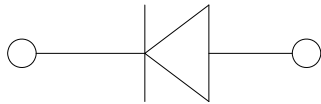


## Surface Mount Super Fast Recovery Rectifier



### 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, 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	ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA	
Device marking code			ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA	
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	150	200	300	400	500	600	800	
Maximum RMS Voltage	VRMS	V	35	70	105	140	210	280	350	420	560	
Maximum DC blocking Voltage	VDC	V	50	100	150	200	300	400	500	600	800	
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I <sub>o</sub>	A	2.0									
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	50									
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T <sub>j</sub> =25°C			100									
Current squared time @1ms≤t <sub>1</sub> ≤8.3ms T <sub>j</sub> =25°C, Rating of per diode	I <sup>2</sup> t	A <sup>2</sup> s	10.375									
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C <sub>j</sub>	pF	31				17		12		12	
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	ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	IFM=2.0A	0.95			1.3		1.7		1.85	
Maximum reverse recovery time	t <sub>r</sub>	ns	IF=0.5A, IR=1.0A, I <sub>rr</sub> =0.25A	35								
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>R</sub>	μA	T <sub>j</sub> = 25°C	5								
			T <sub>j</sub> = 125°C	100								



# ES2AA THRU ES2KA

## ■ Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA
Typical Thermal Resistance	$R_{\theta J-A}^{(1)}$	°C/W	65								
	$R_{\theta J-L}^{(1)}$		20								
	$R_{\theta J-C}^{(1)}$		18								

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: I<sub>o</sub>-T<sub>L</sub> Curve

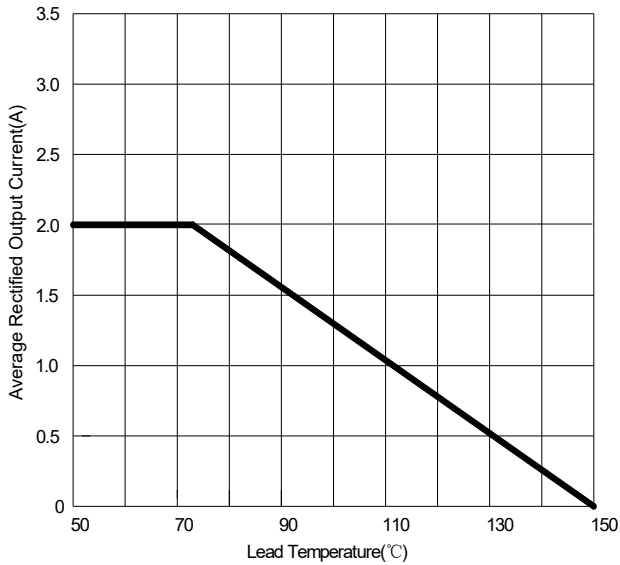


FIG2: Surge Forward Current Capability

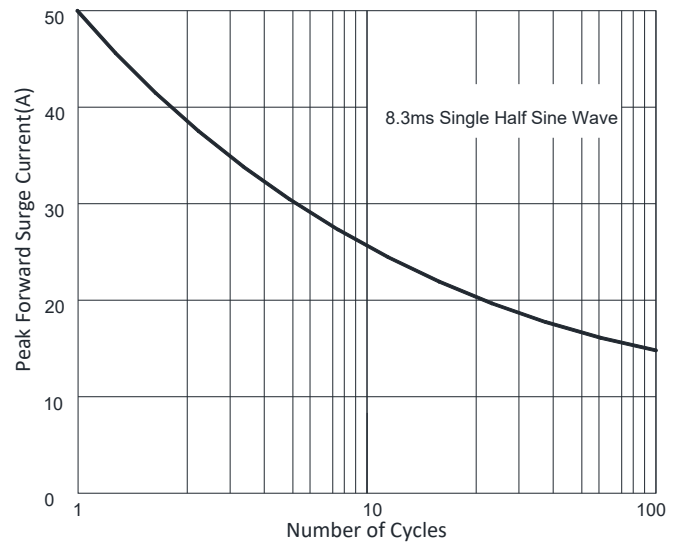


FIG3: Typical Forward Voltage

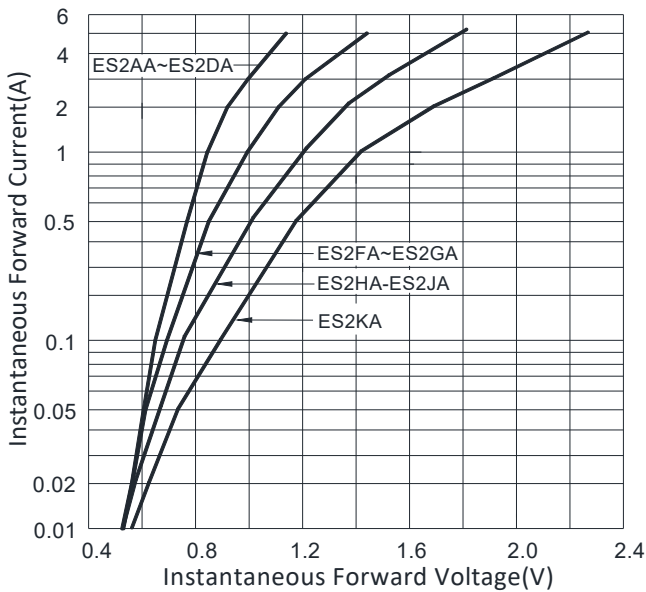


FIG4: Typical Reverse Characteristics

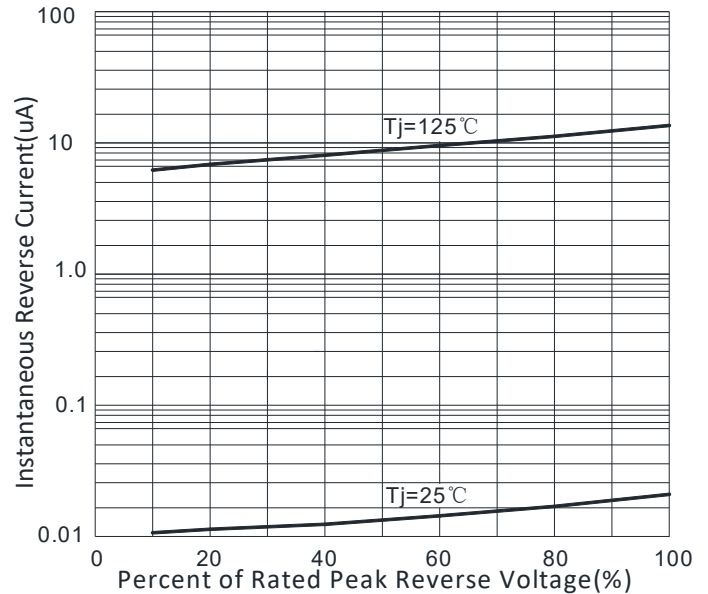
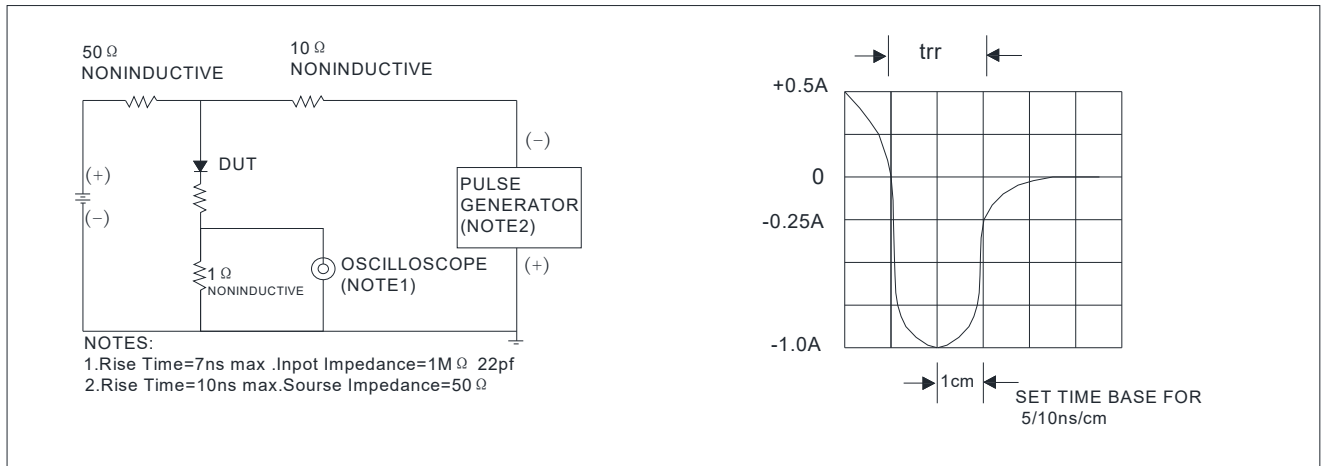


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



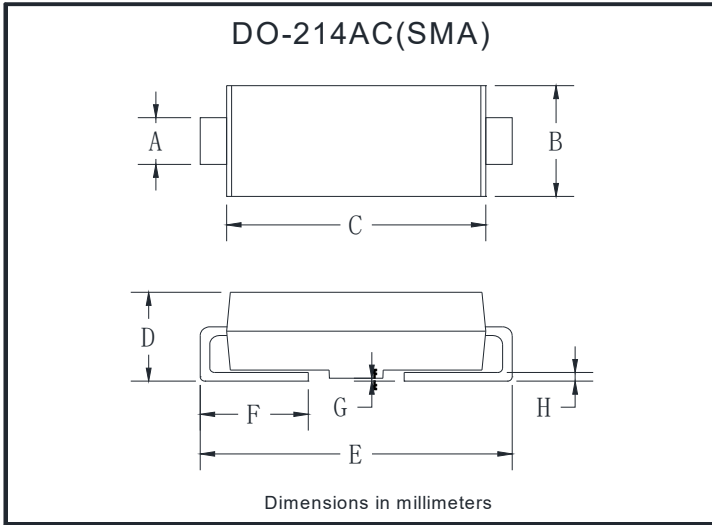
### Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES2AA- ES2KA	F1	Approximate 0.059	5000	10000	80000	13" reel
ES2AA- ES2KA	F2	Approximate 0.059	7500	15000	120000	13" reel
ES2AA- ES2KA	F3	Approximate 0.059	7500	15000	60000	13" reel
ES2AA- ES2KA	F4	Approximate 0.059	1800	14400	57600	7" reel
ES2AA- ES2KA	F5	Approximate 0.059	2000	16000	64000	7" reel
ES2AA- ES2KA	F6	Approximate 0.059	5000	10000	100000	13" reel



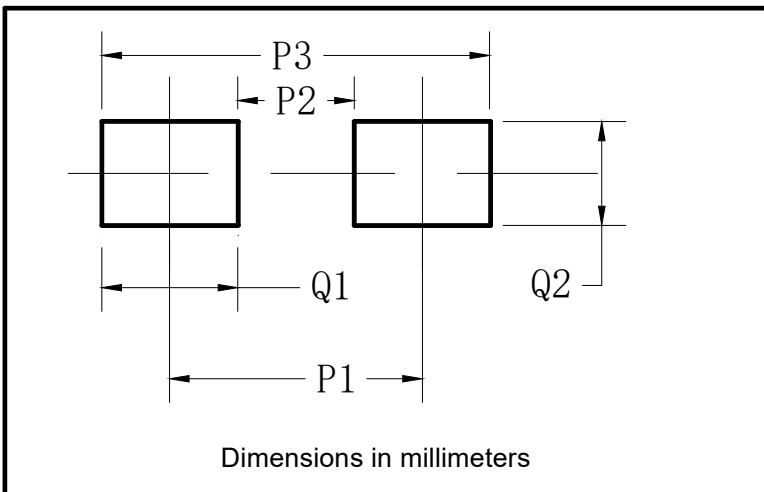
# ES2AA THRU ES2KA

## ■ Outline Dimensions



DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.06	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

## ■ Suggested Pad Layout



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



## ES2AA THRU ES2KA

---

### Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.