

3A, 200V Ultra Fast Surface Mount Rectifier

FEATURES

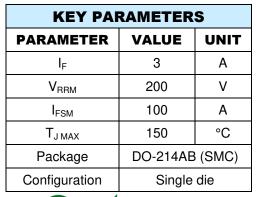
- Glass passivated chip junction
- Ideal for automated placement
- Ultra Fast recovery time for high efficiency
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer, telecommunication

MECHANICAL DATA

- Case: DO-214AB (SMC)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.210g (approximately)







DO-214AB (SMC)



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)				
PARAMETER	SYMBOL	ES3DV	UNIT	
Marking code on the device		ES3DV		
Repetitive peak reverse voltage	V _{RRM}	200	V	
Reverse voltage, total rms value	V _{R(RMS)}	140	V	
Forward current	I _F	3	А	
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	100	A	
Junction temperature	TJ	- 55 to +150	°C	
Storage temperature	T _{STG}	- 55 to +150	°C	



THERMAL PERFORMANCE			
PARAMETER	SYMBOL	ТҮР	UNIT
Junction-to-lead thermal resistance	R _{eJL}	17	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	50	°C/W

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	ТҮР	MAX	UNIT
Forward voltage ⁽¹⁾	$I_F = 3A, T_J = 25^{\circ}C$	V _F	-	0.9	V
Reverse current @ rated V _R ⁽²⁾	$T_J = 25^{\circ}C$	I _R	-	10	μA
	T _J = 125°C		-	500	μA
Junction capacitance	1MHz, V _R = 4.0V	CJ	45	-	pF
Reverse recovery time	$I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A$	t _{rr}	-	20	ns

Notes:

1. Pulse test with PW = 0.3ms

2. Pulse test with PW = 30ms

ORDERING INFORMATION			
ORDERING CODE	PACKAGE	PACKING	
ES3DV	DO-214AB (SMC)	3,000 / Tape & Reel	



CHARACTERISTICS CURVES

 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

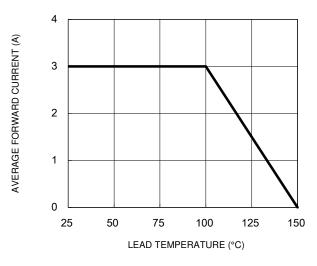
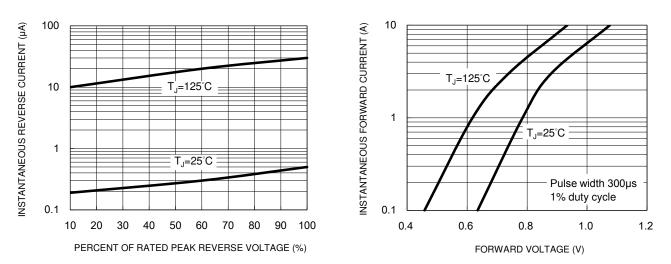


Fig.1 Forward Current Derating Curve

Fig.3 Typical Reverse Characteristics



90

75

60

45

30

15

0

0.1

f=1.0MHz Vsig=50mVp-p

1

CAPACITANCE (pF)

Fig.5 Maximum Non-Repetitive Forward Surge Current

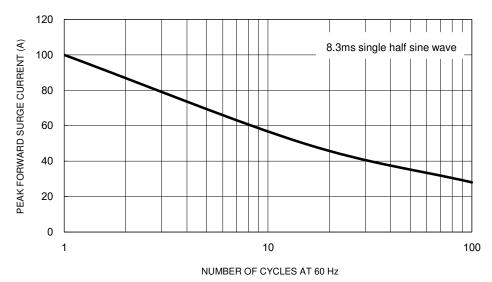


Fig.2 Typical Junction Capacitance

10

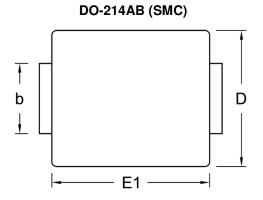
REVERSE VOLTAGE (V)

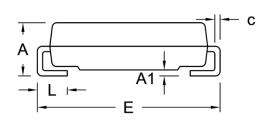
Fig.4 Typical Forward Characteristics

100

ES3DV Taiwan Semiconductor

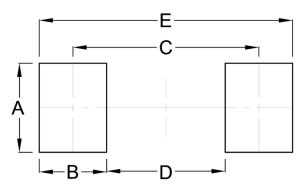
PACKAGE OUTLINE DIMENSIONS





DIM.	Unit (mm)		Unit ((inch)
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.10	0.20	0.004	0.008
b	2.90	3.20	0.114	0.126
с	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	7.75	8.13	0.305	0.320
E1	6.60	7.11	0.260	0.280
L	1.00	1.60	0.039	0.063

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
В	2.50	0.098
С	6.90	0.272
D	4.40	0.173
E	9.40	0.370

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YW = Date Code
- F = Factory Code



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