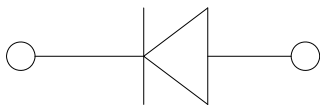
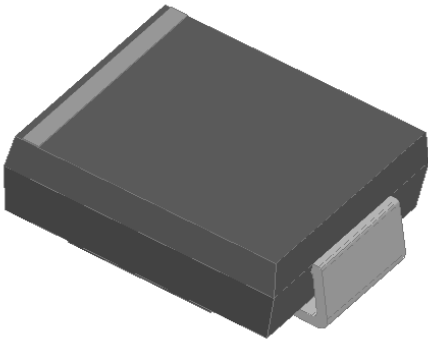


## Super Fast Recovery Rectifier Diode



### 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-214AB (SMC)
- 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<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Device marking code			ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	150	200	300	400	500	600
Maximum RMS Voltage	VRMS	V	35	70	105	140	210	280	350	420
Maximum DC blocking Voltage	VDC	V	50	100	150	200	300	400	500	600
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I <sub>o</sub>	A	5.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	150							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T <sub>j</sub> =25°C			300							
Current squared time @1ms≤t≤8.3ms T <sub>j</sub> =25°C, Rating of per diode	I <sup>2</sup> t	A <sup>2</sup> s	94							
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C <sub>j</sub>	pF	75				37		35	
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150							
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150							



# ES5A THRU ES5J

## ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Maximum instantaneous forward voltage drop per diode	V <sub>F</sub>	V	IFM=5.0A	0.95			1.3			1.7	
Maximum reverse recovery time	t <sub>r</sub>	ns	IF=0.5A, IR=1.0A, I <sub>rr</sub> =0.25A	35							
Maximum DC reverse current at rated DC blocking voltage per diode	I <sub>R</sub>	μA	T <sub>j</sub> =25°C	5							
			T <sub>j</sub> =125°C	100							

## ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Typical Thermal Resistance	R <sub>θJ-A</sub> <sup>(1)</sup>	°C/W	50							
	R <sub>θJ-L</sub> <sup>(1)</sup>		15							
	R <sub>θJ-C</sub> <sup>(1)</sup>		12							

Note(1)

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

## ■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES5A-ES5J	F1	Approximate 0.254	3000	6000	42000	13" reel

## ■ Characteristics(Typical)

FIG.1: I<sub>o</sub>-T<sub>L</sub> Curve

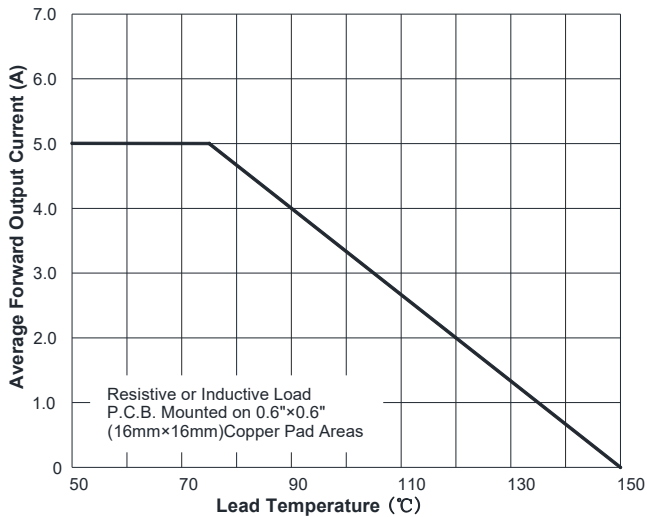
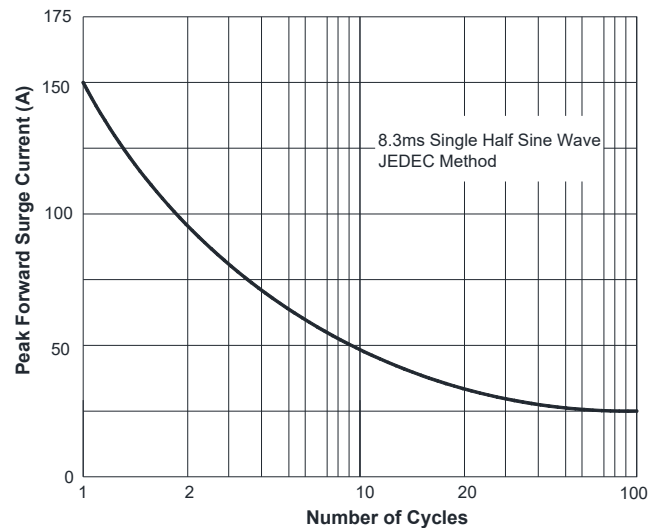


FIG.2: Forward Surge Current Capability





# ES5A THRU ES5J

FIG.3: Forward Voltage

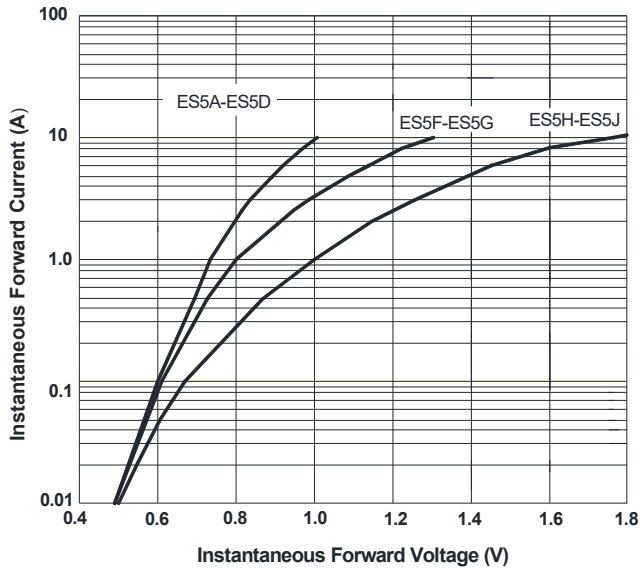


FIG.4: Typical Reverse Characteristics

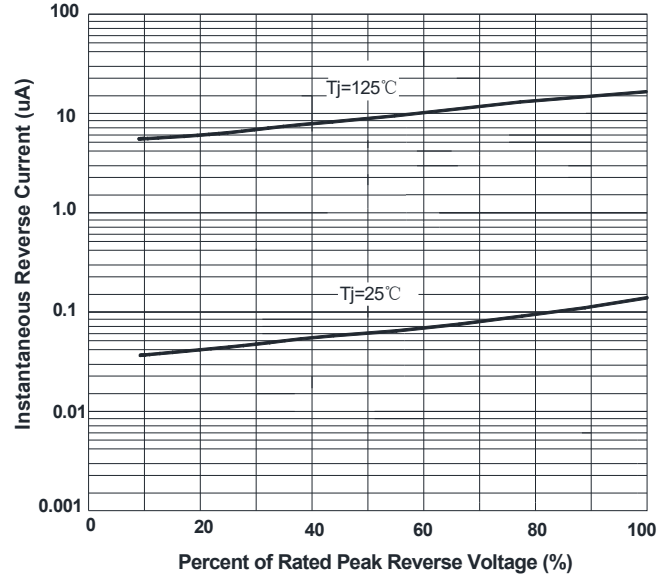
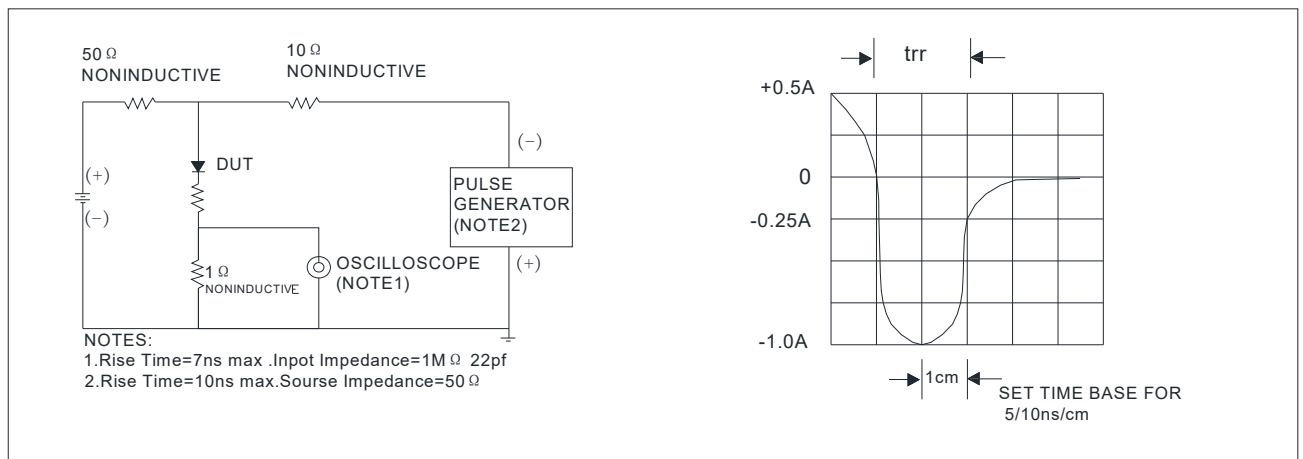
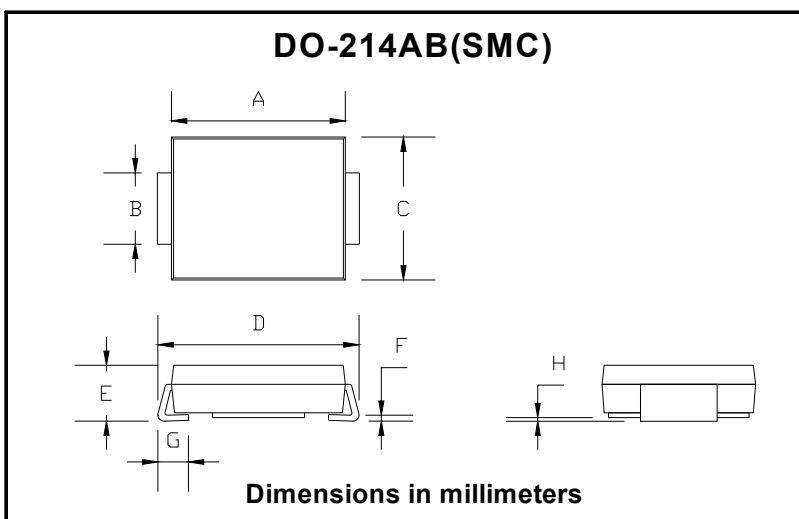


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



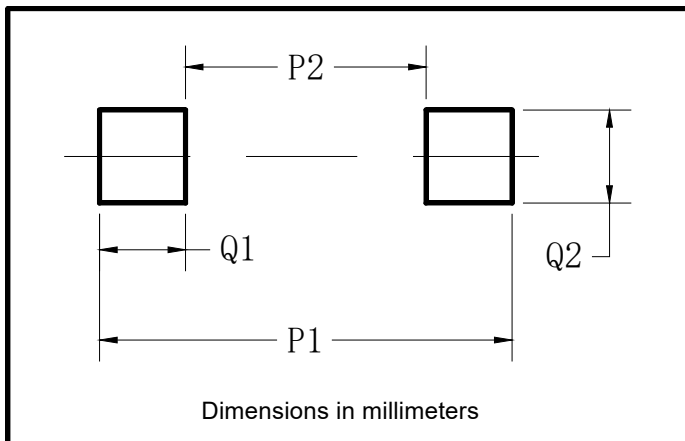
## ■ Outline Dimensions



DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.10	0.20



## ■ Suggested pad layout



Dim	Typ
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82



## ES5A THRU ES5J

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