3A, 20V - 200V Schottky Barrier Surface Mount Rectifier

FEATURES

- AEC-Q101 qualified
- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for overvoltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	3	A
V_{RRM}	20 - 200	V
I_{FSM}	75, 100	A
$T_{J\ MAX}$	125, 150	°C
Package	DO-214AB (SMC)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

APPLICATIONS

- Low voltage, high freq. inverter
- DC/DC converter
- Freewheeling diodes
- Reverse battery protection
- Car lighting

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	SS 32H	SS 33H	SS 34H	SS 35H	SS 36H	SS 39H	SS 310H	SS 315H	SS 320H	UNIT
Marking code on the device		SS 32	SS 33	SS 34	SS 35	SS 36	SS 39	SS 310	SS 315	SS 320	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	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			75						A
Critical rate of rise of off-state voltage	dV/dt	10,000									V/μs
Junction temperature	T_J	- 55 to +125			- 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	$R_{\Theta JA}$	55	°C/W

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SS32H SS33H SS34H	I_F = 3A, T_J = 25°C	V_F	-	0.50	V
	SS35H SS36H			-	0.75	V
	SS39H SS310H			-	0.85	V
	SS315H SS320H			-	0.95	V
	SS32H SS33H SS34H	I_F = 3A, T_J = 100°C		-	0.40	V
	SS35H SS36H			-	0.65	V
	SS39H SS310H			-	0.70	V
	SS315H SS320H			-	0.80	V
Reverse current @ rated V_R[2]	SS32H SS33H SS34H SS35H SS36H	T_J = 25°C	I_R	-	0.5	mA
	SS39H SS310H SS315H SS320H			-	0.1	mA
	SS32H SS33H SS34H	T_J = 100°C		-	10	mA
	SS35H SS36H			-	5	mA
	SS39H SS310H SS315H SS320H			-	-	mA
	SS32H SS33H SS34H	T_J = 125°C		-	-	mA
	SS35H SS36H			-	-	mA
	SS39H SS310H SS315H SS320H			-	0.5	mA

Notes:

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

ORDERING INFORMATION		
ORDERING CODE[1]	**PACKAGE**	**PACKING**
SS3xH	DO-214AB (SMC)	3,000 / Tape & Reel

Notes:

1. "x" defines voltage from 20V(SS32H) to 200V(SS320H)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

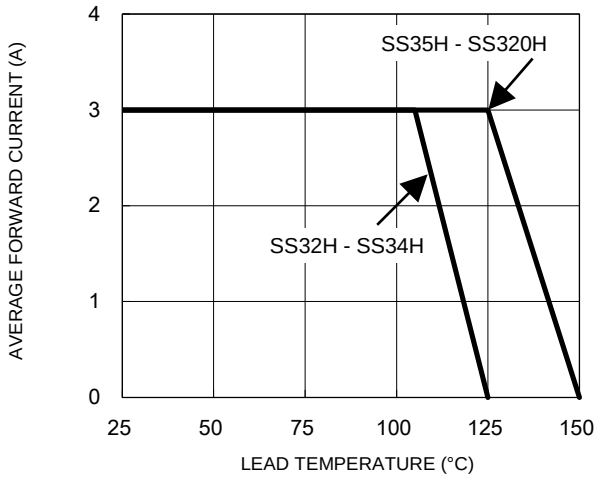


Fig.2 Typical Junction Capacitance

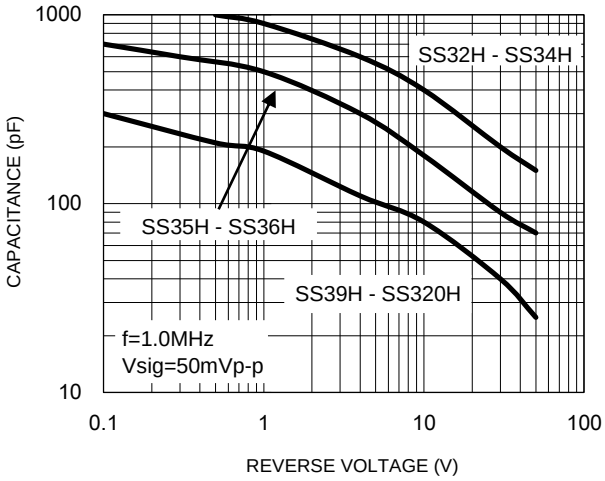


Fig.3 Typical Reverse Characteristics

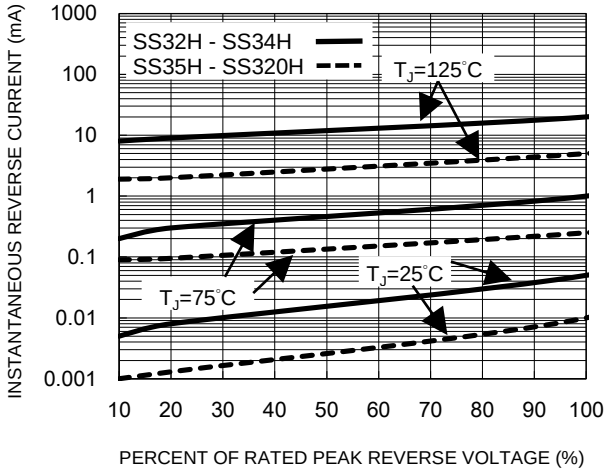


Fig.4 Typical Forward Characteristics

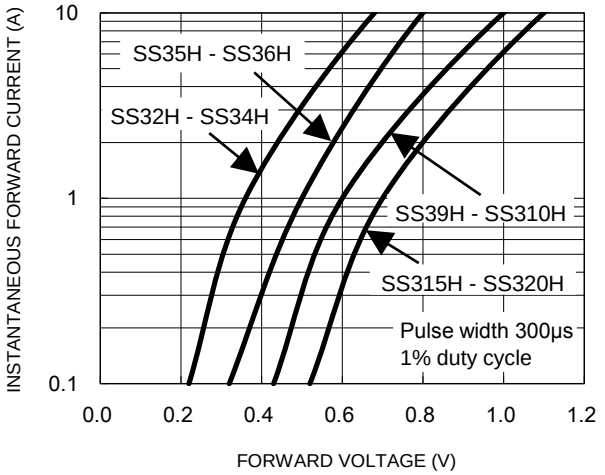
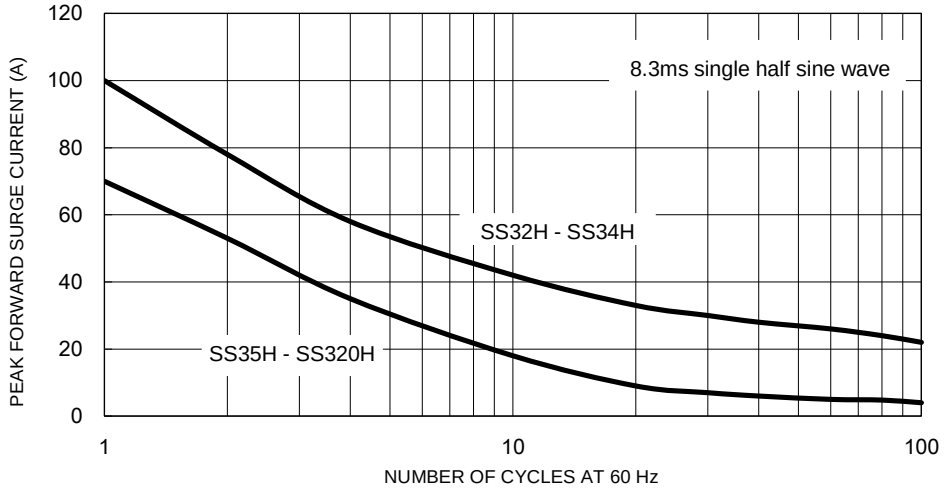


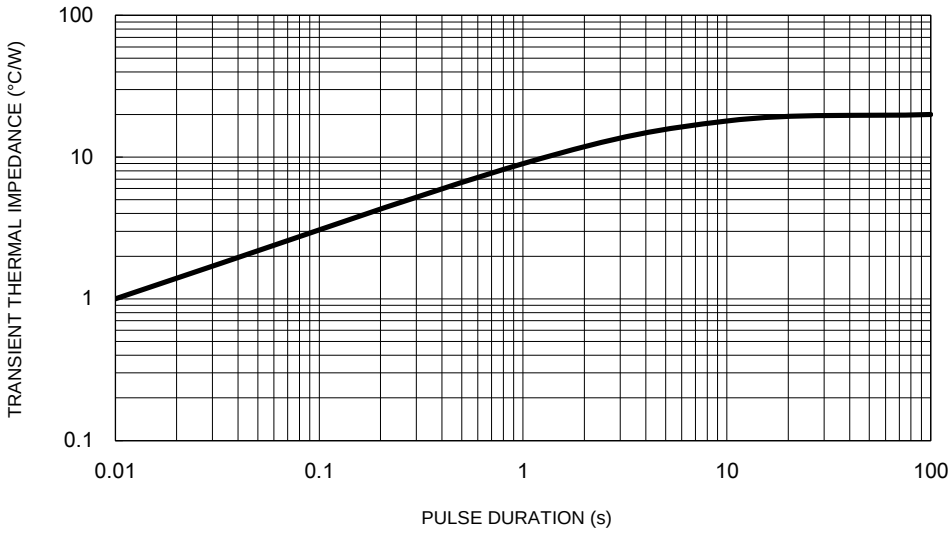
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

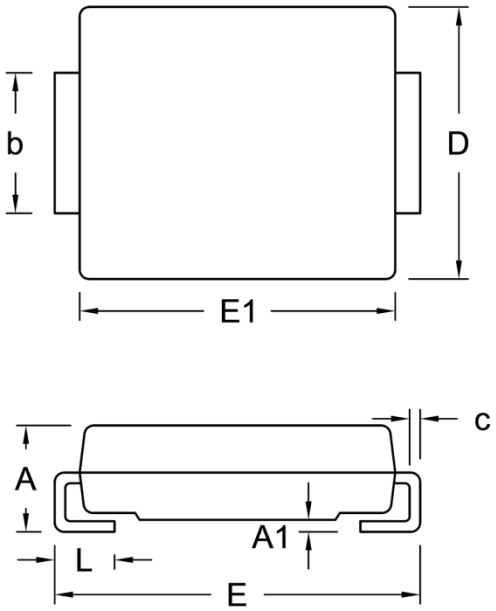
(T_A = 25°C unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



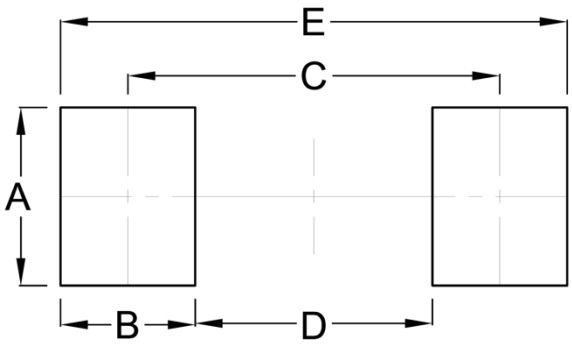
PACKAGE OUTLINE DIMENSIONS

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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