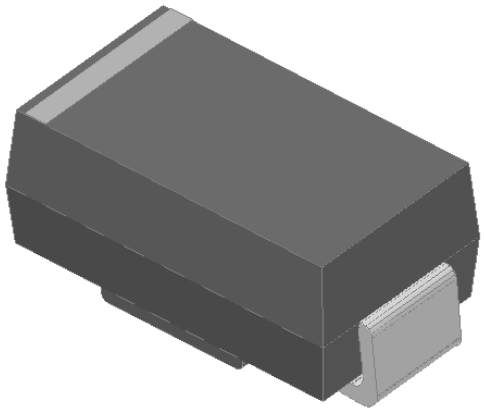
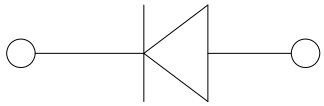
Surface Mount Super Fast Recovery Rectifier





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 (Ta=25℃ 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	V_{RRM}	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	V_{RMS}	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	V_{DC}	V	50	100	150	200	300	400	500	600	800
Average rectified output current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	2.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	50								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			100								
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	10.375								
Storage temperature	T_{stg}	℃	-55 ~ +150								
Junction temperature	T_j	℃	-55 ~ +150								

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA
Maximum instantaneous forward voltage	V_F	V	IFM=2.0A	0.95				1.3		1.7		1.85
Maximum reverse recovery time	t_{rr}	ns	IF=0.5A,IR=1.0A, Irr=0.25A	35								
Maximum DC reverse current at rated DC blocking voltage	IR	μA	Tj =25℃	5								
			Tj =125℃	100								
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	31				17		12		

■Thermal Characteristics （Ta=25℃ Unless otherwise specified）

PARAMETER	SYMBOL	UNIT	ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA	ES2KA
Typical Thermal Resistance	$R_{\theta J-A}$(1)	℃/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: Io-TL Curve

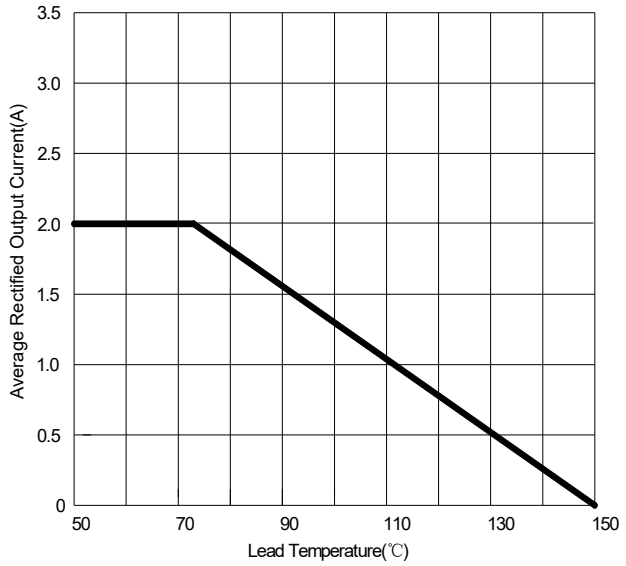


FIG2：Surge Forward Current Capability

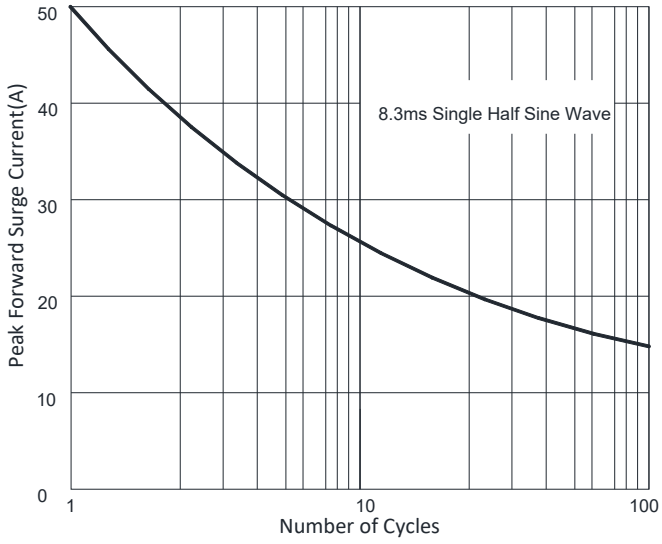


FIG3: Typical Forward Voltage

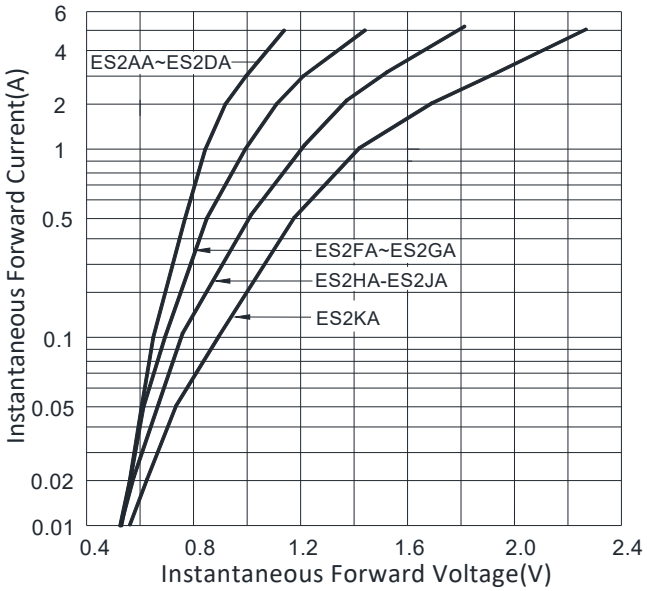


FIG4:Typical Reverse Characteristics

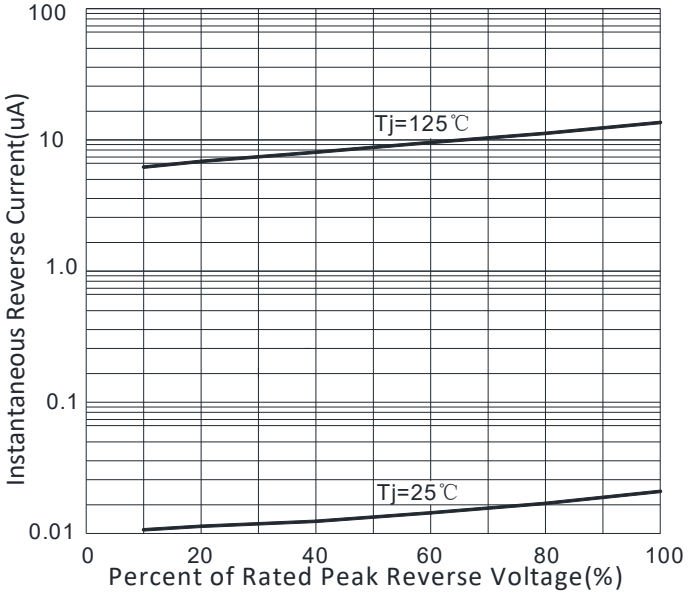
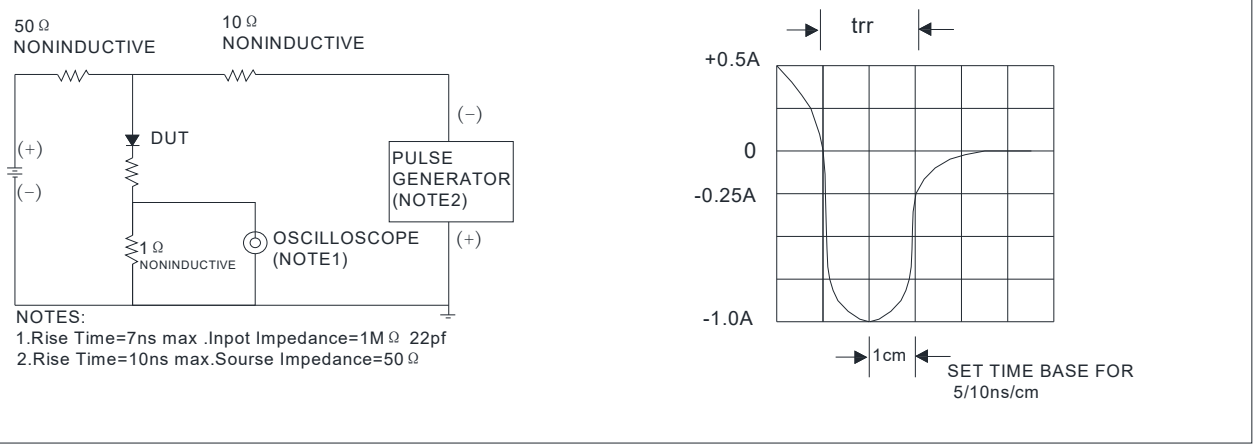


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

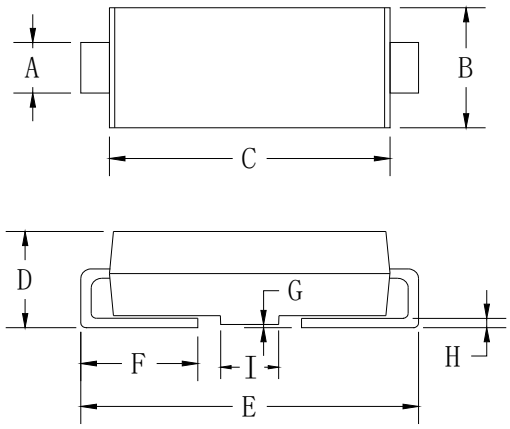


■Ordering Information (Example)

PREFERED 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	/	80000	13” reel
ES2AA- ES2KA	F2	Approximate 0.059	7500	/	120000	13” reel
ES2AA- ES2KA	F3	Approximate 0.059	7500	/	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	/	100000	13” reel

■ Outline Dimensions

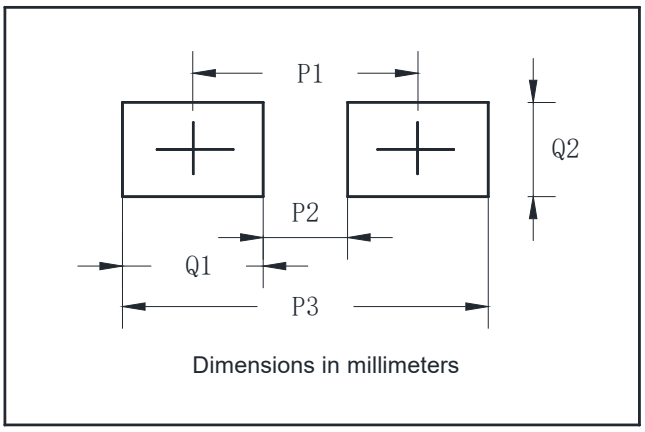
DO-214AC(SMA)



Dimensions in millimeters

DO-214AC(SMA)		
Dim	Min	Max
A	1.25	1.58
B	2.40	2.83
C	4.00	4.75
D	1.90	2.30
E	4.93	5.28
F	0.76	1.41
G	0.05	0.20
H	0.15	0.31
I	1.70	2.10

■Suggested Pad Layout



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

Notice

All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.
Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in STARSEA's terms and conditions of sale for such products, STARSEA assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of STARSEA products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.