

## Surface Mount Schottky Barrier Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guardring for overvoltage 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 definition



**DO-214AA (SMB)**

### MECHANICAL DATA

**Case:** DO-214AA (SMB)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

**Polarity:** Indicated by cathode band

**Weight:** 0.1 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)												
PARAMETER	SYMBOL	SK 32B	SK 33B	SK 34B	SK 35B	SK 36B	SK 39B	SK 310B	SK 315B	SK 320B	Unit	
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	90	100	150	200	V	
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	63	70	105	140	V	
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	90	100	150	200	V	
Maximum average forward rectified current	I <sub>F(AV)</sub>	3									A	
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	70									A	
Maximum instantaneous forward voltage (Note 1) @ 3 A	V <sub>F</sub>	0.5			0.75		0.85		0.95		V	
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =100 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	0.5					0.1					mA
		10			5		-					
		-			-		2					
Voltage Rate of Change (Rated V <sub>R</sub> )	dV/dt	10000									V/μs	
Typical thermal resistance	R <sub>θJL</sub>	23									°C/W	
	R <sub>θJA</sub>	63										
Operating junction temperature range	T <sub>J</sub>	- 55 to +125				- 55 to +150						°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150									°C	

Note 1: Pulse test with PW=300μs, 1% duty cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
SK3xxB (Note 1)	Prefix "H"	R5	Suffix "G"	SMB	850 / 7" Plastic reel
		R4		SMB	3,000 / 13" Paper reel
		M4		SMB	3,000 / 13" Plastic reel

Note 1: "xx" defines voltage from 20V (SK32B) to 200V (SK320B)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
SK36B R5	SK36B		R5		
SK36B R5G	SK36B		R5	G	Green compound
SK36BHR5	SK36B	H	R5		AEC-Q101 qualified

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG. 1 FORWARD CURRENT DERATING CURVE

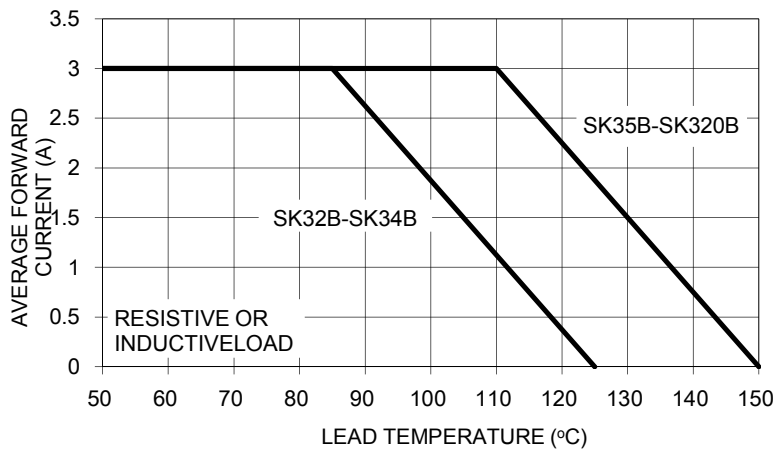


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

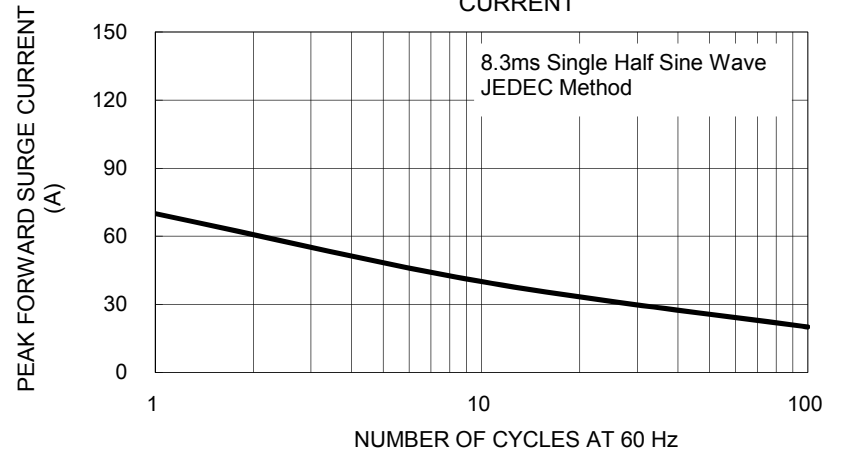


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

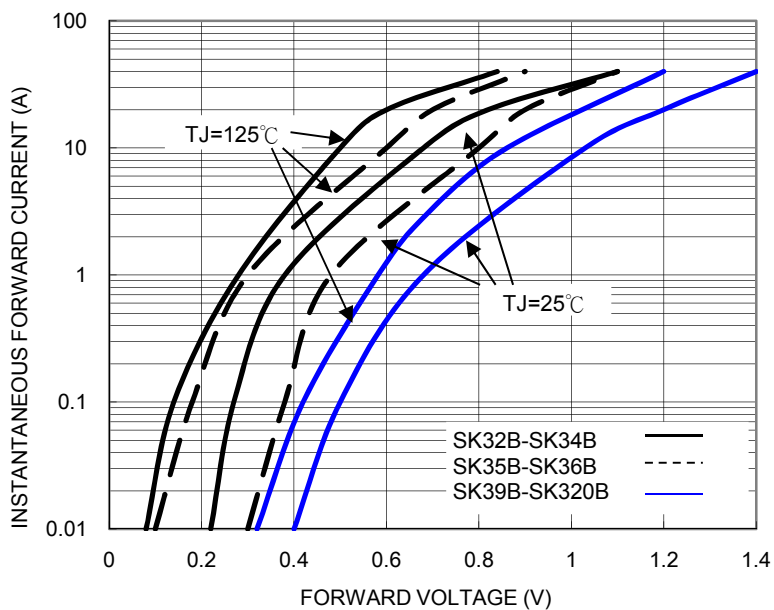


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

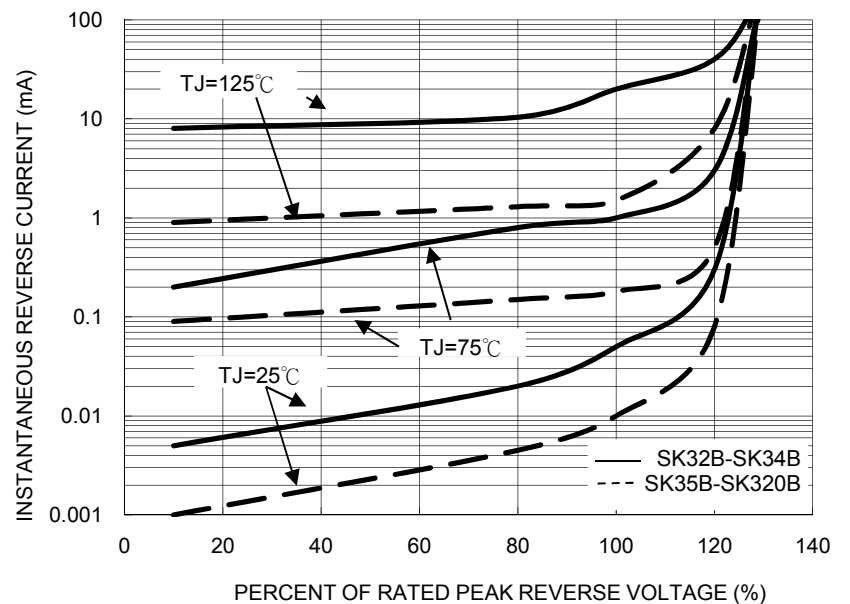


FIG. 5 TYPICAL JUNCTION CAPACITANCE

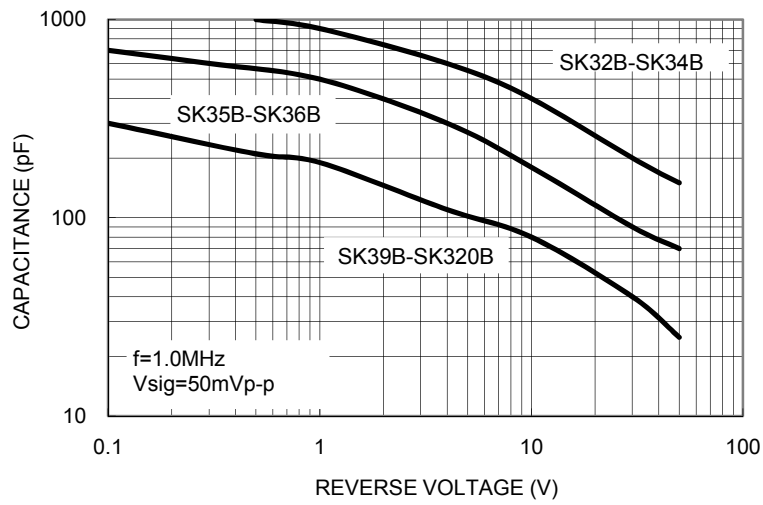
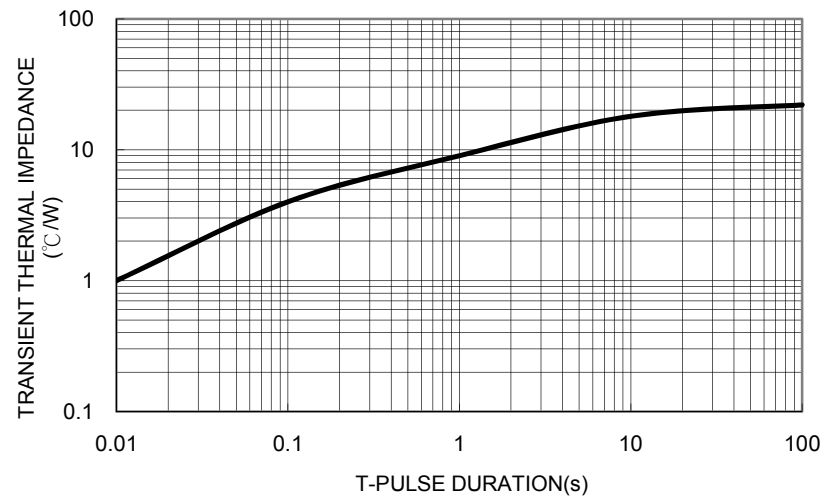
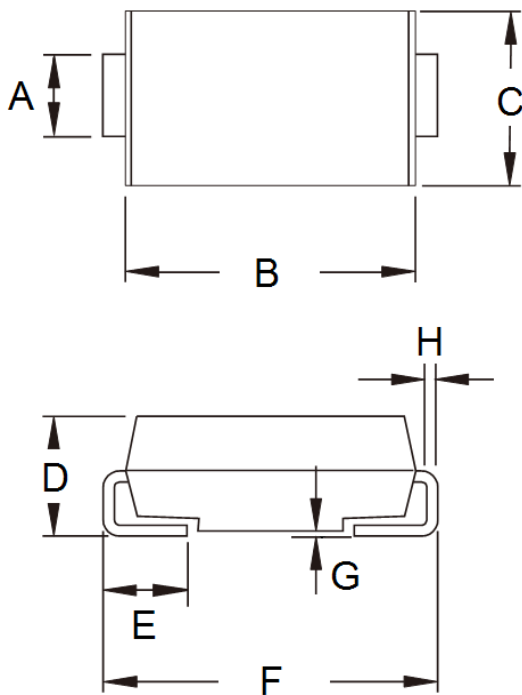


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE

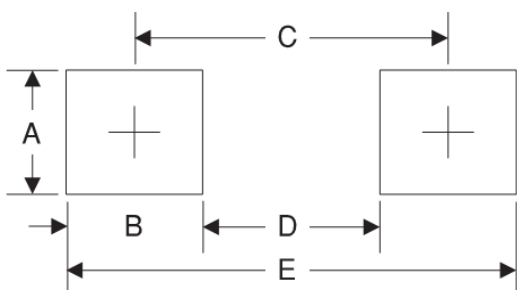


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.10	0.077	0.083
B	4.25	4.75	0.167	0.187
C	3.48	3.73	0.137	0.147
D	1.99	2.61	0.078	0.103
E	0.90	1.41	0.035	0.056
F	5.10	5.30	0.201	0.209
G	0.10	0.20	0.004	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 = Specific Device Code
- G = Green Compound
- YW = Date Code
- F = Factory Code

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