sub>	°C	-55~+150							
Junction temperature	T <sub>J</sub>	°C	-55~+150							

### ■Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES2AQ	ES2BQ	ES2CQ	ES2DQ	ES2FQ	ES2GQ	ES2HQ	ES2JQ
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	I <sub>FM</sub> =2.0A	0.95			1.3		1.7		
Maximum reverse recovery time	T <sub>RR</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	35							
Typical junction capacitance	C <sub>J</sub>	pF	V <sub>R</sub> =4V, f=1MHz	30			25		20		
Maximum DC reverse current at rated DC blocking voltage per diode @ V <sub>RM</sub> =V <sub>RRM</sub>	I <sub>RRM</sub>	μA	T <sub>a</sub> =25°C	5.0							
			T <sub>a</sub> =125°C	100							



# ES2AQ THRU ES2JQ

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AQ	ES2BQ	ES2CQ	ES2DQ	ES2FQ	ES2GQ	ES2HQ	ES2JQ
Thermal resistance	R <sub>θJA</sub> <sup>(1)</sup>	°C/W	75							
	R <sub>θJL</sub> <sup>(1)</sup>		20							

Note:  
 (1) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

## ■ Characteristics (Typical)

Fig.1: I<sub>O</sub>-T<sub>L</sub> Curve

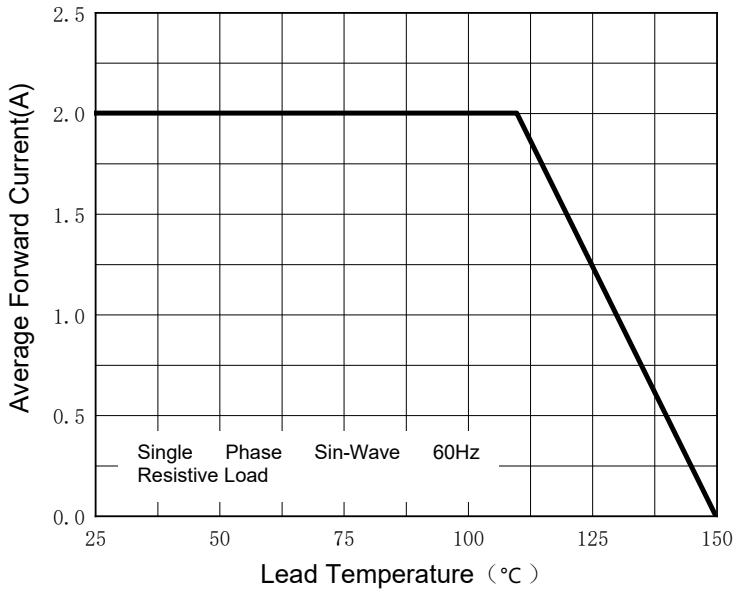


Fig.2: Surge Forward Current Capability

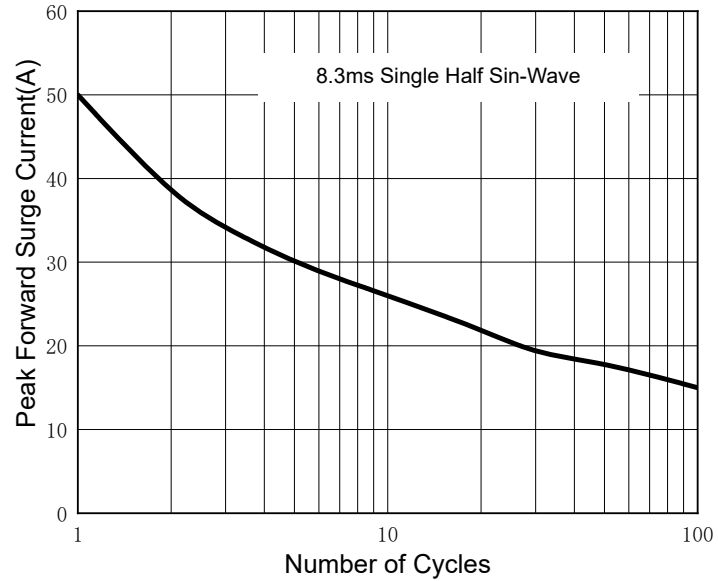


Fig.3: Typical Forward Characteristics

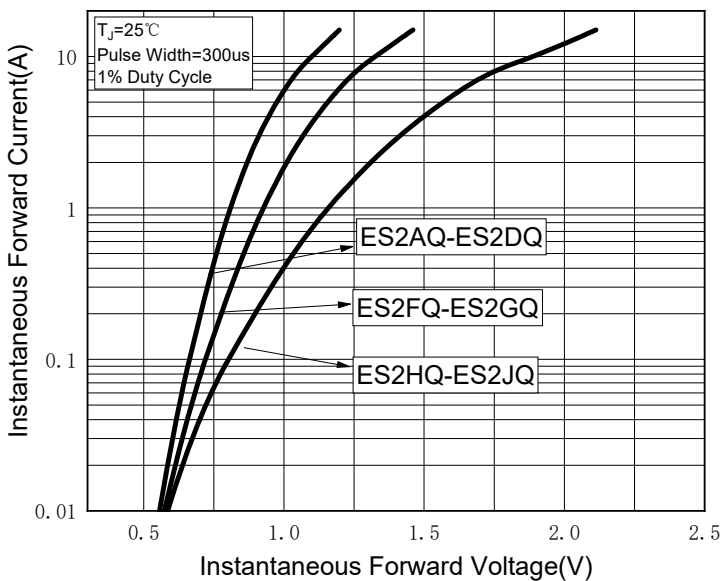


Fig.4: Typical Reverse Characteristics

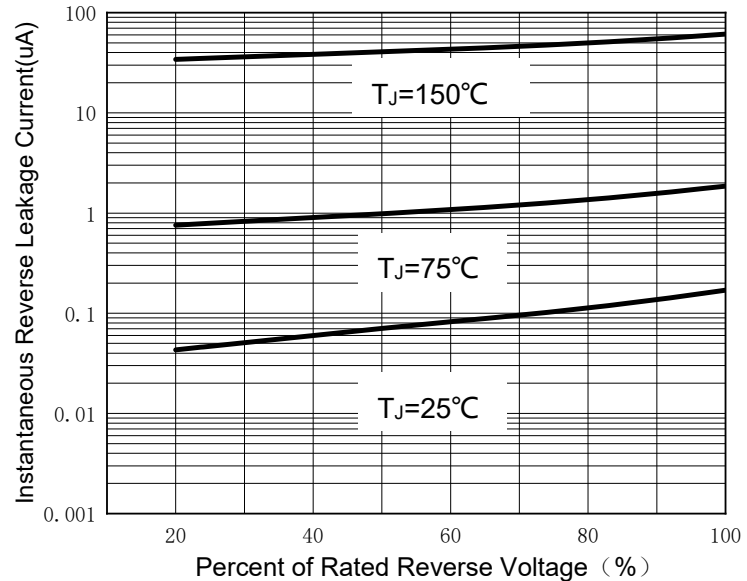
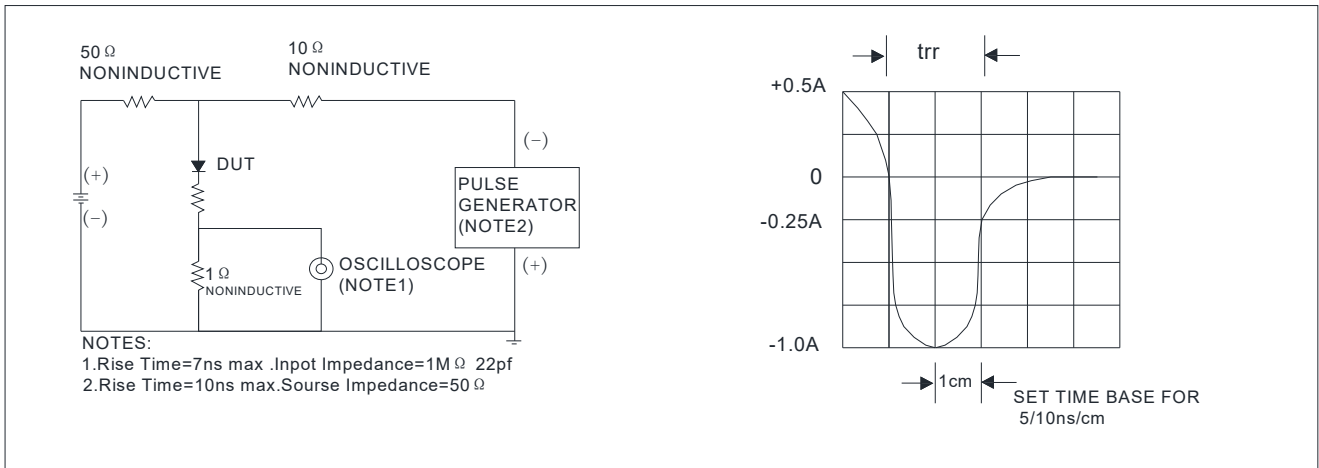


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



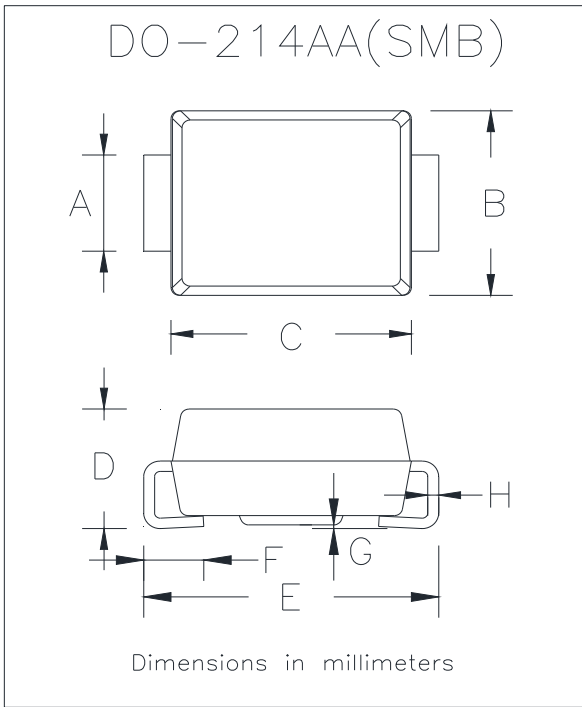
### Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES2AQ-ES2JQ	F1	Approximate 0.1003	3000	48000	13" reel



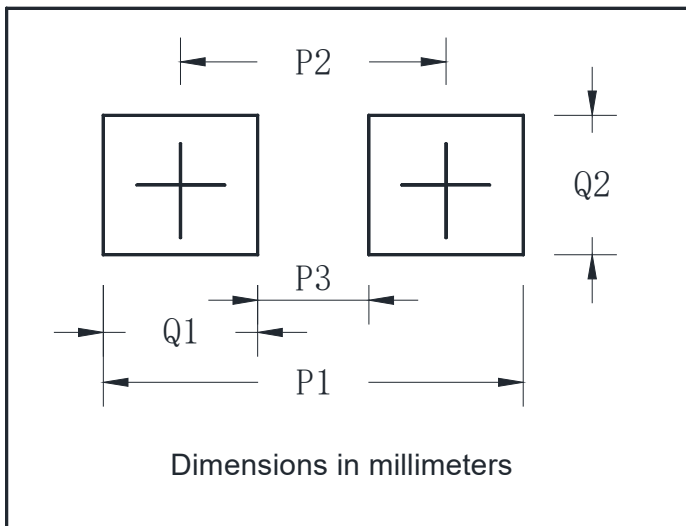
# ES2AQ THRU ES2JQ

## ■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.05	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31

## ■ Suggested pad layout



DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3



## ES2AQ THRU ES2JQ

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