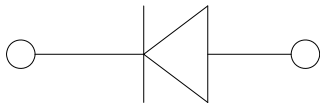
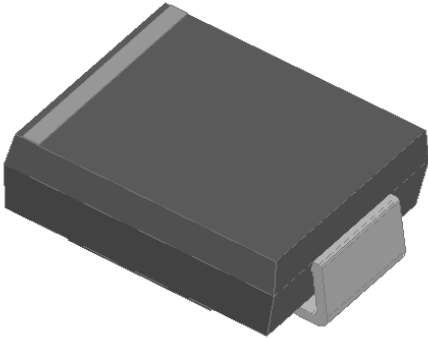


Surface Mount Super Fast Recovery Rectifier



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°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	ES3K
Device marking code			ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	ES3K
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	150	200	300	400	500	600	800
Maximum RMS Voltage	VRMS	V	35	70	105	140	210	280	350	420	560
Maximum DC blocking Voltage	VDC	V	50	100	150	200	300	400	500	600	800
Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1)	I _o	A	3.0								
Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, T _j =25°C	I _{FSM}	A	100								
Forward Surge Current (Non-repetitive) @1ms, square wave, 1 cycle, T _j =25°C			200								
Current squared time @1ms≤t≤8.3ms T _j =25°C, Rating of per diode	I ² t	A ² s	41.5								
Typical junction capacitance @Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	C _j	pF	60				35		29		21
Storage temperature	T _{stg}	°C	-55 ~ +150								
Junction temperature	T _j	°C	-55 ~ +150								



ES3A THRU ES3K

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	ES3K	
Maximum instantaneous forward voltage drop per diode	V _F	V	IFM=3.0A	0.95				1.3	1.7		1.85		
Maximum reverse recovery time	t _{rr}	ns	IF=0.5A, IR=1.0A, I _{rr} =0.25A	35									
Maximum DC reverse current at rated DC blocking voltage per diode	I _R	μA	T _j =25°C	5									
			T _j =125°C	100									

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

PARAMETER	SYMBOL	UNIT	ES3A	ES3B	ES3C	ES3D	ES3F	ES3G	ES3H	ES3J	ES3K
Typical Thermal Resistance	R _{θJA} ⁽¹⁾	°C/W	50								
	R _{θJL} ⁽¹⁾		16								
	R _{θJC} ⁽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

■ Ordering Information (Example)

PREFERRED P/N	PACKAGE CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
ES3A~ES3K	F1	Approximate 0.248	3000	6000	42000	13" reel

■ Characteristics (Typical)

FIG1: I_o-T_L Curve

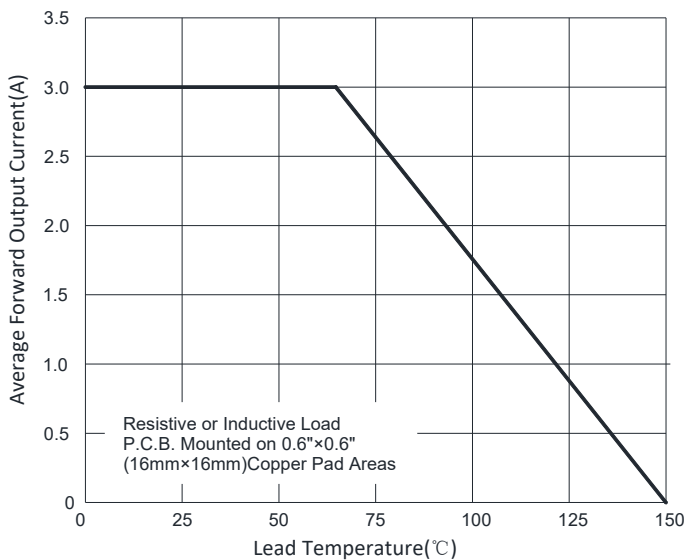
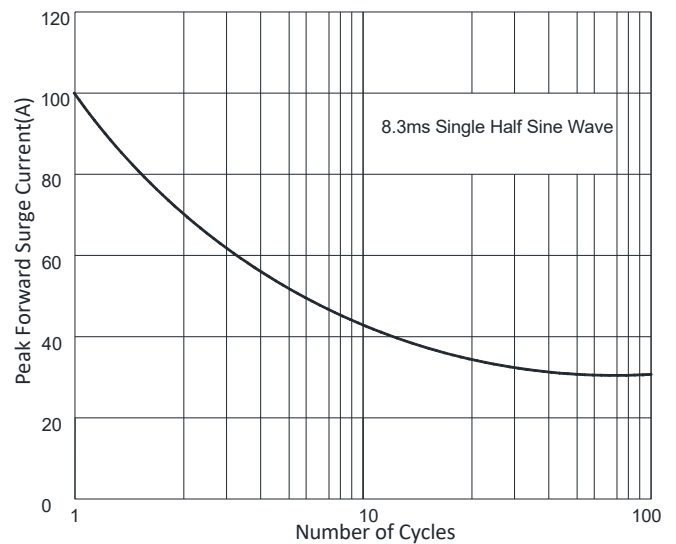


FIG2: Surge Forward Current Capability





ES3A THRU ES3K

FIG3: Typical Forward Voltage

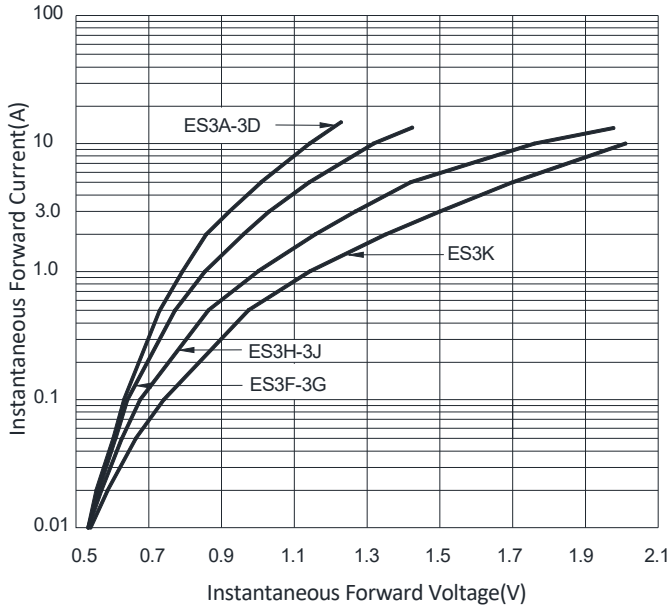


FIG4: Typical Reverse Characteristics

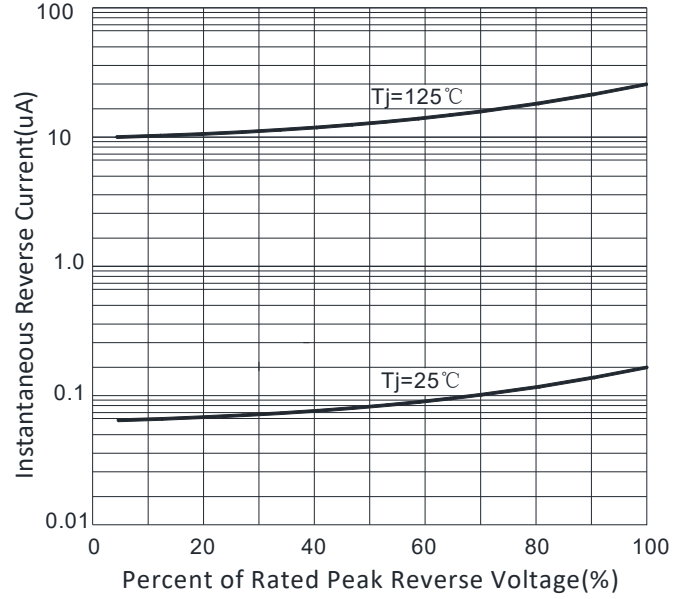
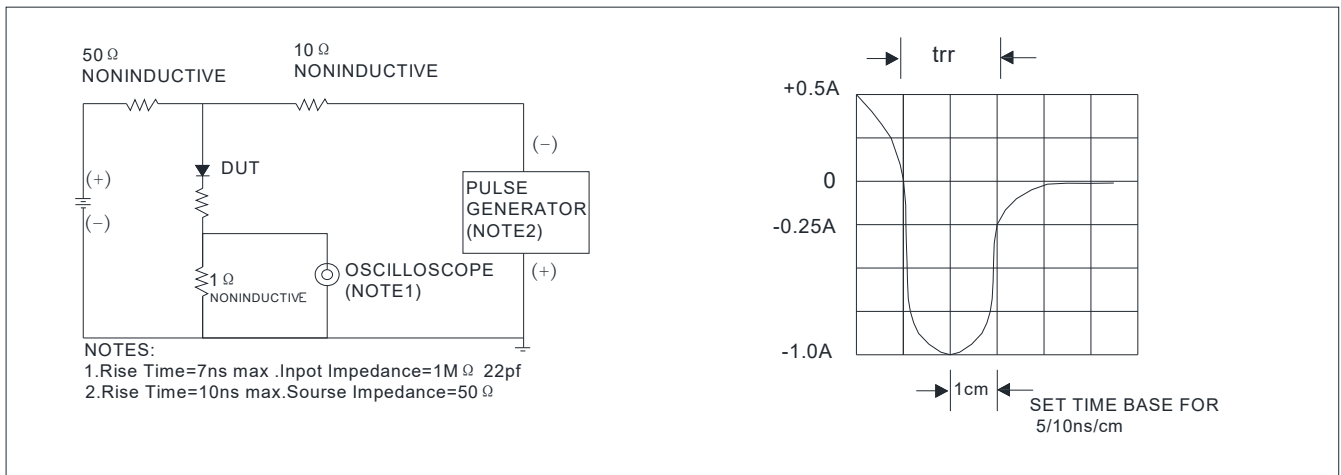
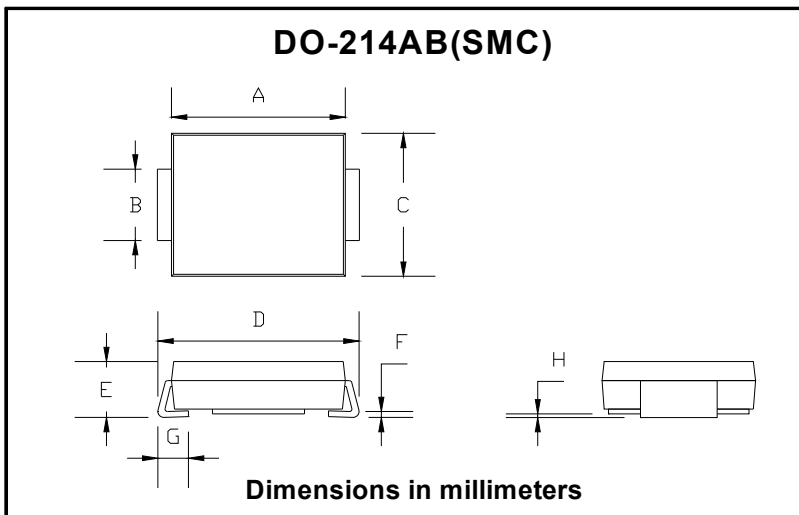


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time



Outline Dimensions

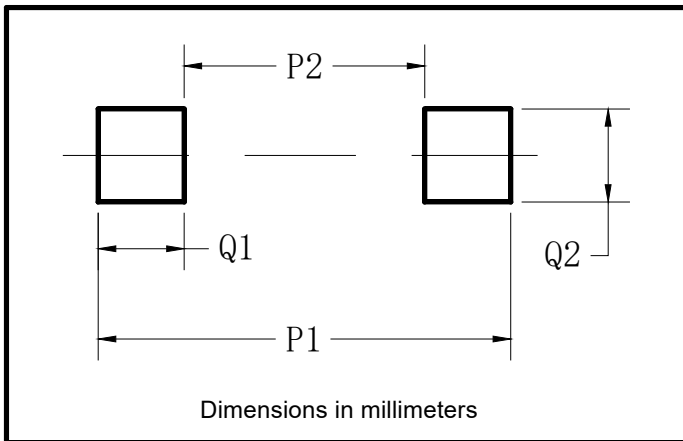


DO-214AB (SMC)		
Dim	Min	Max
A	6.60	7.11
B	2.85	3.27
C	5.59	6.22
D	7.75	8.13
E	1.99	2.61
F	0.15	0.31
G	0.76	1.52
H	0.10	0.20



ES3A THRU ES3K

■ Suggested pad layout



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



ES3A THRU ES3K

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