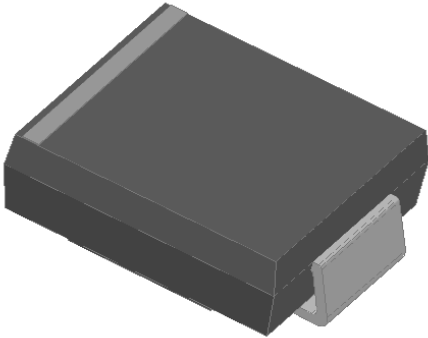


Surface Mount High Efficient Rectifier

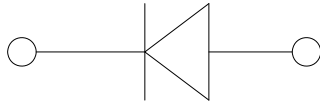


Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- High forward surge capability
- Super fast reverse recovery time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C

Typical Applications

For use in high frequency rectification of power supplies, inverters, converters, and freewheeling diodes for consumer 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_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Device marking code			US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Maximum Repetitive Peak Reverse Voltage	VRRM	V	50	100	200	300	400	600	800	1000
Maximum RMS Voltage	VRMS	V	35	70	140	210	280	420	560	700
Maximum DC blocking Voltage	VDC	V	50	100	200	300	400	600	800	1000
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	I ² t	A ² s	41.5							
Storage temperature	T _{stg}	°C	-55 ~ +150							
Junction temperature	T _j	°C	-55 ~ +150							

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

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Maximum instantaneous forward voltage	V _F	V	I _{FM} =3.0A	1.0			1.3		1.7		
Maximum reverse recovery time	t _r	ns	I _F =0.5A, I _R =1.0A, I _r =0.25A	50					75		
Maximum DC reverse current at rated DC blocking voltage	I _R	μA	T _j =25°C	5							
			T _j =125°C	100							
Typical junction capacitance	C _j	pF	Measured at 1MHz and Applied Reverse Voltage of 4.0 V.D.C	60			40		24		



US3A THRU US3M

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

PARAMETER	SYMBOL	UNIT	US3A	US3B	US3D	US3F	US3G	US3J	US3K	US3M
Typical Thermal resistance	R _θ J-A(1)	°C/W	48							
	R _θ J-L(1)		15							
	R _θ 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" (16mm 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
US3A~US3M	F1	Approximate 0.248	3000	/	42000	13" reel

■ Characteristics(Typical)

FIG.1: I_o-T_L Curve

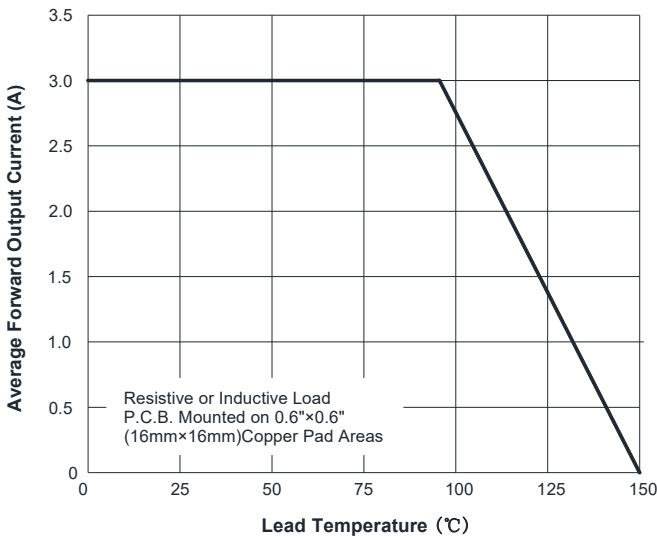


FIG.2: Forward Surge Current Capability

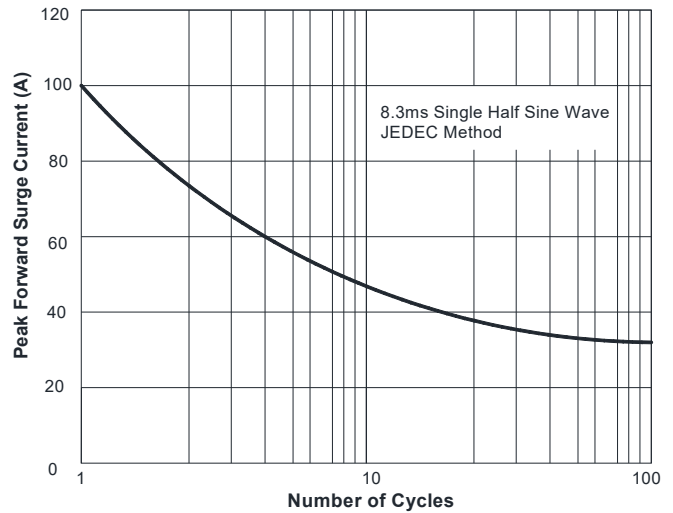


FIG.3: Forward Voltage

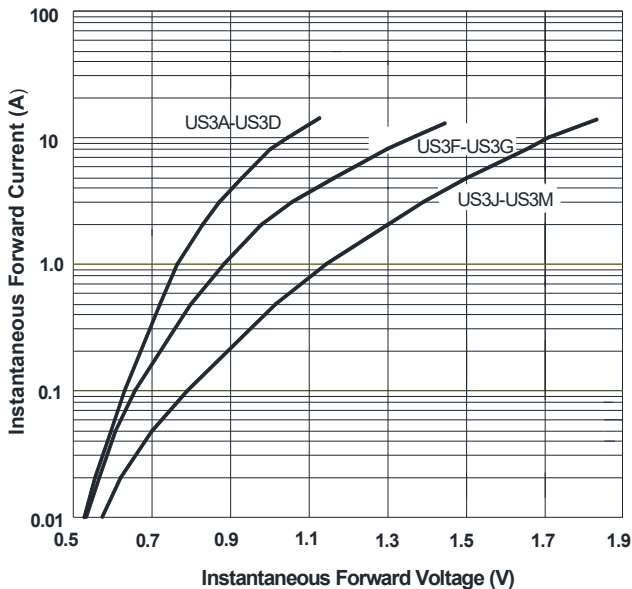


FIG.4: Typical Reverse Characteristics

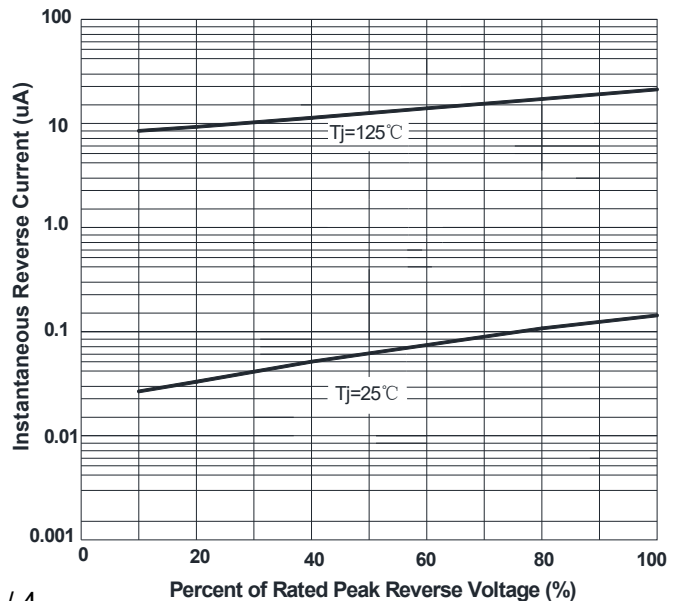
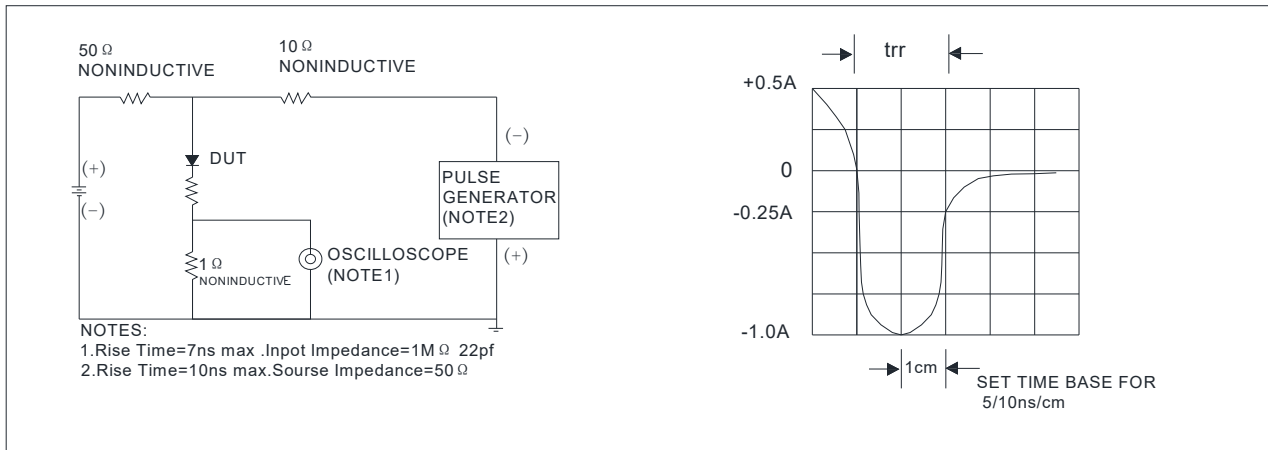
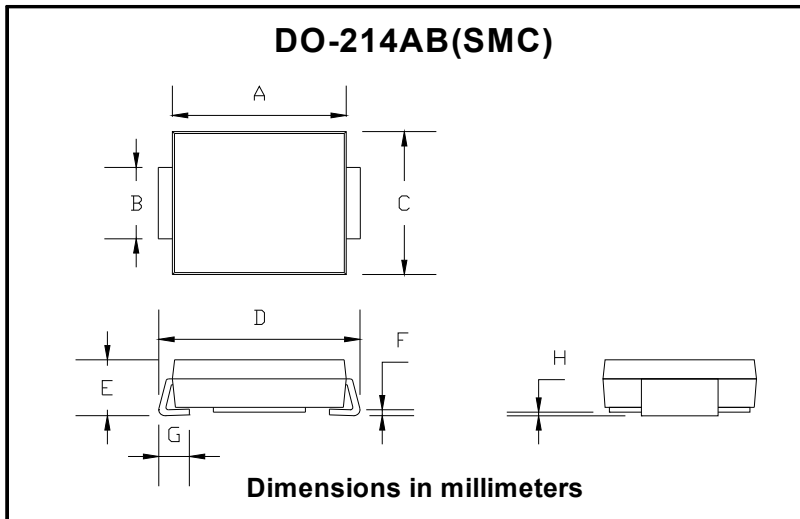


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

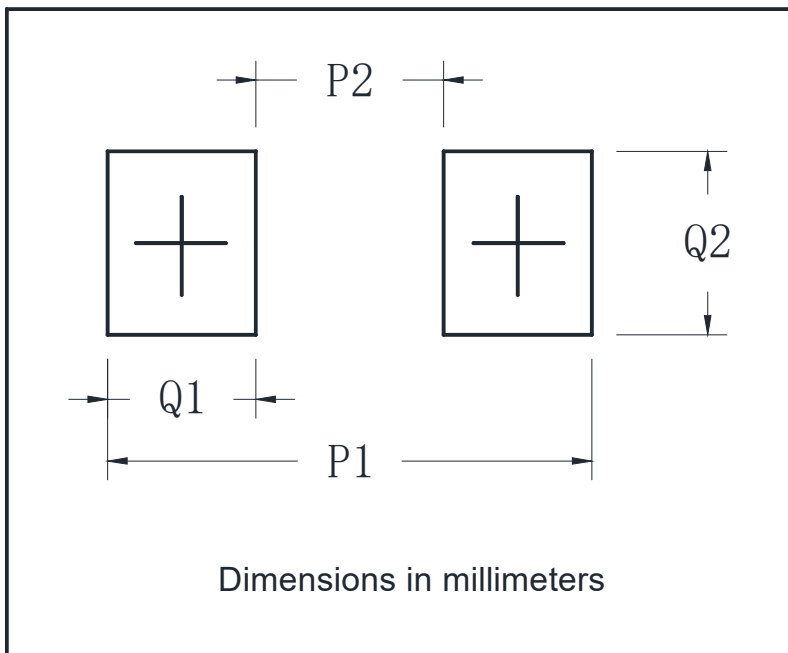


■ Outline Dimensions



DO-214AB (SMC)		
Dim	Min	Max
A	6.60	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



US3A THRU US3M

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