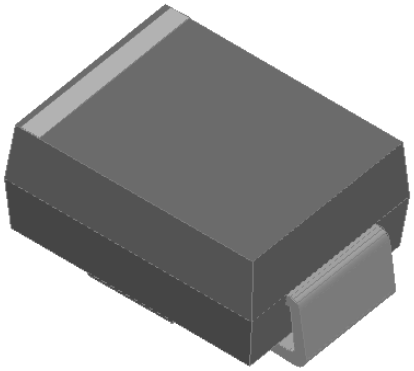
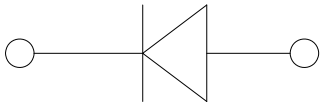
Surface Mount Super Fast Recovery Rectifier





Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260°C max. 10 s, per JESD 22-B106

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer 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: Color band denotes the cathode end

■Maximum Ratings (T_a=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES5AB	ES5BB	ES5CB	ES5DB	ES5FB	ES5GB	ES5HB	ES5JB
Device marking code			ES5AB	ES5BB	ES5CB	ES5DB	ES5FB	ES5GB	ES5HB	ES5JB
Maximum 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, TL (FIG.1)	I_O	A	5.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	150							
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	94							
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	ES5AB	ES5BB	ES5CB	ES5DB	ES5FB	ES5GB	ES5HB	ES5JB
Maximum instantaneous forward voltage	V_F	V	IFM=5.0A	0.95				1.3		1.7	
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	80				44		30	

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

PARAMETER	SYMBOL	UNIT	ES5AB	ES5BB	ES5CB	ES5DB	ES5FB	ES5GB	ES5HB	ES5JB
Typical Thermal Resistance	$R_{\theta J-A}$(1)	℃/W	60							
	$R_{\theta J-L}$(1)		18							
	$R_{\theta J-C}$(1)		13							

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

■Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES5AB ~ ES5JB	F1	Approximate 0.10	3000	/	48000	13” reel
ES5AB ~ ES5JB	F2	Approximate 0.10	750	6000	24000	7” reel
ES5AB ~ ES5JB	F3	Approximate 0.10	500	4000	16000	7” reel

■ Characteristics(Typical)

FIG.1: Io-TL Curve

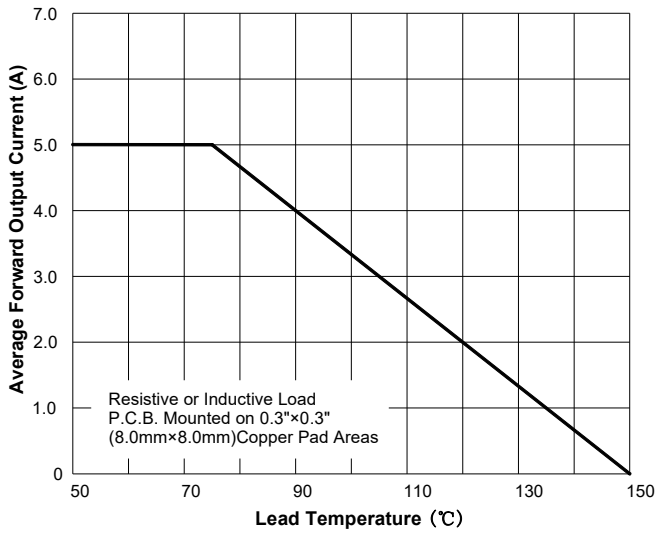


FIG.2: Forward Surge Current Capability

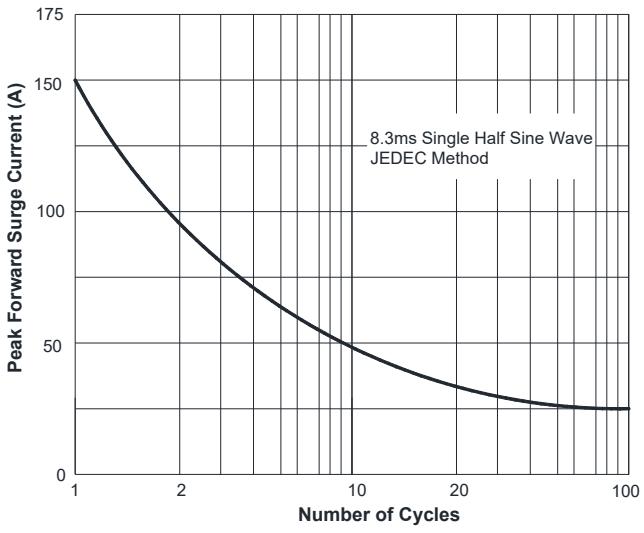


FIG.3: Typical Forward Voltage

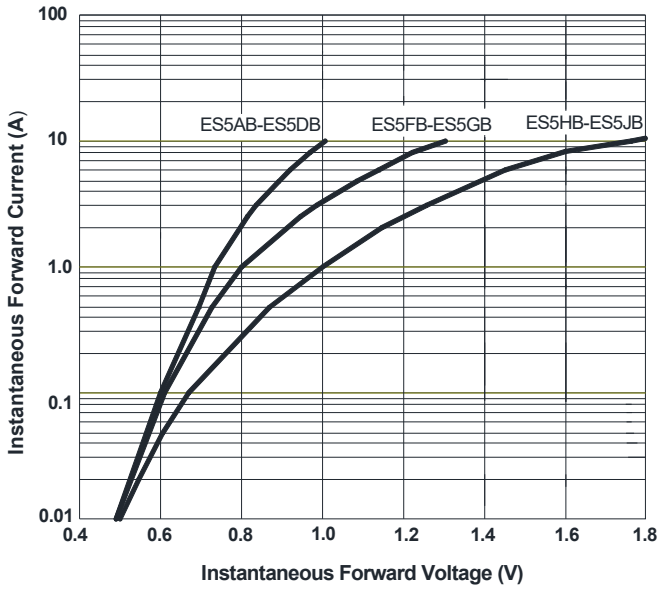


FIG.4: Typical Reverse Characteristics

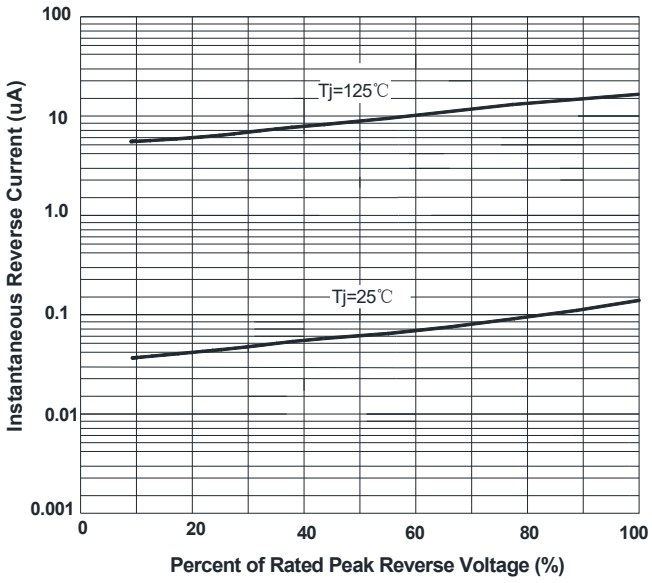
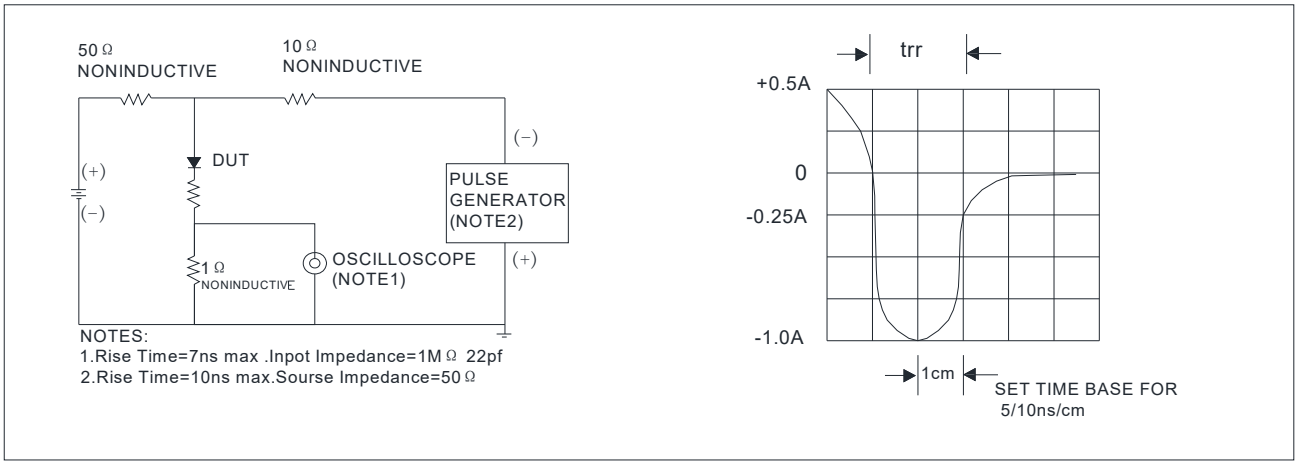
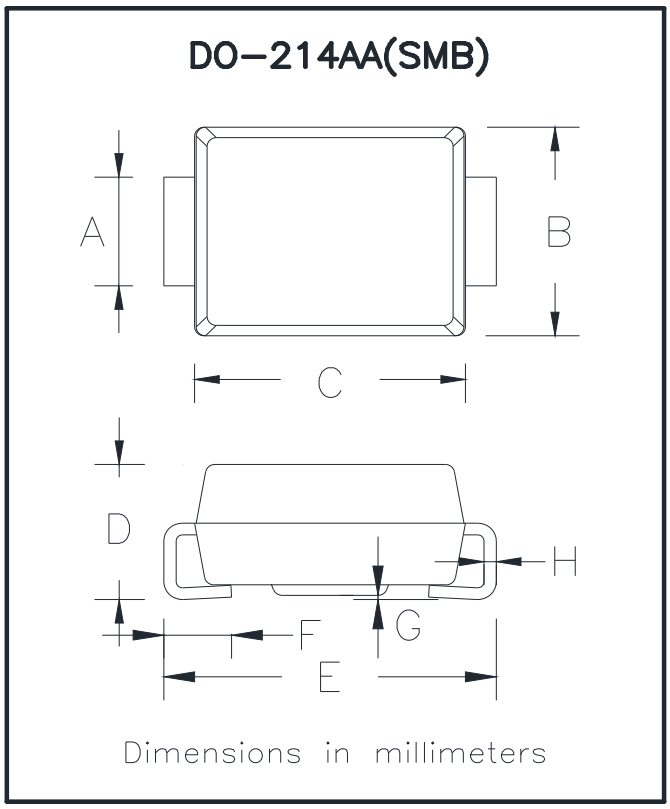


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

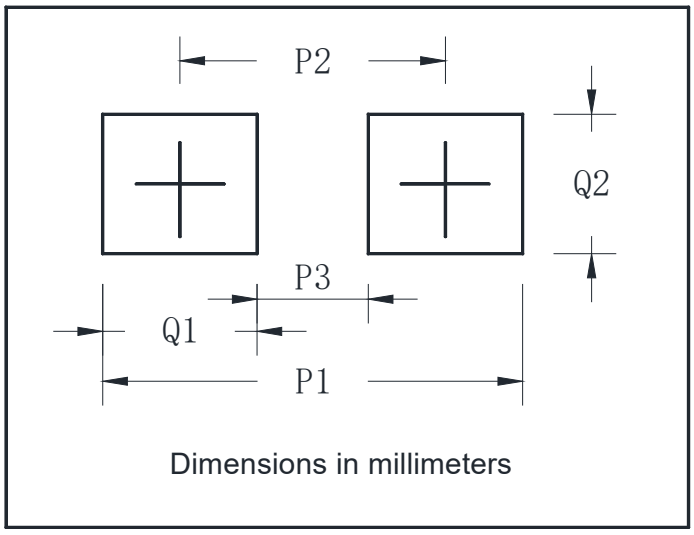


■ Outline Dimensions



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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