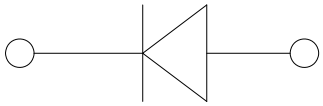
ES8G

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

- **P**ackage: DO-214AB (SMC)

Molding compound meets UL 94 V-0 flammability rating, -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	ES8G
Device marking code			ES8G
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	V	400
Maximum RMS Voltage	V_{RMS}	V	280
Maximum DC Blocking Voltage	V_{DC}	V	400
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I_O	A	8.0
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave,1 cycle, Tj=25℃	I_{FSM}	A	200
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, Tj=25℃			400
Current squared time @1ms≤t≤8.3ms Tj=25℃	I^2t	A^2s	166
Storage Temperature	Tstg	℃	-55 ~ +150
Junction Temperature	Tj	℃	-55 ~ +150

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES8G
Maximum instantaneous forward voltage	V_F	V	I_{FM}=8.0A	1.3
Maximum reverse recovery time	T_{RR}	ns	I_F=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	70

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

PARAMETER		SYMBOL	UNIT	ES8G
Typical Thermal Resistance	Junction to ambient	$R_{\theta J-A}$	℃/W	50[1)]
	Junction to lead	$R_{\theta J-L}$		25[1)]
	Junction to case	$R_{\theta J-c}$		15[1)]

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)

PREFERED 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: Io-TL Curve

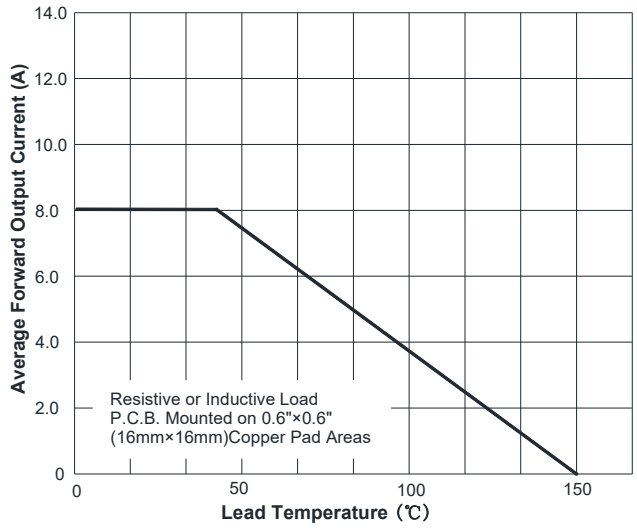


FIG.2: Forward Surge Current Capability

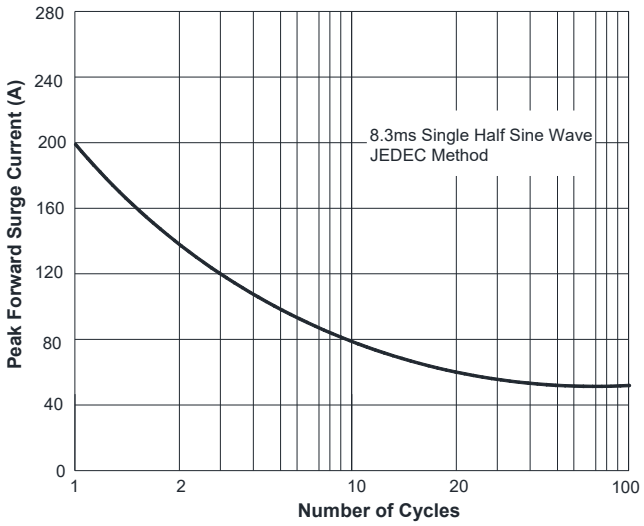


FIG.3: Typical Forward Voltage

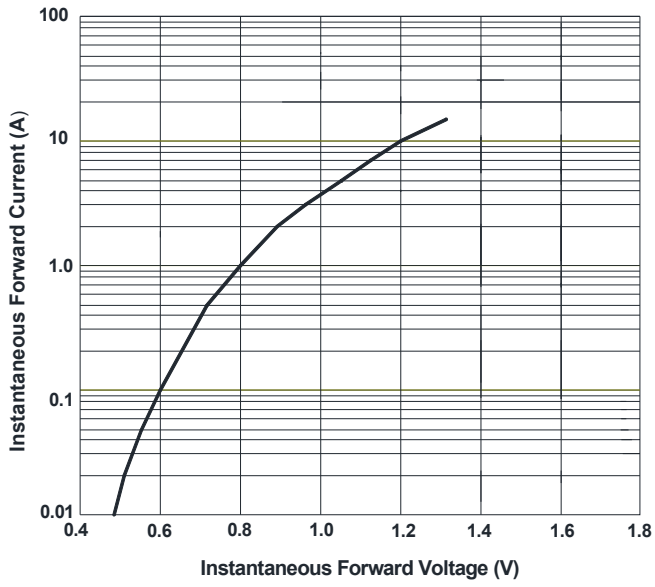


FIG.4: Typical Reverse Characteristics

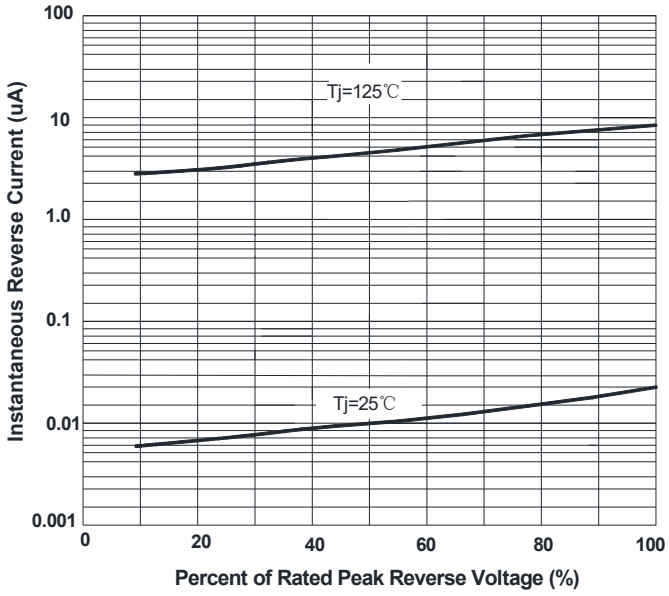
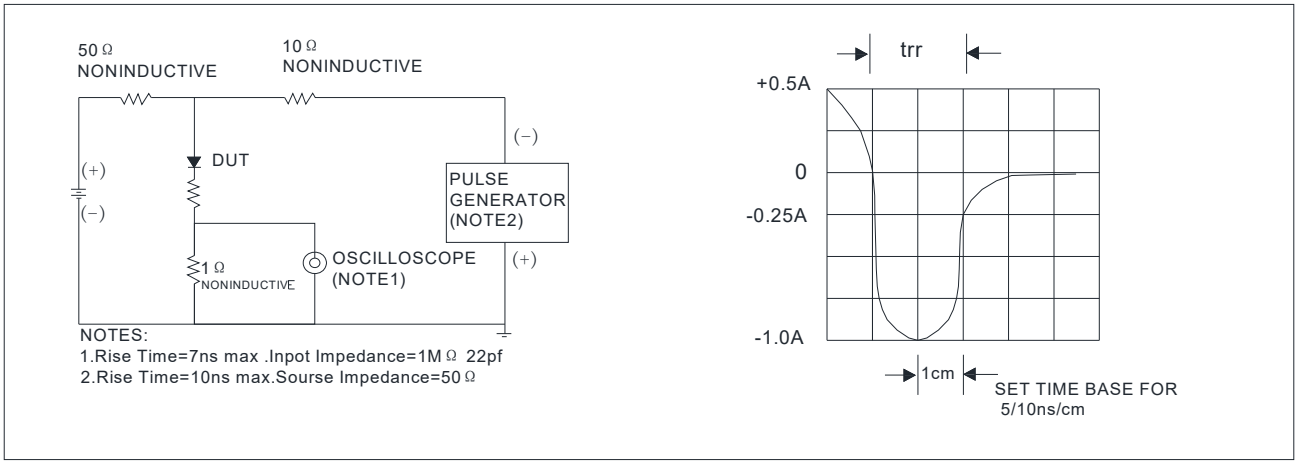
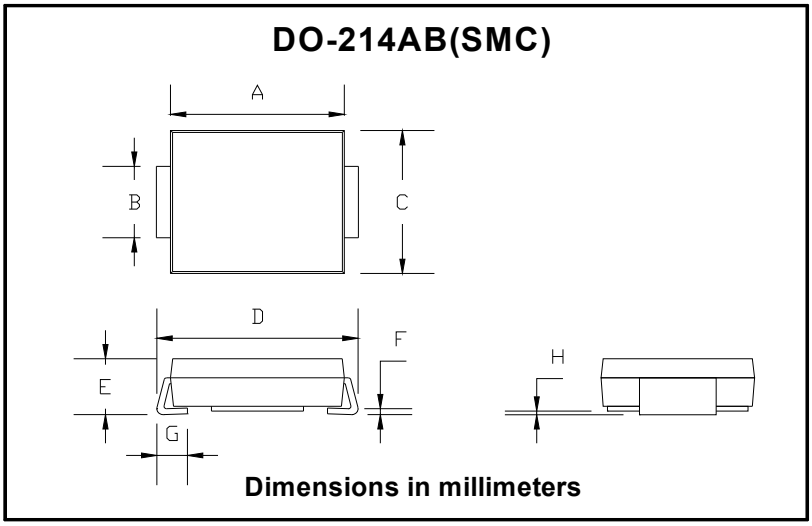


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

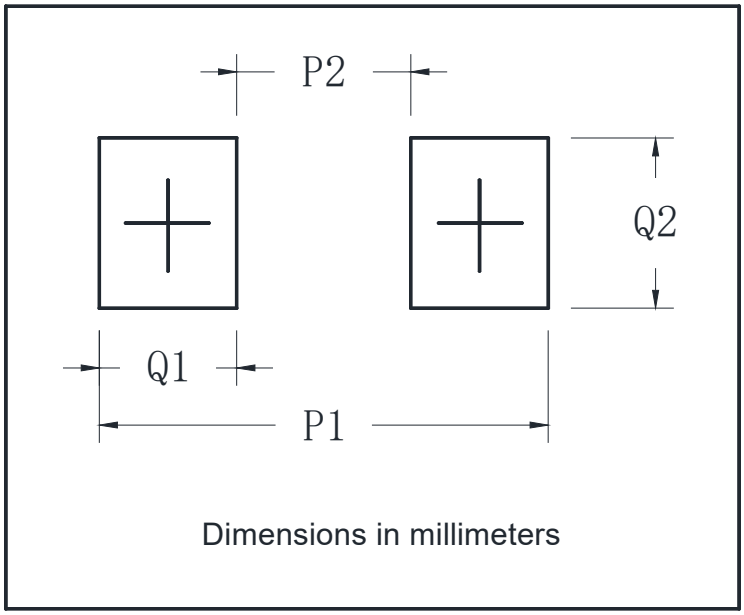


■ Outline Dimensions



DO-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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