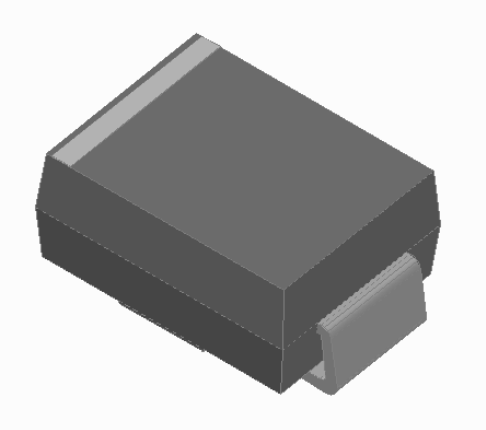
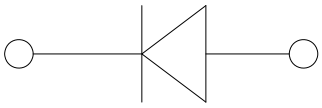
Surface Mount Super Fast Recovery Rectifier





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	ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	ES3KB
Device marking code			ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	ES3KB
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	3.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25	I_{FSM}	A	100								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25			200								
Current squared time @1ms≤t≤8.3ms Tj=25	I^2t	A^2s	41.5								
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	ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	ES3KB
Maximum instantaneous forward voltage	V_F	V	IFM=3.0A	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	60				35		29		21

■Thermal Characteristics T_a=25 Unless otherwise specified

PARAMETER	SYMBOL	UNIT	ES3AB	ES3BB	ES3CB	ES3DB	ES3FB	ES3GB	ES3HB	ES3JB	ES3KB
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 0.3" x 0.3" (8.0 mm x 8.0 mm) copper pad areas

■ Characteristics (Typical)

FIG1 Io-TL Curve

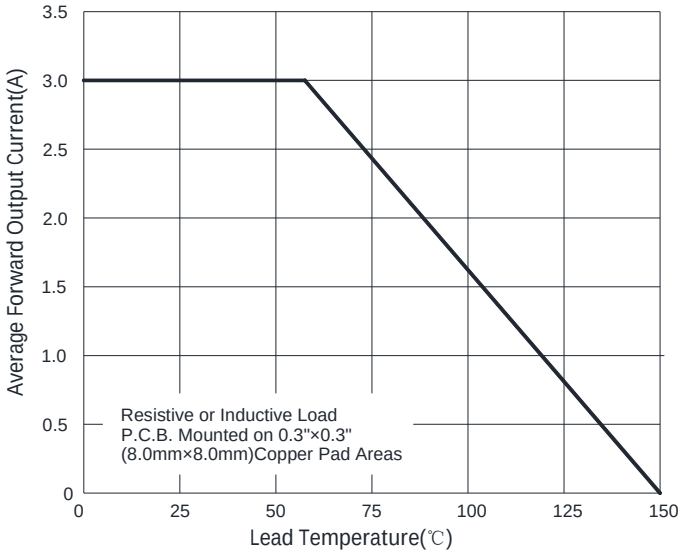


FIG2 Surge Forward Current Capability

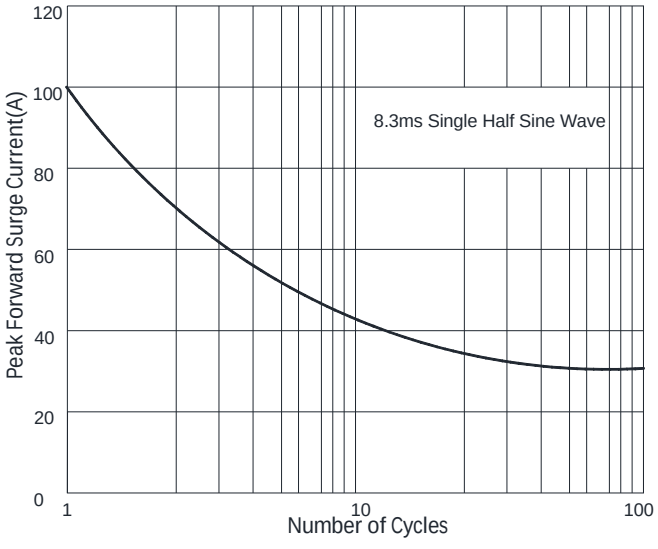


FIG3 Typial Forward Voltage

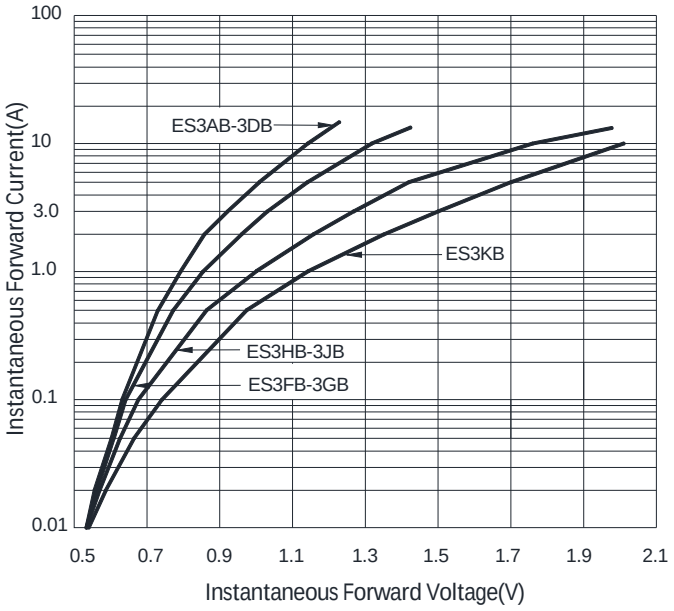


FIG4:Typical Reverse Characteristics

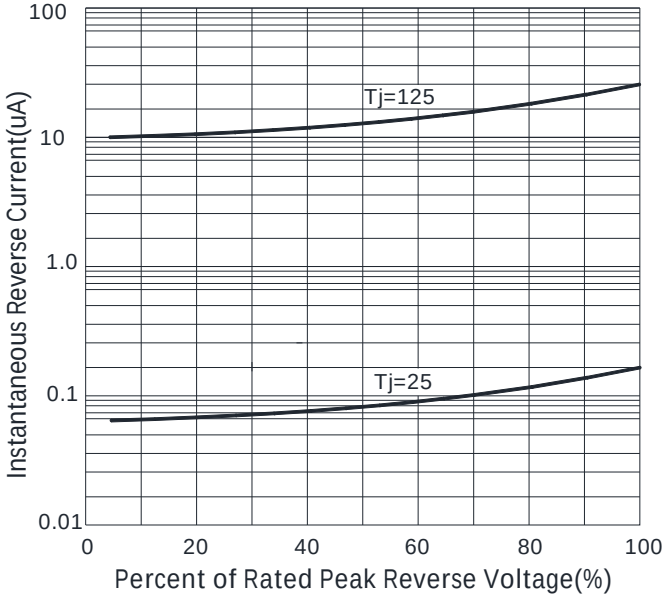
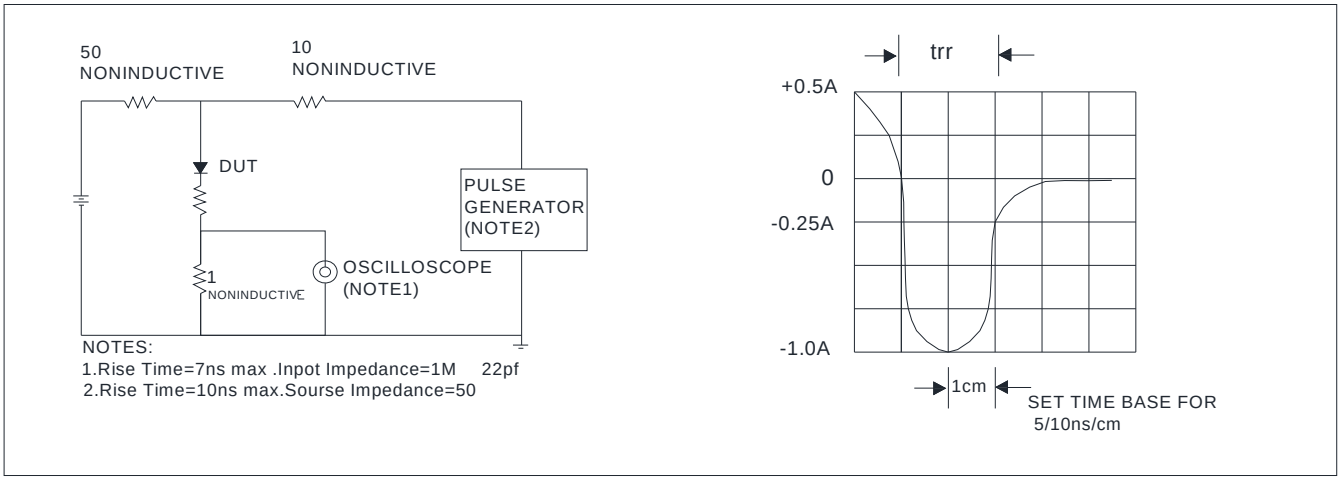


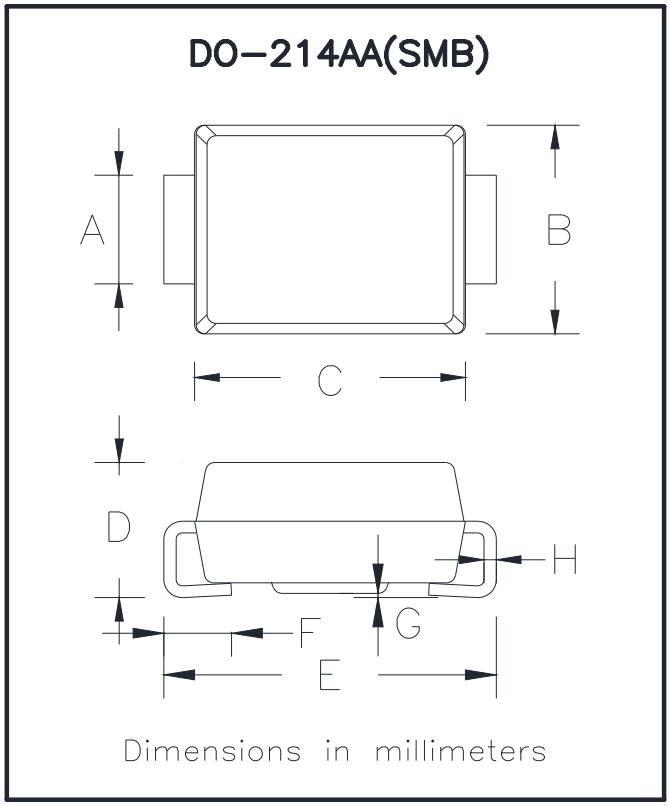
FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



■**Ordering Information** (Example)

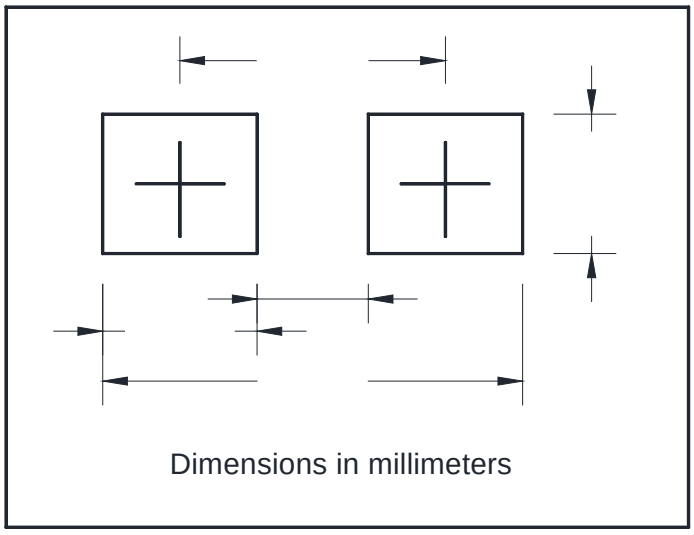
PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES3AB-ES3KB	F1	Approximate 0.096	3000	/	48000	13” reel
ES3AB-ES3KB	F2	Approximate 0.096	750	6000	24000	7” reel
ES3AB-ES3KB	F3	Approximate 0.096	500	4000	16000	7” reel

■ 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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