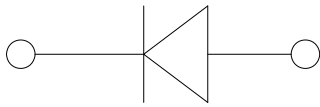
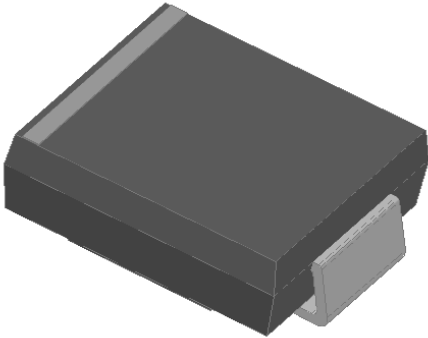


## Super Fast Recovery Rectifier Diode



### 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
- Terminals: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- Polarity: Color band denotes the cathode end

### ■Maximum Ratings (Ta=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
Repetitive Peak Reverse Voltage	$V_{RRM}$	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, Ta=25°C	$I_{FSM}$	A	150							
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	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Maximum instantaneous forward voltage drop per diode	$V_F$	V	$I_{FM}=5.0A$	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							
Maximum DC reverse current at rated DC blocking voltage per diode	$I_R$	$\mu A$	Ta=25°C	5							
			Ta=125°C	100							
Typical junction capacitance	$C_j$	pF	Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C.	80				35			



# ES5A THRU ES5J

## ■ 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	Junction to ambient	R <sub>θJ-A</sub>	°C/W	45 <sup>(1)</sup>							
	Junction to lead	R <sub>θJ-L</sub>		12 <sup>(1)</sup>							
	Junction to case	R <sub>θJ-C</sub>		10 <sup>(1)</sup>							

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

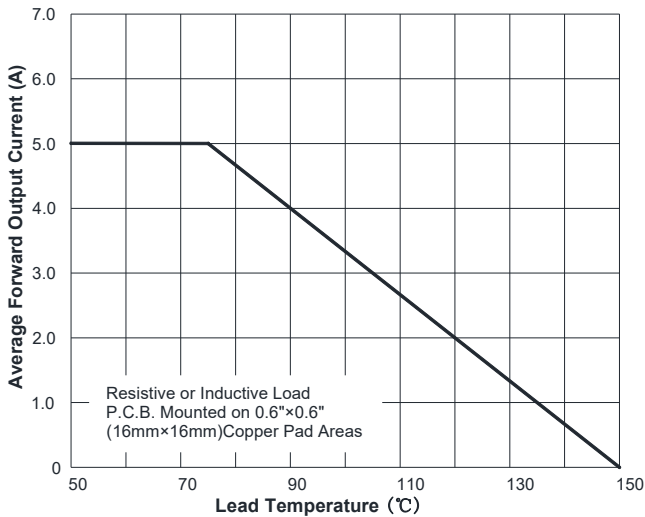


FIG.2: Forward Surge Current Capability

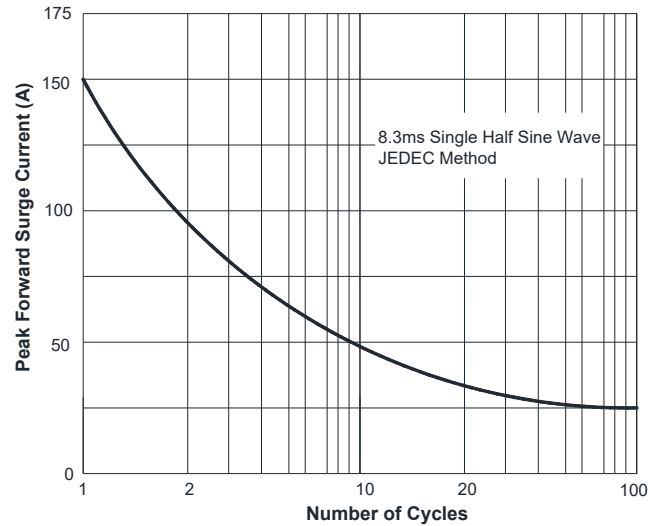


FIG.3: Forward Voltage

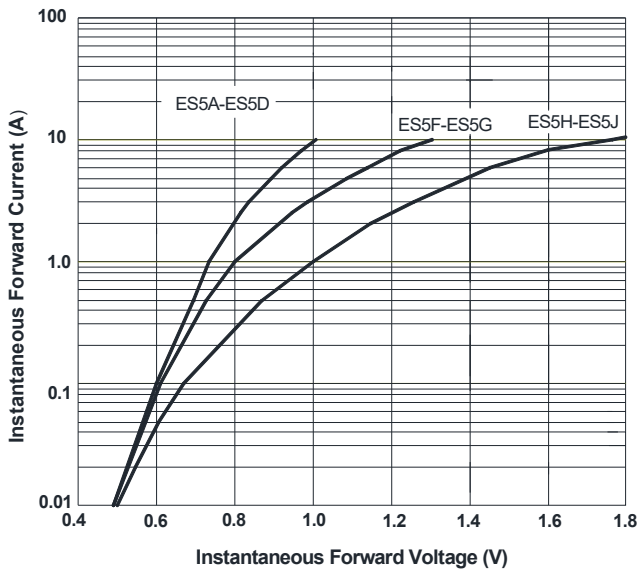


FIG.4: Typical Reverse Characteristics

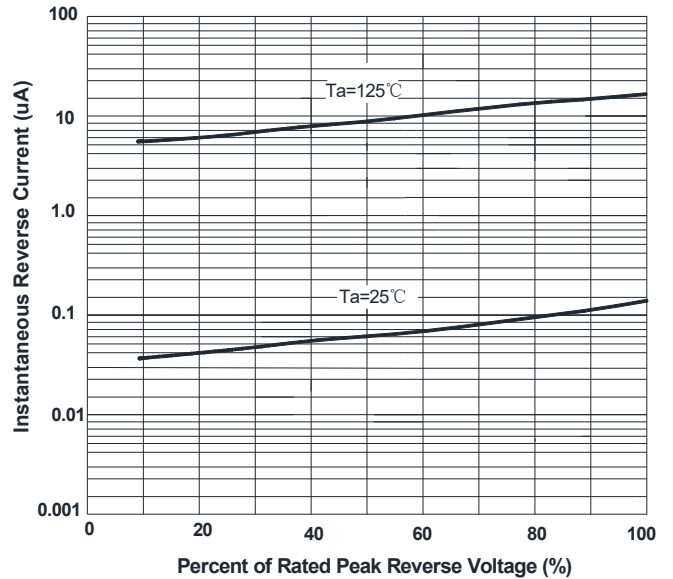
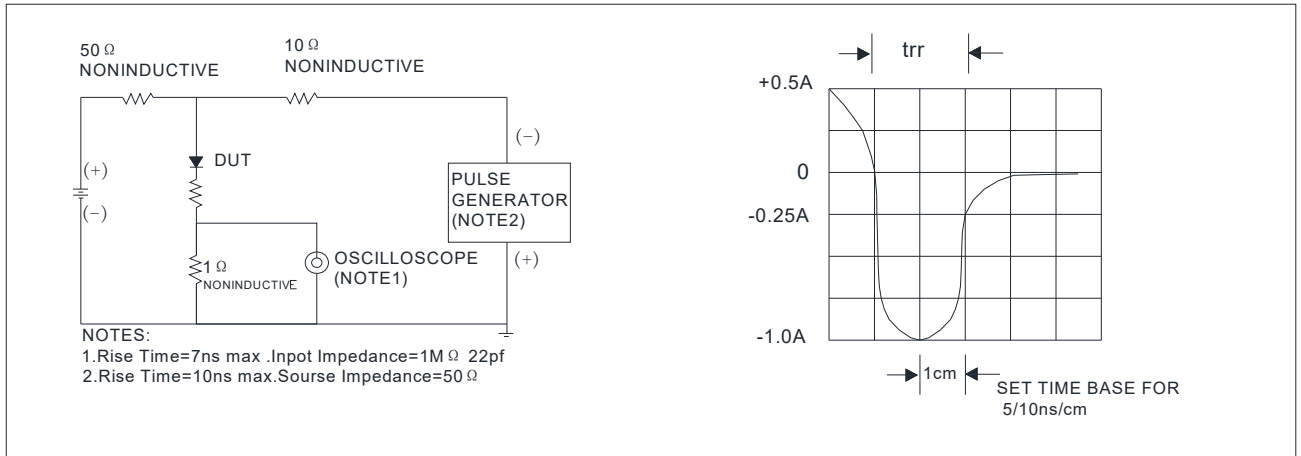
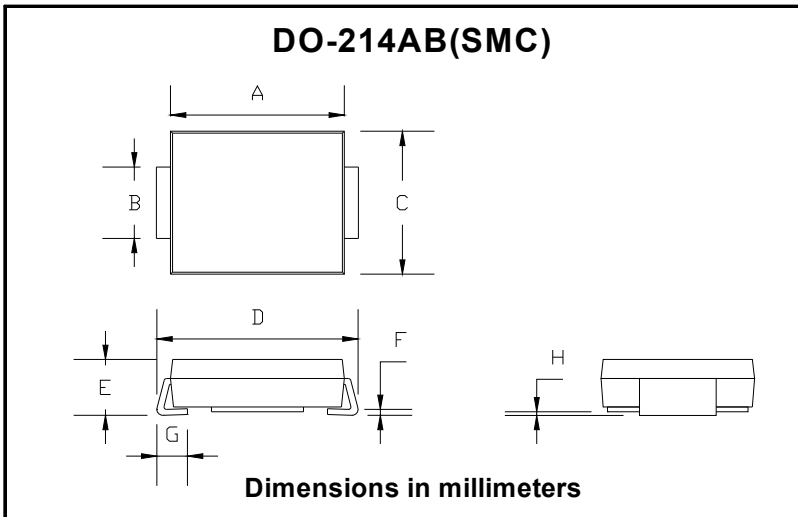


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

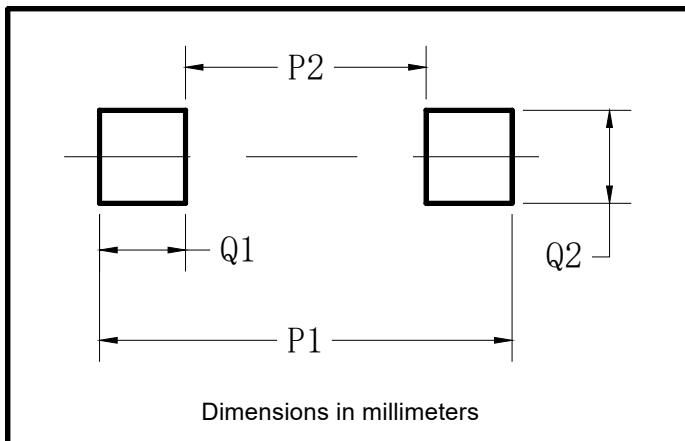


## ■ Outline Dimensions



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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