

## 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)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	3	A
$V_{RRM}$	200	V
$I_{FSM}$	100	A
$T_{J\ MAX}$	150	°C
Package	DO-214AB (SMC)	
Configuration	Single die	



DO-214AB (SMC)



### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ 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	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	100	A
Junction temperature	$T_J$	- 55 to +150	°C
Storage temperature	$T_{STG}$	- 55 to +150	°C

**THERMAL PERFORMANCE**

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	17	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	50	°C/W

**ELECTRICAL SPECIFICATIONS** ( $T_A = 25^\circ C$  unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 3A, T_J = 25^\circ C$	$V_F$	-	0.9	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$T_J = 25^\circ C$	$I_R$	-	10	μA
	$T_J = 125^\circ C$		-	500	μA
Junction capacitance	1MHz, $V_R = 4.0V$	$C_J$	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

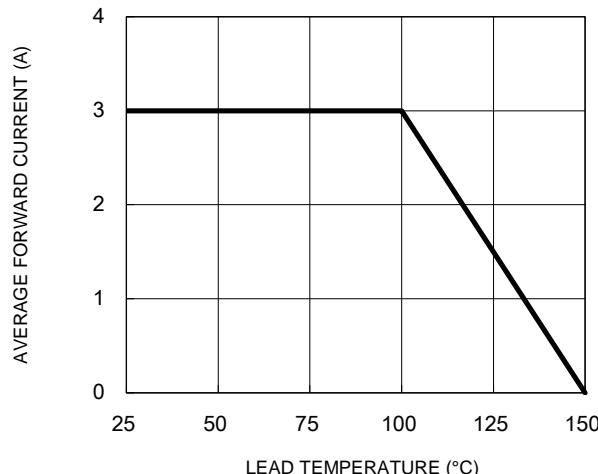
**ORDERING INFORMATION**

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

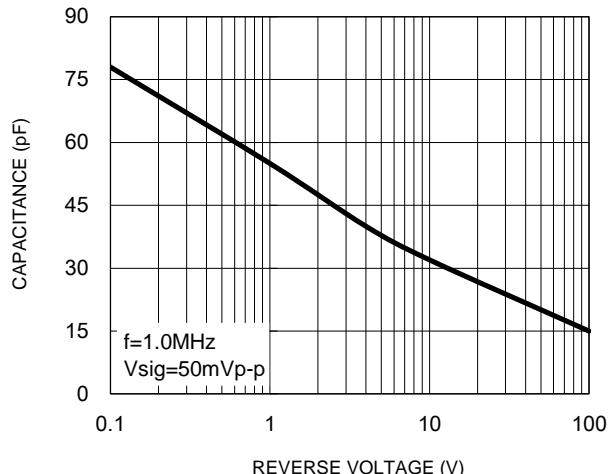
## CHARACTERISTICS CURVES

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

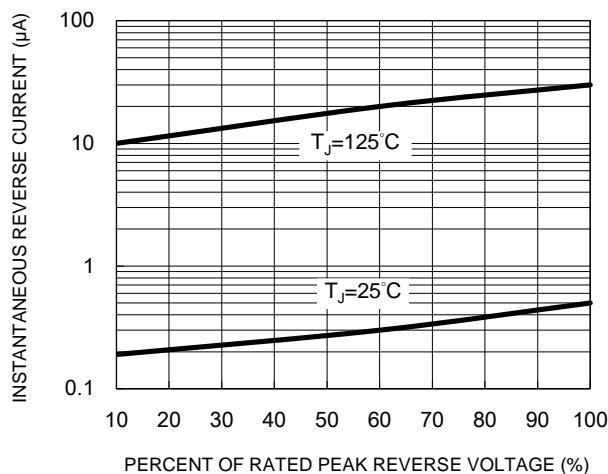
**Fig.1 Forward Current Derating Curve**



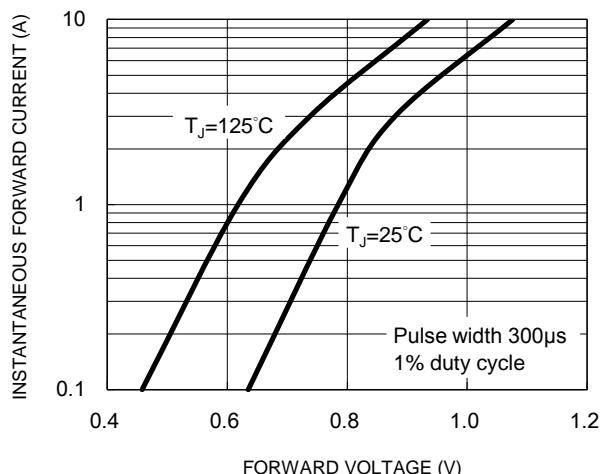
**Fig.2 Typical Junction Capacitance**



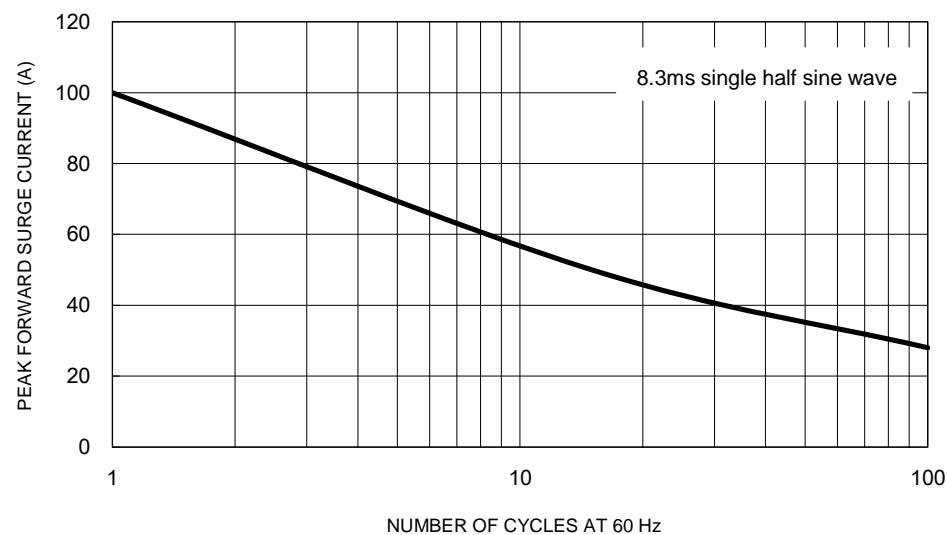
**Fig.3 Typical Reverse Characteristics**



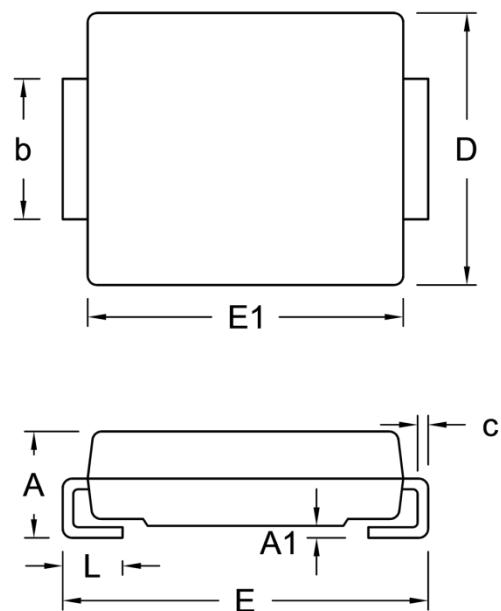
**Fig.4 Typical Forward Characteristics**



**Fig.5 Maximum Non-Repetitive Forward Surge Current**

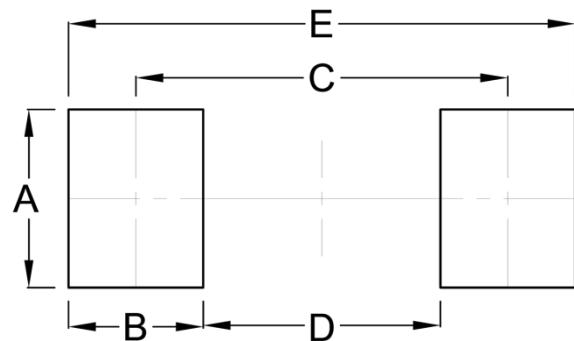


## PACKAGE OUTLINE DIMENSIONS

**DO-214AB (SMC)**


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
c	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
B	2.50	0.098
C	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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