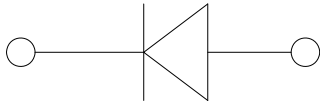
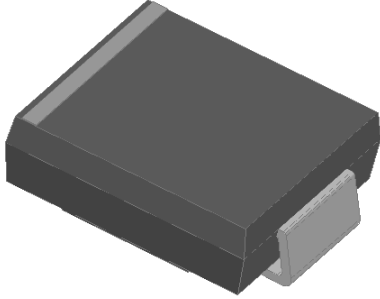


Surface Mount Super Fast Recovery Rectifier



Features

- Super fast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, automotive 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	ES3AQ	ES3BQ	ES3CQ	ES3DQ	ES3FQ	ES3GQ	ES3HQ	ES3JQ
Device marking code			ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J
Repetitive Peak Reverse Voltage	V_{RRM}	V	50	100	150	200	300	400	500	600
Average Rectified Output Current @60Hz sine wave, Resistance load, T_L (Fig.1)	I_O	A	3.0							
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Ta=25°C	I_{FSM}	A	100							
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	ES3AQ	ES3BQ	ES3CQ	ES3DQ	ES3FQ	ES3GQ	ES3HQ	ES3JQ
Maximum instantaneous forward voltage drop per diode	V_F	V	$I_{FM}=3.0A$	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 @ $V_{RM}=V_{RRM}$	I_R	μA	Ta=25°C	5							
			Ta=125°C	100							
Typical junction capacitance	C_J	pF	$V_R=4V, f=1\text{ MHz}$	60							



ES3AQ THRU ES3JQ

■ Thermal Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES3AQ	ES3BQ	ES3CQ	ES3DQ	ES3FQ	ES3GQ	ES3HQ	ES3JQ
Thermal Resistance	R _{θJA}	°C/W	75 ¹⁾							
	R _{θJL}		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)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES3AQ-ES3JQ	F1	Approximate 0.248	3000	6000	42000	13" reel

■ Characteristics (Typical)

Fig.1: I_O-T_L Curve

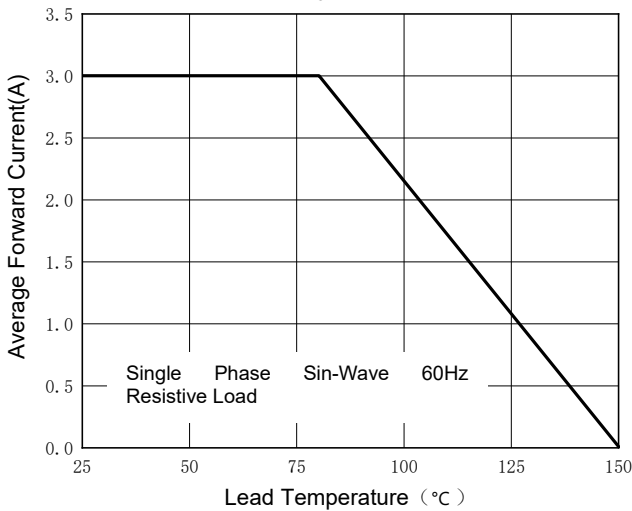


Fig.2: Surge Forward Current Capability

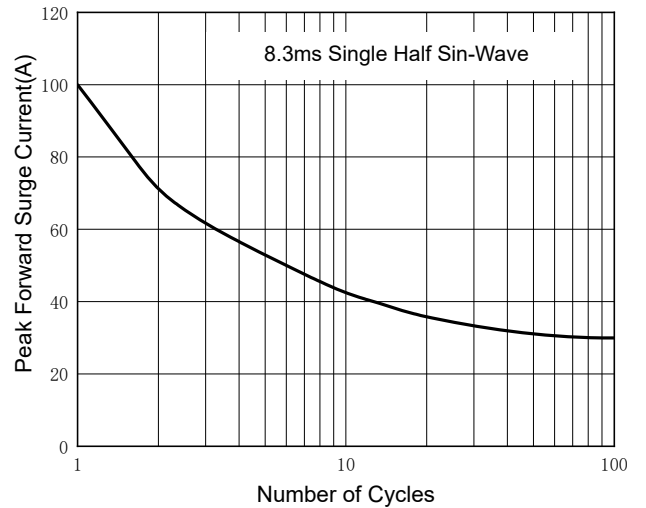


Fig.3: Forward Voltage

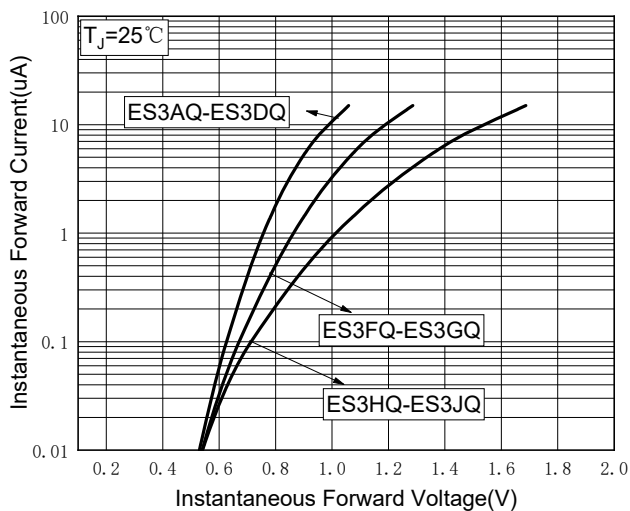


Fig.4: Typical Reverse Characteristics

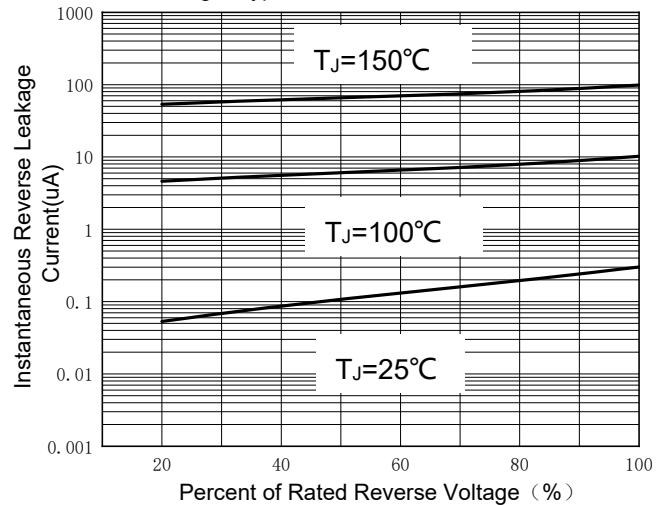
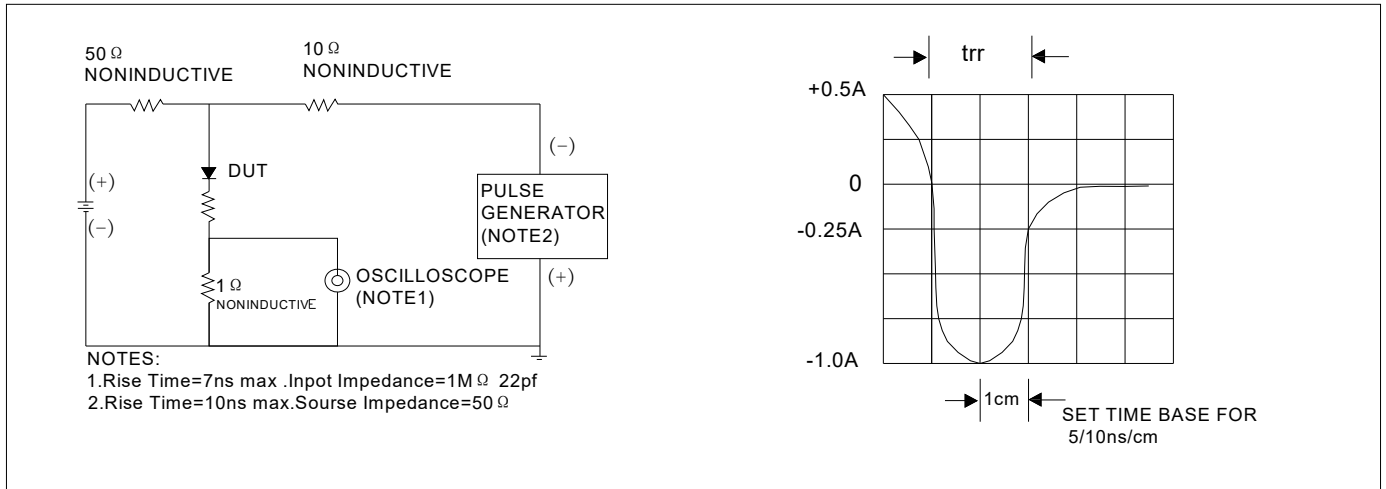
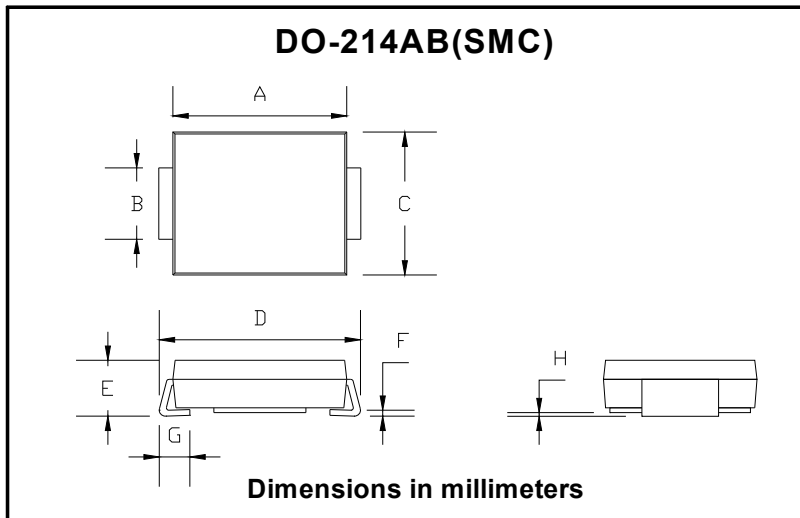


Fig.5: Diagram of circuit and Testing wave form of reverse recovery time

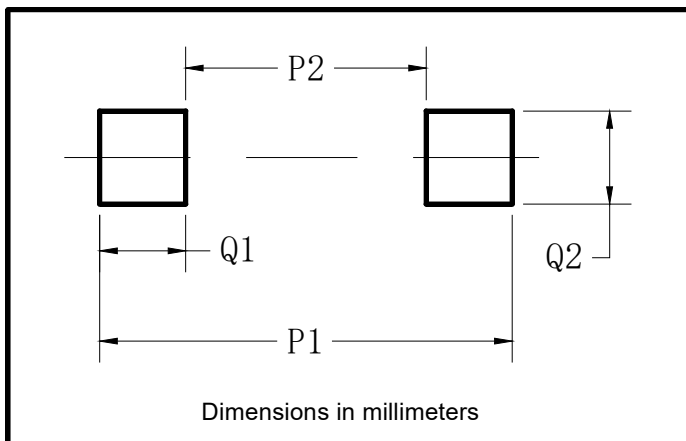


■ Outline Dimensions



DO-214AB (SMC)		
Dim	Min	Max
A	6.6	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	0.1	0.2

■ Suggested pad layout



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



ES3AQ THRU ES3JQ

Disclaimer

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