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
$T_{J\ MAX}$	125	°C
Package	DO-214AA (SMB)	
Configuration	Single Die	

APPLICATIONS

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

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)

Pb-Free RoHS COMPLIANT

DO-214AA (SMB)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°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

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP.	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	30	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	85	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode (1)	I_F =1A, T_J = 25°C	V_F	-	0.39	V
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	0.20	mA
	T_J = 100°C		-	50	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE (Note 1 ,2)	PACKAGE	PACKING
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°C unless otherwise noted)

Fig1. Forward Current Derating Curve

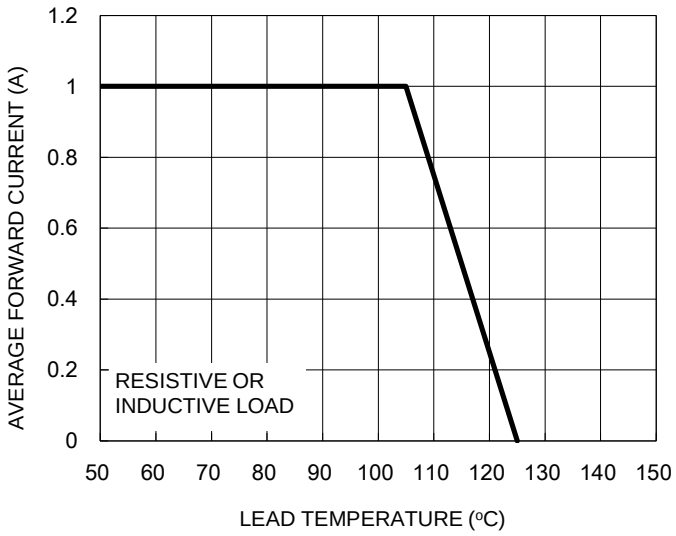


Fig2. Typical Junction Capacitance

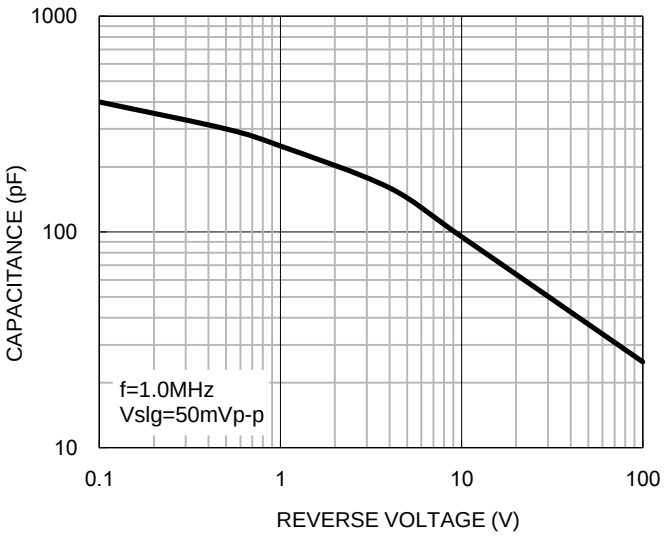


Fig3. Typical Reverse Characteristics

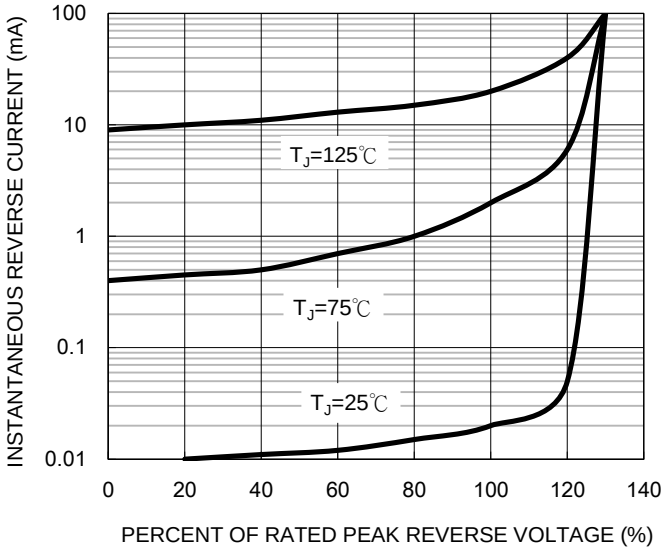
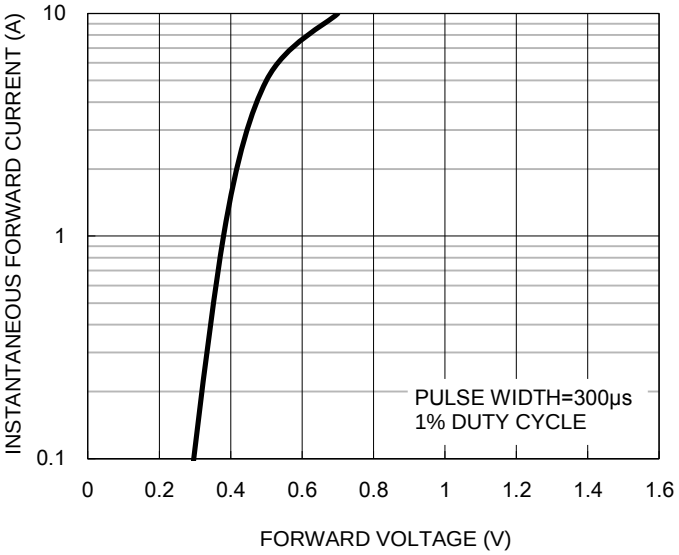


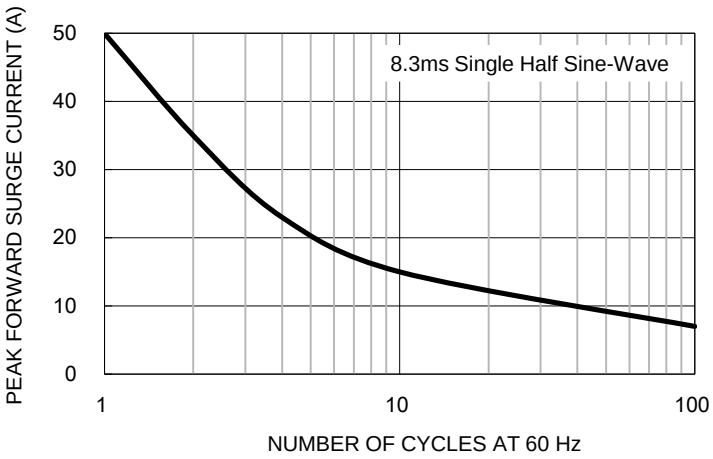
Fig4. Typical Forward Characteristics



CHARACTERISTICS CURVES

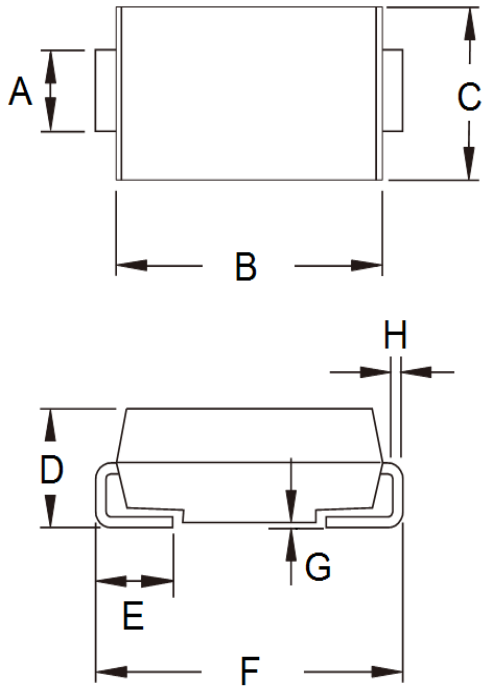
(T_A = 25°C unless otherwise noted)

Fig5. Maximum Non-repetitive Forward Surge Current



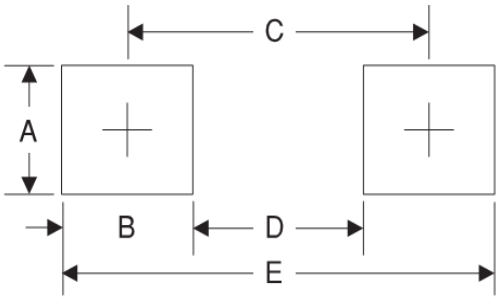
PACKAGE OUTLINE DIMENSIONS

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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