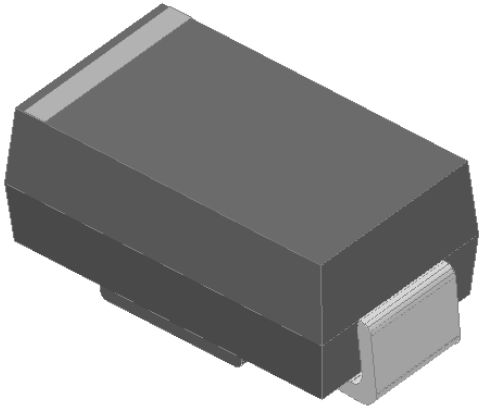


Surface Mount Super Fast Recovery Rectifier

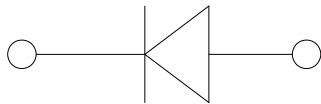


Features

- 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-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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Device marking code			ES2AA	ES2BA	ES2CA	ES2DA	ES2FA	ES2GA	ES2HA	ES2JA
Repetitive peak reverse voltage	V _{RRM}	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	V _{RMS}	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	V _{DC}	V	50	100	150	200	300	400	500	600
Average rectified output current @60Hz sine wave, Resistance load, T _L (Fig.1)	I _O	A	2.0							
Surge(non-repetitive)forward current @60Hz Half-sine wave,1 cycle, Ta=25°C	I _{FSM}	A	50							
Storage temperature	T _{stg}	°C	-55~+150							
Junction temperature	T _J	°C	-55 ~ +150							

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Maximum instantaneous forward voltage drop per diode	V _F	V	I _{FM} =2.0A	0.95				1.3		1.7	
Maximum reverse recovery time	T _{RR}	ns	I _F =0.5A, I _R =1.0A, I _{rr} =0.25A	35							
Typical junction capacitance	C _J	pF	V _R =4V, f=1MHz	30				25		20	
Maximum DC reverse current at rated DC blocking voltage per diode@ V _{RM} =V _{RRM}	I _{RRM}	μA	Ta=25°C	5							
			Ta=125°C	100							



ES2AAQ THRU ES2JAQ

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

PARAMETER	SYMBOL	UNIT	ES2AAQ	ES2BAQ	ES2CAQ	ES2DAQ	ES2FAQ	ES2GAQ	ES2HAQ	ES2JAQ
Thermal Resistance	R _{θJ-A}	°C/W	85 ¹⁾							
	R _{θJ-L}	°C/W	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: I_O-T_L Curve

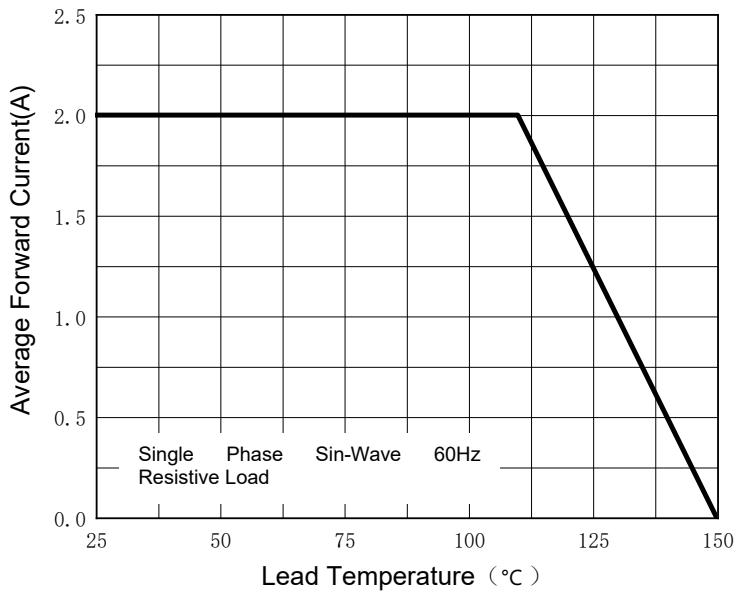


Fig.2: Surge Forward Current Capability

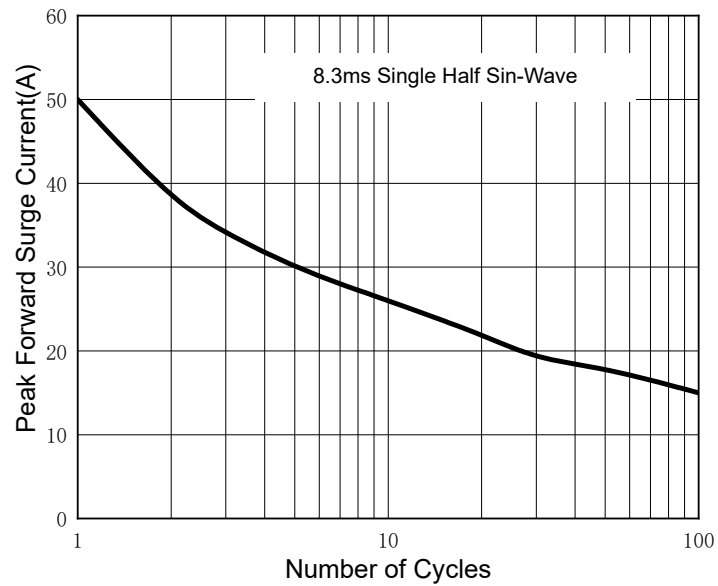


Fig.3: Typical Forward Characteristics

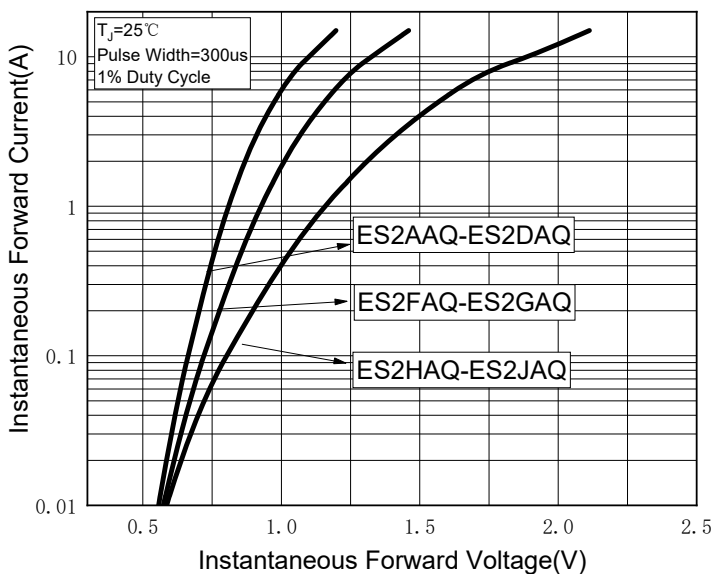
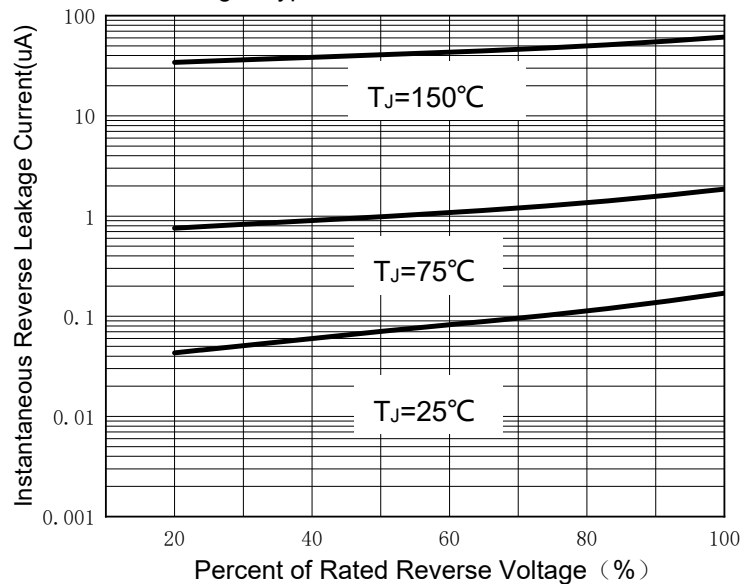


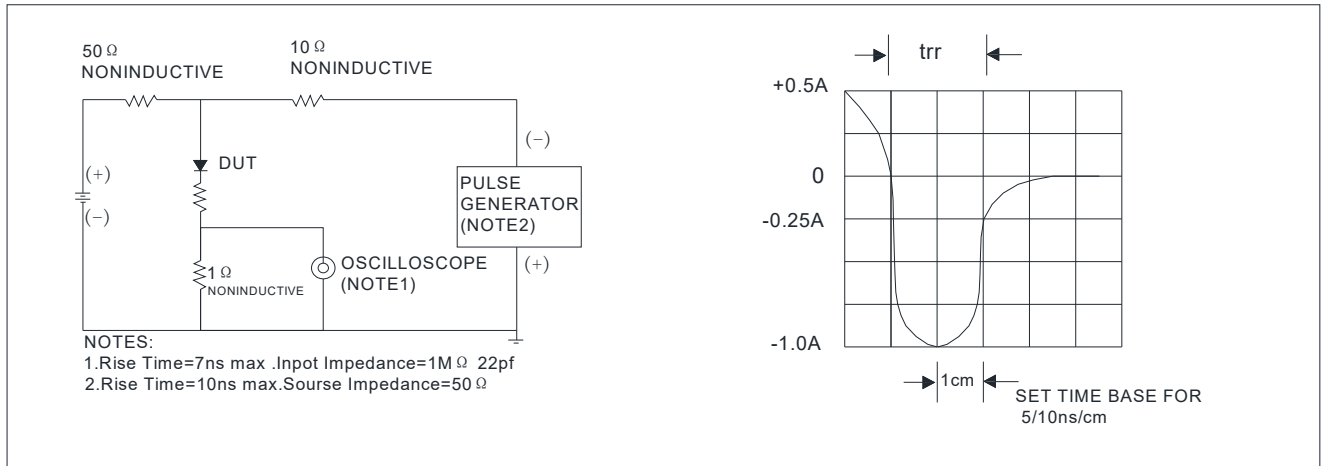
Fig.4: Typical Reverse Characteristics





ES2AAQ THRU ES2JAQ

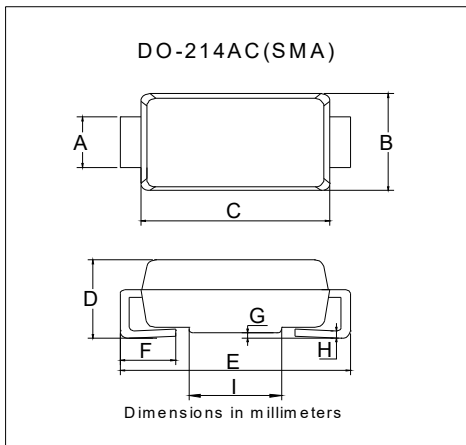
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Ordering Information (Example)

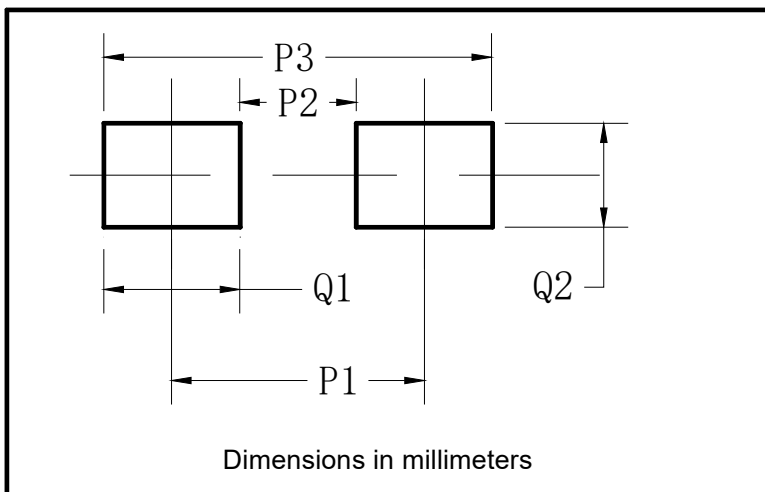
PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES2AAQ- ES2JAQ	F2	Approximate 0.067	7500	/	120000	13" reel

Outline Dimensions



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	1.7	2.1

Suggested Pad Layout



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



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