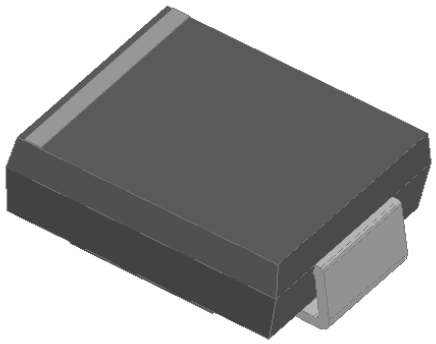
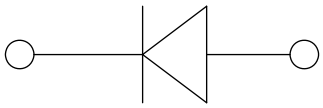
Super Fast Recovery Rectifier Diode
ES5A Through ES5J DO-214AB(SMC)





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 (Ta=25℃ 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	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							
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			300							
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 (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
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	I_R	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	75				37		35	

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■ THERMAL CHARACTERISTICS (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES5A	ES5B	ES5C	ES5D	ES5F	ES5G	ES5H	ES5J
Typical Thermal Resistance	$R_{\theta J-A}$(1)	℃/W	50							
	$R_{\theta J-L}$(1)		15							
	$R_{\theta J-C}$(1)		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

■ PACKAGING INFORMATION

PREFERED 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	/	42000	13" reel

■ CHARACTERISTICS (TYPICAL)

FIG.1: Io-TL Curve

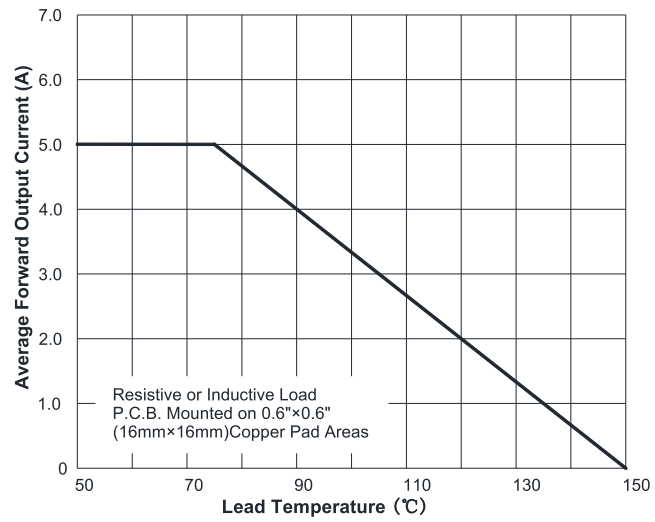


FIG.2: Forward Surge Current Capability

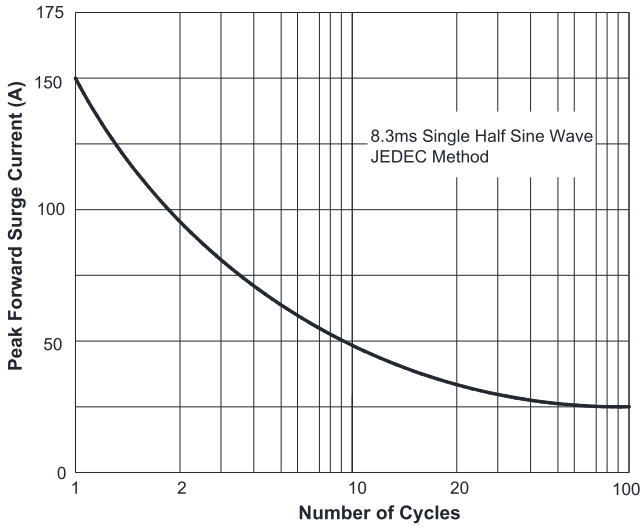


FIG.3: Forward Voltage

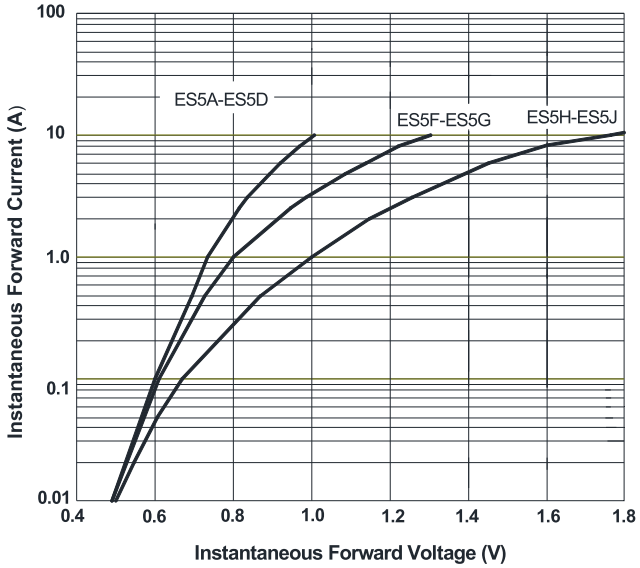
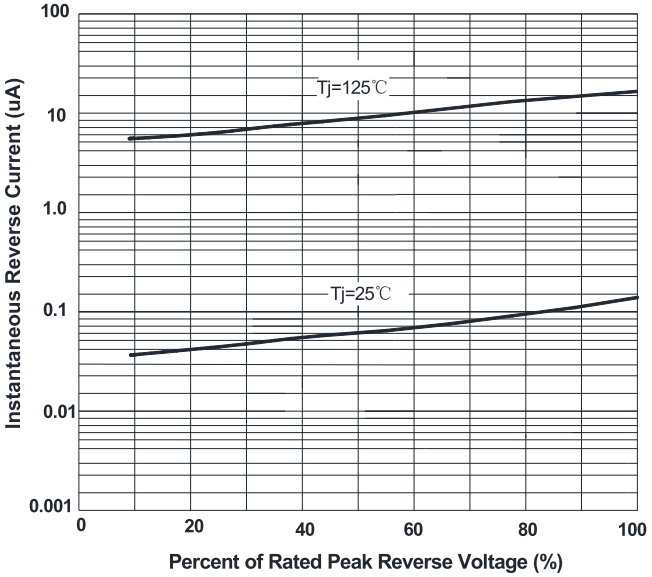
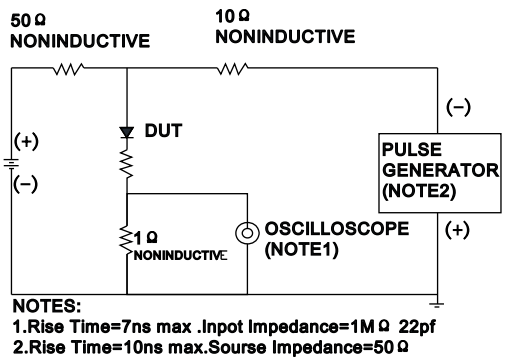


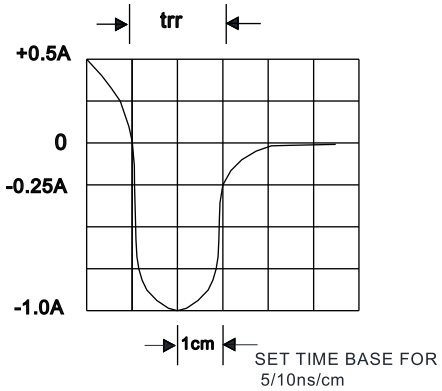
FIG.4: Typical Reverse Characteristics

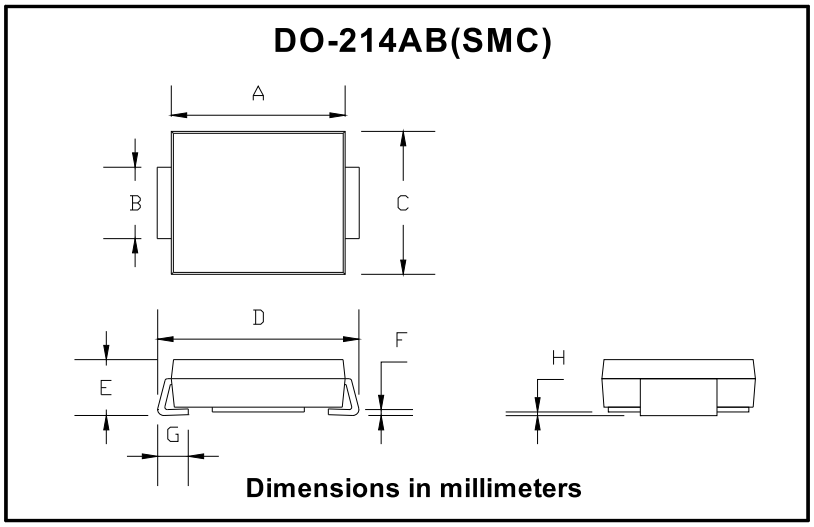


■ OUTLINE DIMENSIONS

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

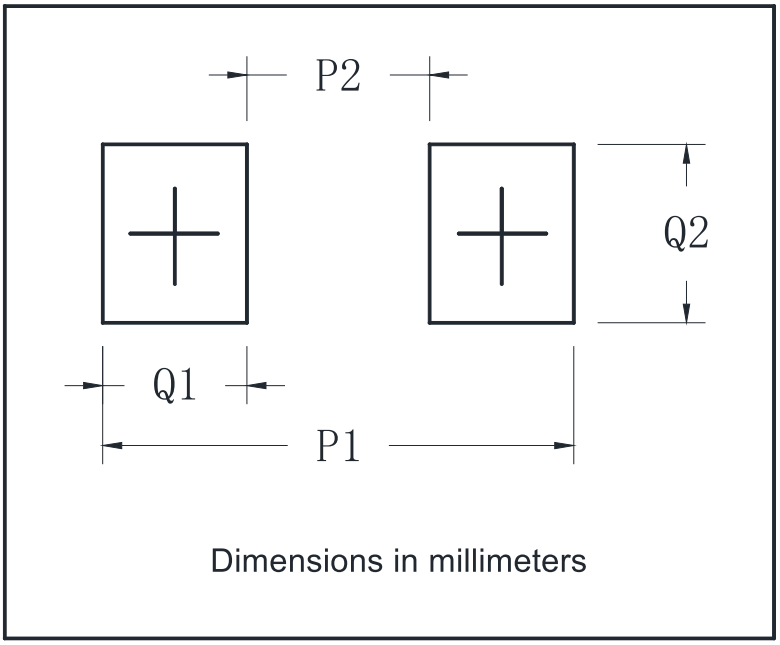






DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.05	0.20

■ SUGGESTED PAD LAYOUT



DO-214AB (SMC)	
Dim	Min
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82