

## Surface Mount Schottky Barrier Rectifier

### FEATURES

- AEC-Q101 qualified
- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage protection
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	1	A
$V_{RRM}$	30	V
$I_{FSM}$	50	A
$T_{JMAX}$	125	°C
Package	DO-214AA (SMB)	
Configuration	Single Die	

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Monitor
- TV



**DO-214AA (SMB)**

### MECHANICAL DATA

- Case: DO-214AA (SMB)
- 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: As marked
- Weight: 0.093 g (approximately)

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	SKL13B	UNIT
Marking code on the device		SKL13B	
Repetitive peak reverse voltage	$V_{RRM}$	30	V
Reverse voltage, total rms value	$V_{R(RMS)}$	21	V
Maximum DC blocking voltage	$V_{DC}$	30	V
Forward current	$I_{F(AV)}$	1	A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	50	A
Junction temperature	$T_J$	- 55 to +125	°C
Storage temperature	$T_{STG}$	- 55 to +150	°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP.</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	30	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	85	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.39	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	0.20	mA
	$T_J = 100^\circ\text{C}$		-	50	mA

**Notes:**

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

<b>ORDERING INFORMATION</b>		
<b>ORDERING CODE</b> (Note 1 ,2)	<b>PACKAGE</b>	<b>PACKING</b>
SKL13BHR5G	SMB	850 / 7" Plastic reel
SKL13BHR4G	SMB	3,000 / 13" Paper reel
SKL13BHM4G	SMB	3,000 / 13" Plastic reel
SKL13BHR5	SMB	850 / 7" Plastic reel
SKL13BHR4	SMB	3,000 / 13" Paper reel
SKL13BHM4	SMB	3,000 / 13" Plastic reel
SKL13B R5G	SMB	850 / 7" Plastic reel
SKL13B R4G	SMB	3,000 / 13" Paper reel
SKL13B M4G	SMB	3,000 / 13" Plastic reel
SKL13B R5	SMB	850 / 7" Plastic reel
SKL13B R4	SMB	3,000 / 13" Paper reel
SKL13B M4	SMB	3,000 / 13" Plastic reel

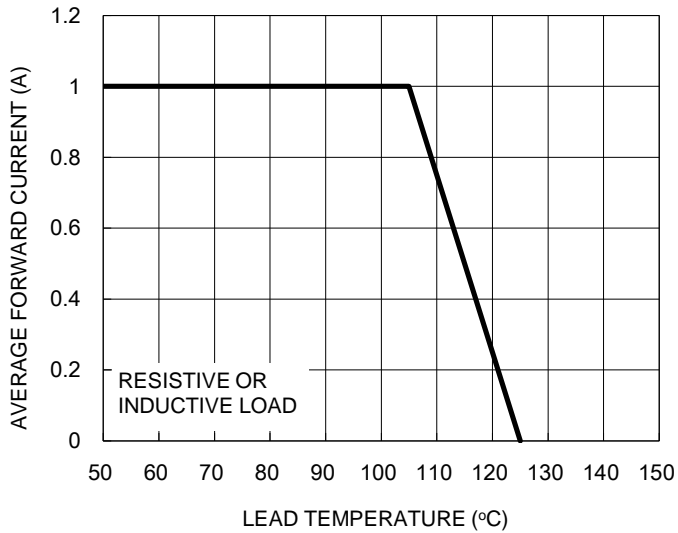
**Note:**

1. "H" means AEC-Q101 qualified.
2. "G" means green compound

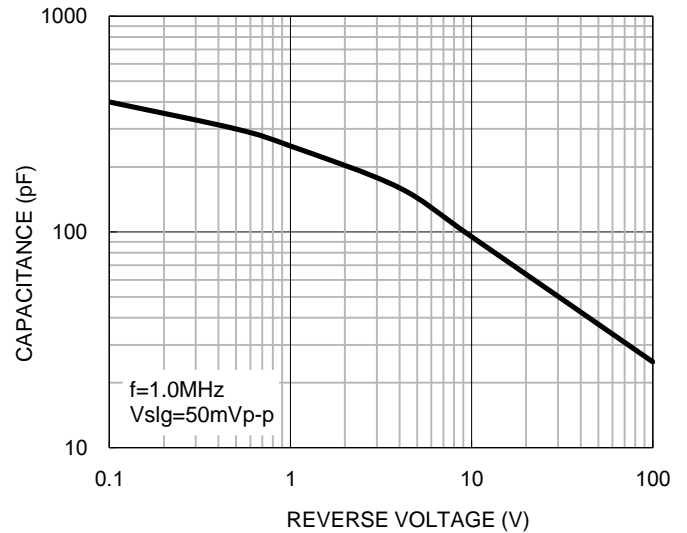
**CHARACTERISTICS CURVES**

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

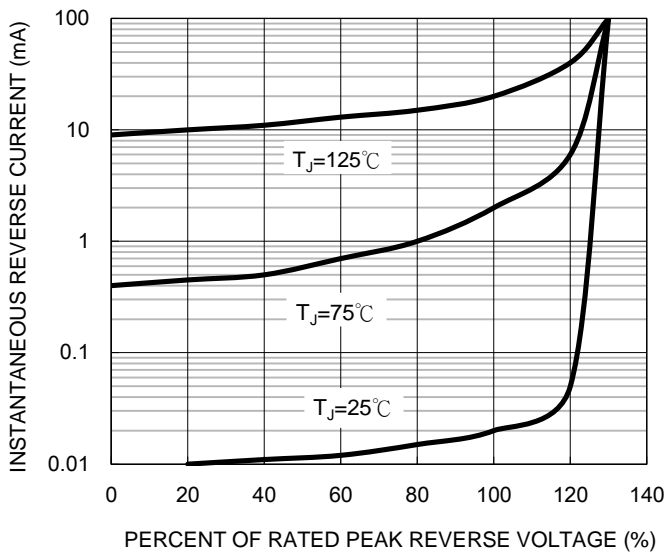
**Fig1. Forward Current Derating Curve**



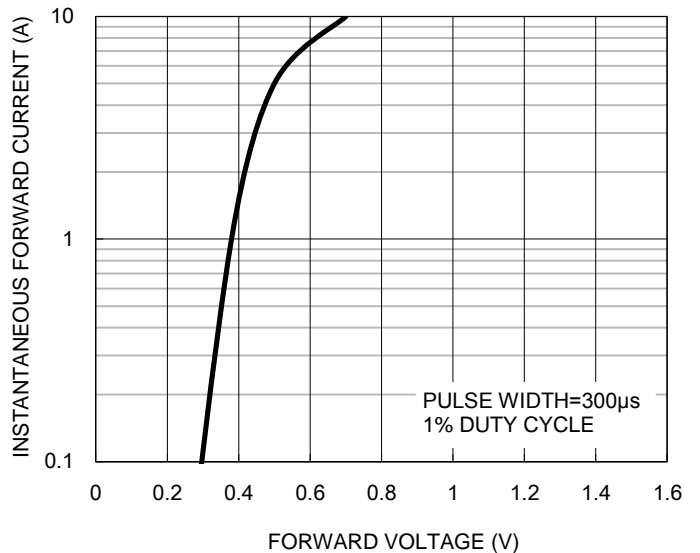
**Fig2. Typical Junction Capacitance**



**Fig3. Typical Reverse Characteristics**



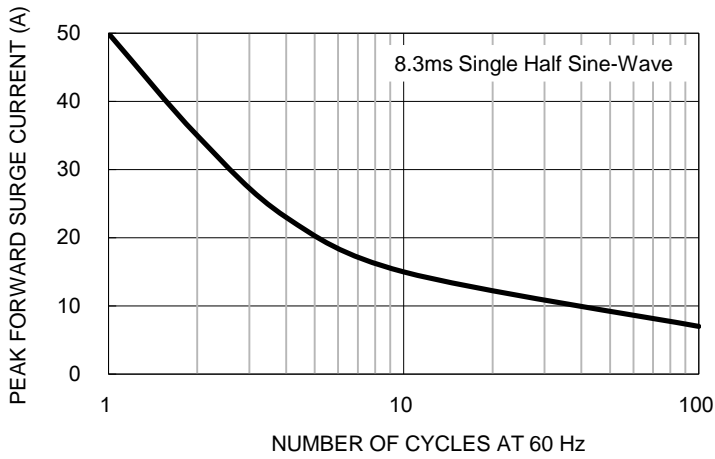
**Fig4. Typical Forward Characteristics**



**CHARACTERISTICS CURVES**

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

**Fig5. Maximum Non-repetitive Forward Surge Current**



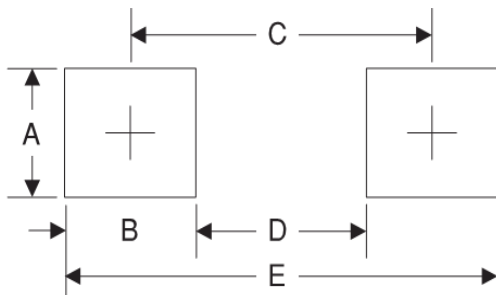
**PACKAGE OUTLINE DIMENSIONS**

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.20	0.077	0.087
B	4.05	4.60	0.159	0.181
C	3.30	3.95	0.130	0.156
D	1.95	2.65	0.077	0.104
E	0.75	1.60	0.030	0.063
F	5.10	5.60	0.201	0.220
G	0.05	0.20	0.002	0.008
H	0.15	0.31	0.006	0.012

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	2.3	0.091
B	2.5	0.098
C	4.3	0.169
D	1.8	0.071
E	6.8	0.268

**MARKING DIAGRAM**



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

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