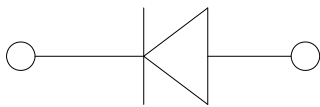
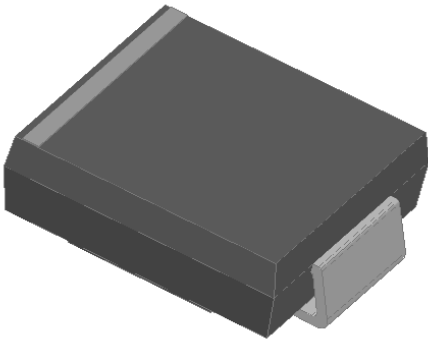


## Super Fast Recovery Rectifier Diode



### 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	ES8G
Device marking code			ES8G
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	V	400
Maximum RMS Voltage	V <sub>RMS</sub>	V	280
Maximum DC Blocking Voltage	V <sub>DC</sub>	V	400
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I <sub>O</sub>	A	8.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T <sub>j</sub> =25°C	I <sub>FSM</sub>	A	200
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T <sub>j</sub> =25°C			400
Current squared time @1ms≤t≤8.3ms T <sub>j</sub> =25°C	I <sup>2</sup> t	A <sup>2</sup> s	166
Storage Temperature	T <sub>stg</sub>	°C	-55 ~ +150
Junction Temperature	T <sub>j</sub>	°C	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES8G
Maximum instantaneous forward voltage	V <sub>F</sub>	V	I <sub>FM</sub> =8.0A	1.3
Maximum reverse recovery time	T <sub>RR</sub>	ns	I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A	35
Maximum DC reverse current at rated DC blocking voltage	I <sub>R</sub>	μA	T <sub>j</sub> =25°C	5
			T <sub>j</sub> =125°C	100
Typical junction capacitance	C <sub>j</sub>	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	70



# ES8G

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

PARAMETER		SYMBOL	UNIT	ES8G
Typical Thermal Resistance	Junction to ambient	R <sub>θJ-A</sub>	°C/W	50 <sup>1)</sup>
	Junction to lead	R <sub>θJ-L</sub>		25 <sup>1)</sup>
	Junction to case	R <sub>θJ-c</sub>		15 <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
ES8G	F1	Approximate 0.260	3000	/	42000	13" reel

## ■ Characteristics(Typical)

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

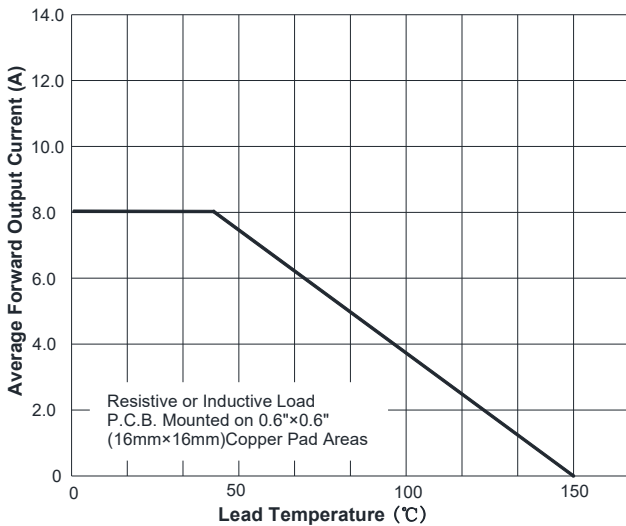


FIG.2: Forward Surge Current Capability

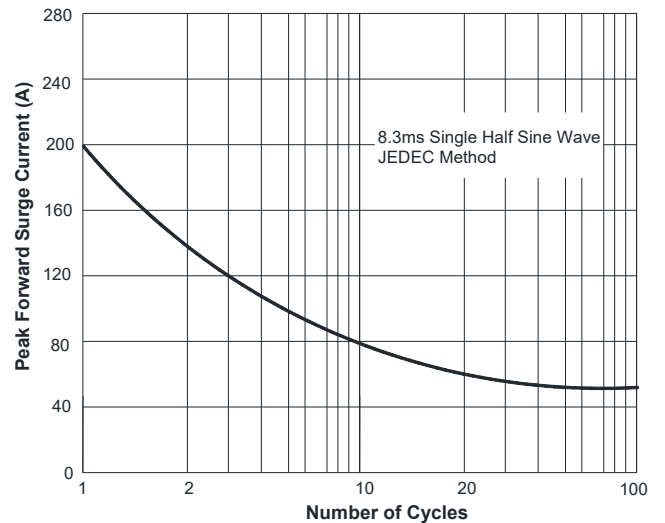


FIG.3: Typical Forward Voltage

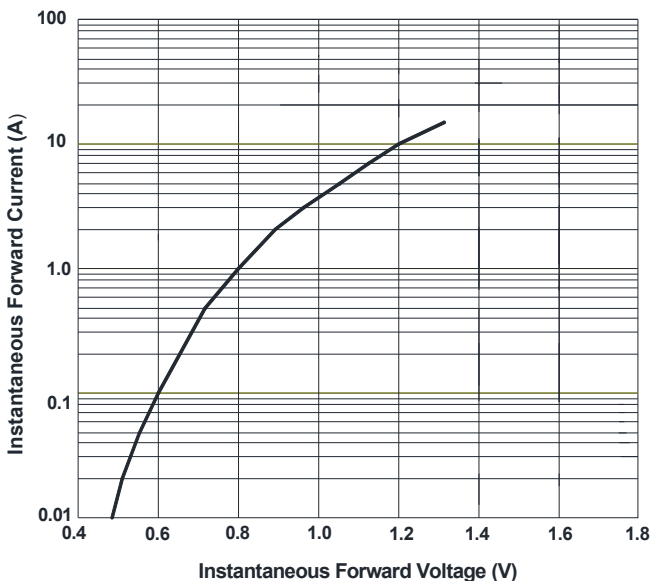


FIG.4: Typical Reverse Characteristics

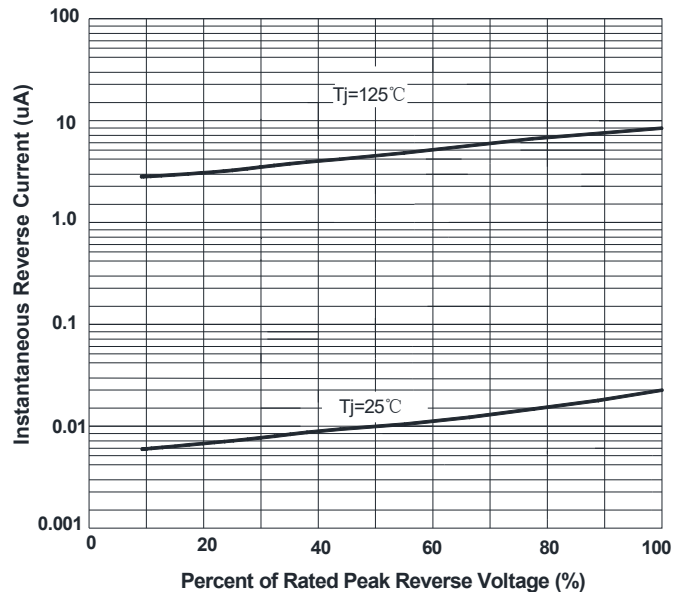
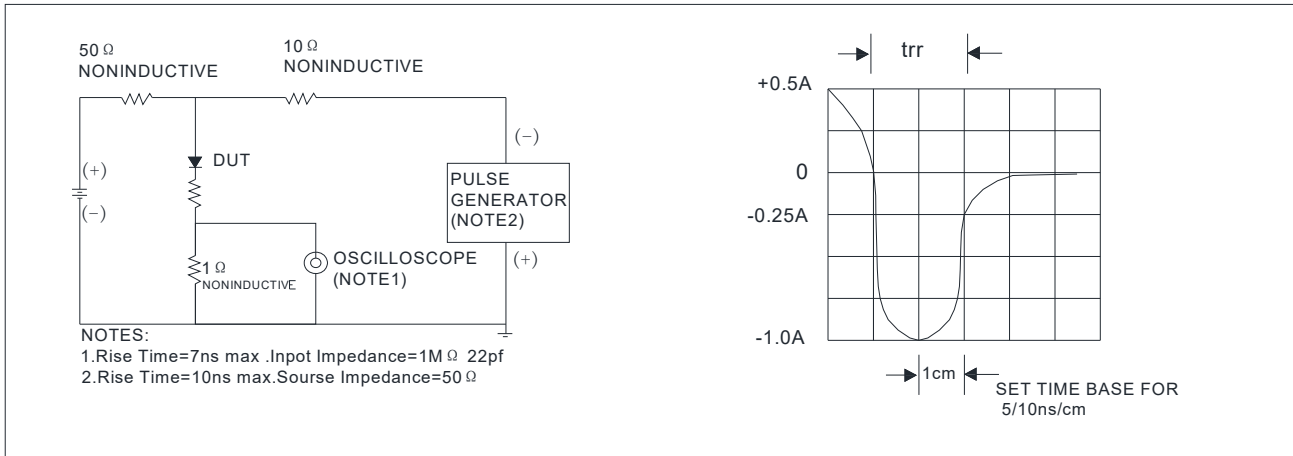
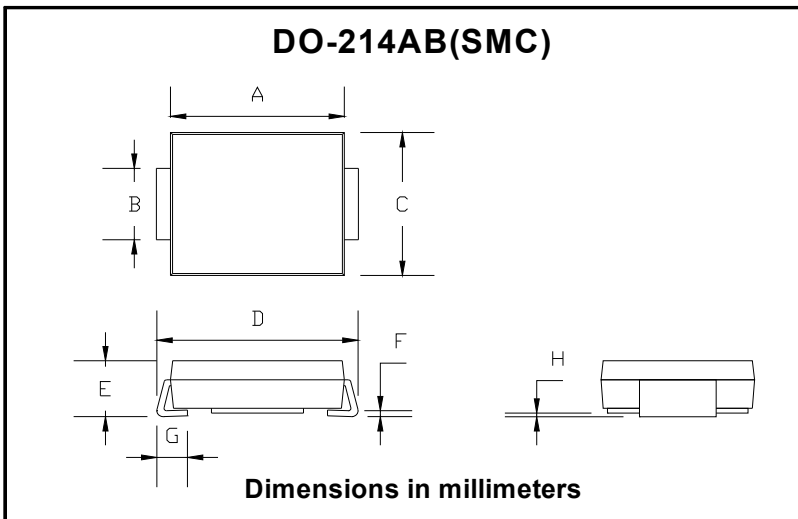


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

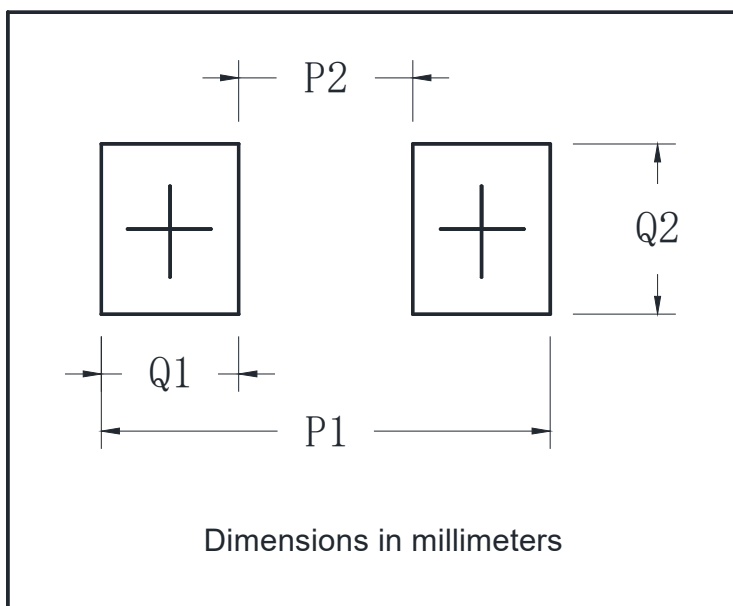


## ■ Outline Dimensions



DO-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



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