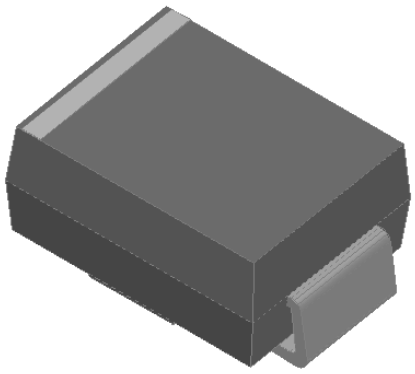
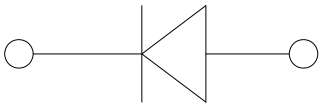
Surface Mount Super Fast Recovery Rectifier





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-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_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES1AB	ES1BB	ES1CB	ES1DB	ES1FB	ES1GB	ES1HB	ES1JB	ES1KB
Device marking code			ES1AB	ES1BB	ES1CB	ES1DB	ES1FB	ES1GB	ES1HB	ES1JB	ES1KB
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	1.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	30								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			60								
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	3.735								
Storage temperature	T_{stg}	℃	-55 ~ +150								
Junction temperature	T_j	℃	-55 ~ +150								

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES1AB	ES1BB	ES1CB	ES1DB	ES1FB	ES1GB	ES1HB	ES1JB	ES1KB
Maximum instantaneous forward voltage	V_F	V	I_{FM}=1.0A	0.95				1.3		1.7		1.85
Maximum reverse recovery time	t_{rr}	ns	I_F=0.5A,I_R=1.0A, I_{rr}=0.25A	35								
Maximum DC reverse current at rated DC blocking voltage	IR	μA	T_j=25℃	5.0								
			T_j=125℃	100								
Typical junction capacitance	Cj	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	18				12		8		10

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

PARAMETER	SYMBOL	UNIT	ES1AB	ES1BB	ES1CB	ES1DB	ES1FB	ES1GB	ES1HB	ES1JB	ES1KB
Thermal Resistance	$R_{\theta J-A}$(1)	℃/W	60								
	$R_{\theta J-L}$(1)		20								
	$R_{\theta J-C}$(1)		15								

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: Io-TL Curve

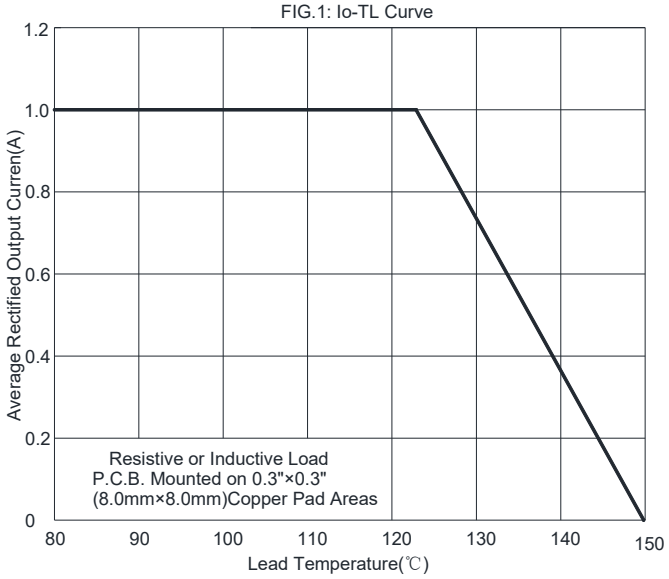


FIG2:Surge Forward Current Capability

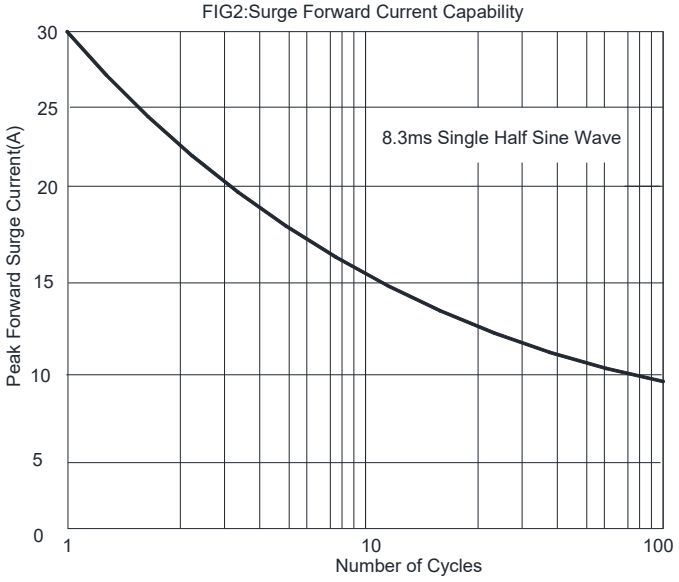


FIG3: Typical Forward Voltage

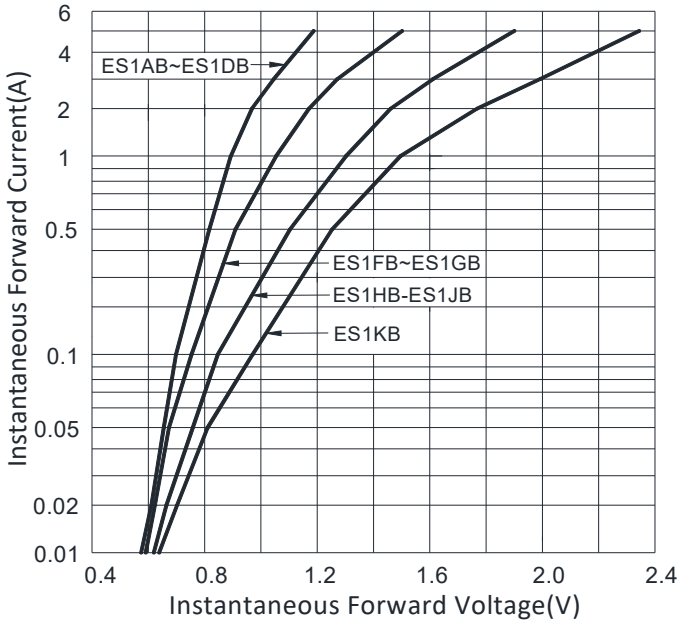


FIG4:Typical Reverse Characteristics

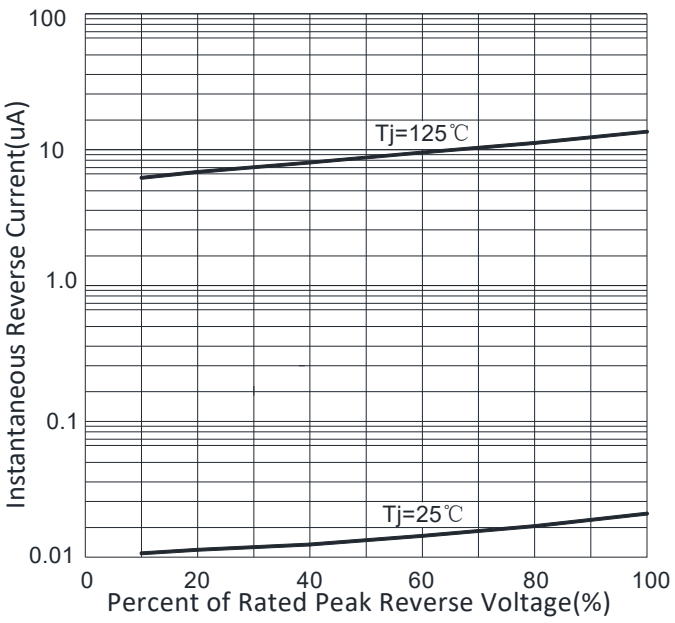
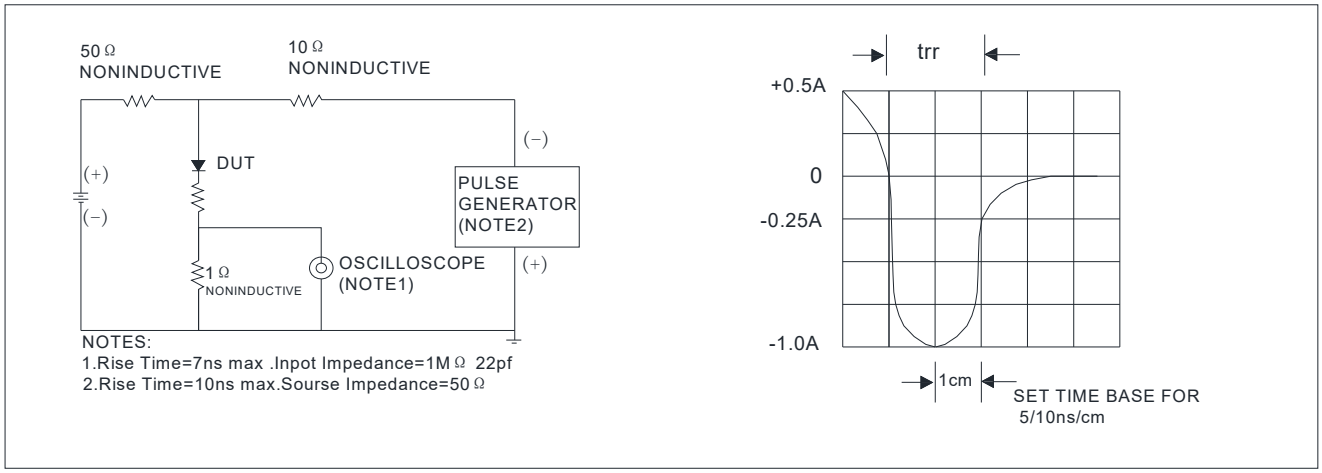


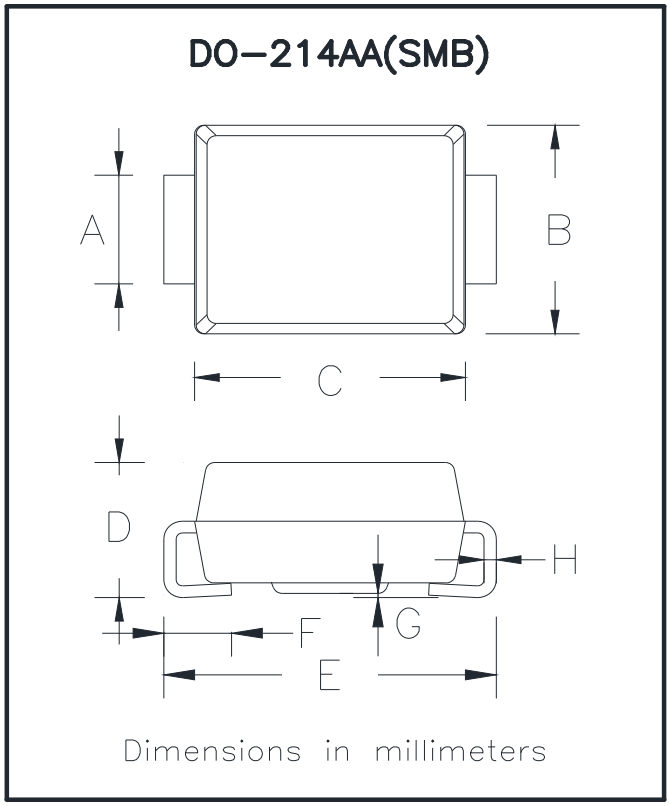
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■Ordering Information (Example)

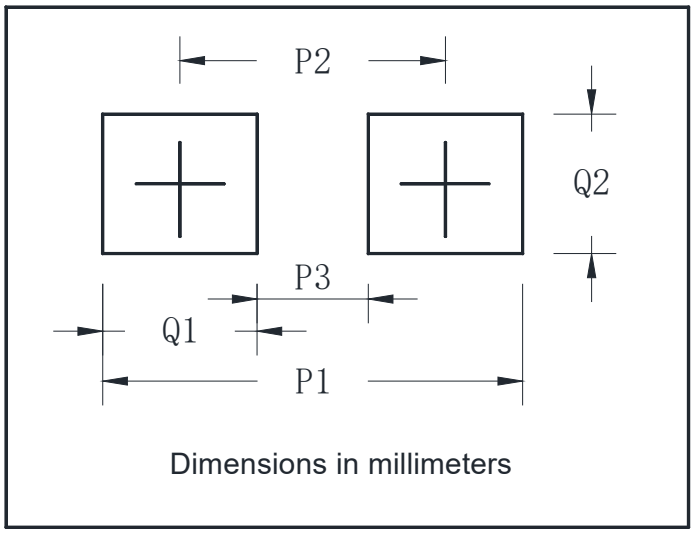
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES1AB-ES1JB	F1	Approximate 0.096	3000	/	48000	13” reel
ES1AB-ES1JB	F2	Approximate 0.096	750	6000	24000	7” reel
ES1AB-ES1JB	F3	Approximate 0.096	500	4000	16000	7” reel

■ 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

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