1A, 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	1	A
V_{RRM}	200	V
I_{FSM}	40	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	

APPLICATIONS

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

MECHANICAL DATA

- Case: DO-214AC (SMA)
- 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: 0.066g (approximately)

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AC (SMA)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**SS120H**	**UNIT**
Marking code on the device		SS120	
Repetitive peak reverse voltage	V_{RRM}	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	V
Forward current	I_F	1	A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	40	A
Critical rate of rise of off-state voltage	dV/dt	10,000	V/μs
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	$R_{\Theta JL}$	28	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	88	°C/W
Junction-to-case thermal resistance	$R_{\Theta JC}$	30	°C/W

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage(1)	I_F = 1A, T_J = 25°C	V_F	0.82	0.95	V
	I_F = 1A, T_J = 125°C		0.65	0.85	V
Reverse current @ rated V_R(2)	T_J = 25°C	I_R	-	0.1	mA
	T_J = 125°C		-	2.0	mA
Junction capacitance	1MHz, V_R = 4.0V	C_J	31	-	pF

Notes:

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

ORDERING INFORMATION

ORDERING CODE	PACKAGE	PACKING
SS120H	DO-214AC (SMA)	7,500 / Tape & Reel

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

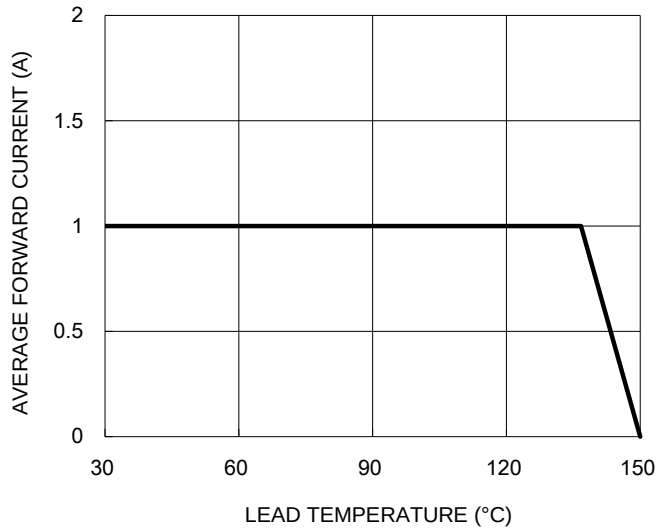


Fig.2 Typical Junction Capacitance

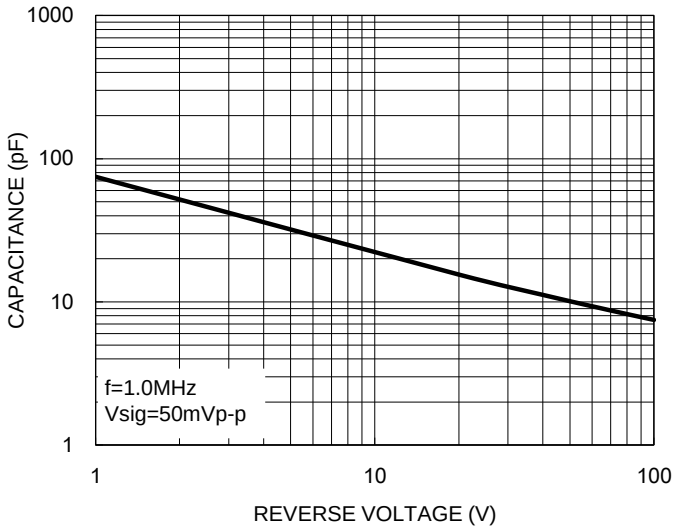


Fig.3 Typical Reverse Characteristics

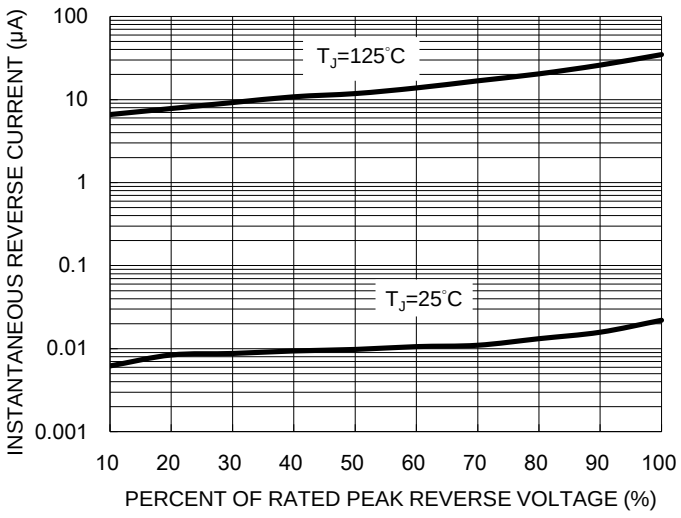
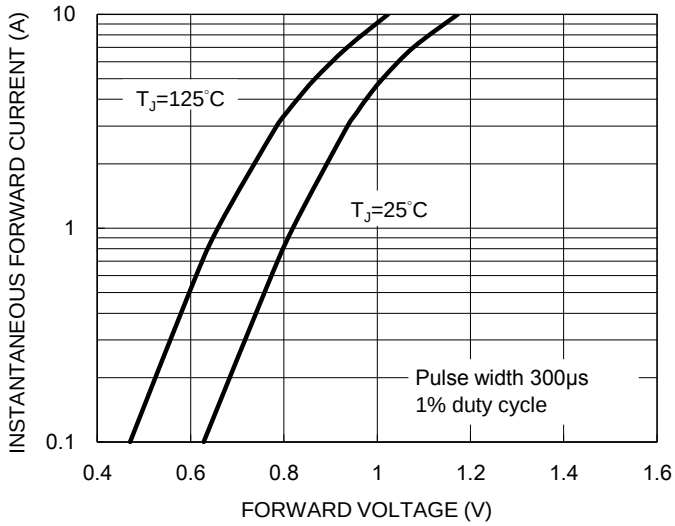
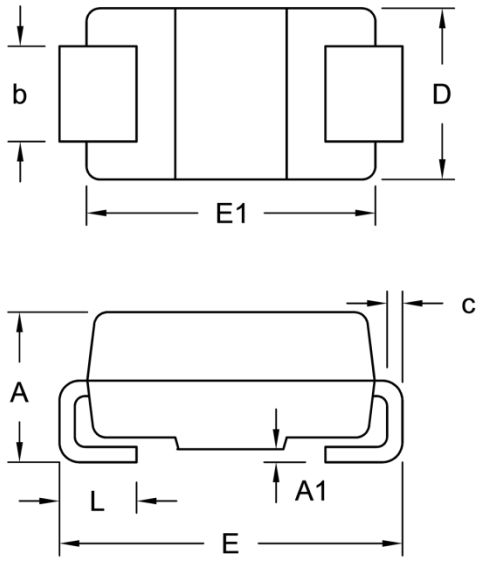


Fig.4 Typical Forward Characteristics



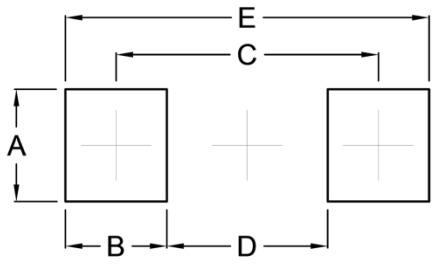
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.99	2.50	0.078	0.098
A1	0.10	0.20	0.004	0.008
b	1.27	1.58	0.050	0.062
c	0.15	0.31	0.006	0.012
D	2.29	2.83	0.090	0.111
E	4.95	5.33	0.195	0.210
E1	4.06	4.60	0.160	0.181
L	0.90	1.41	0.035	0.056

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM

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

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