

## 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-214AB (SMC)**



### MECHANICAL DATA

**Case:** DO-214AB (SMC)

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:** 0.21 g (approximately)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOL	SK 82C	SK 83C	SK 84C	SK 85C	SK 86C	SK 810C	Unit
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	20	30	40	50	60	100	V
Maximum RMS voltage	V <sub>RMS</sub>	14	21	28	35	42	70	V
Maximum DC blocking voltage	V <sub>DC</sub>	20	30	40	50	60	100	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	8						A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	150						A
Maximum instantaneous forward voltage (Note 1) I <sub>F</sub> = 8 A	V <sub>F</sub>	0.55			0.75		0.90	V
Maximum reverse current @ rated VR    T <sub>J</sub> =25 °C T <sub>J</sub> =100°C	I <sub>R</sub>	0.5						mA
		15			10			
Voltage rate of change (Rated V <sub>R</sub> )	dV/dt	10000						V/μs
Typical thermal resistance	R <sub>θJA</sub>	20						°C/W
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  $PW=300\mu\text{s}$ , 1% duty cycle

ORDERING INFORMATION					
PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
SK8xxC (Note 1)	Prefix "H"	R7	Suffix "G"	SMC	850 / 7" Plastic reel
		R6		SMC	3,000 / 13" Paper reel
		M6		SMC	3,000 / 13" Plastic reel

Note 1: "xx" defines voltage from 20V (SK82C) to 100V (SK810C)

EXAMPLE					
PREFERRED P/N	PART NO.	AEC-Q101 QUALIFIED	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
SK86C R7	SK86C		R7		
SK86C R7G	SK86C		R7	G	Green compound
SK86CHR7	SK86C	H	R7		AEC-Q101 qualified

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

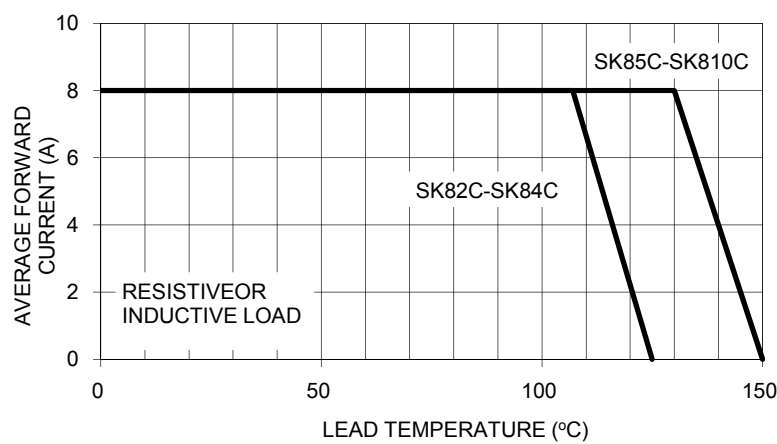


FIG. 2- MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

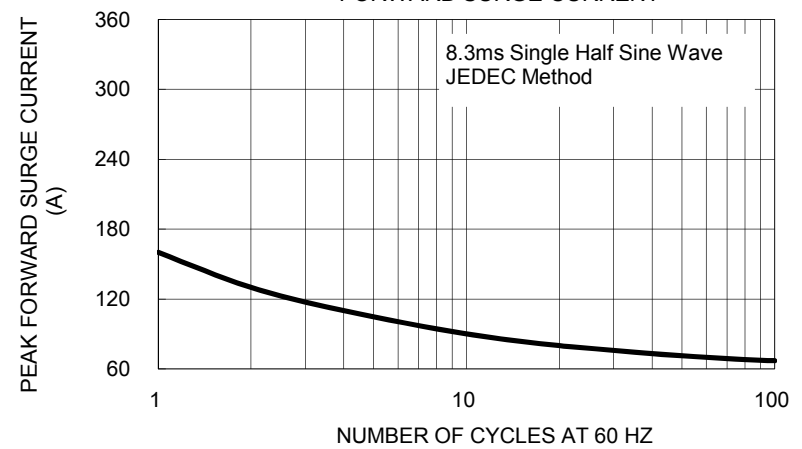


FIG. 3- TYPICAL FORWARD CHARACTERISTICS

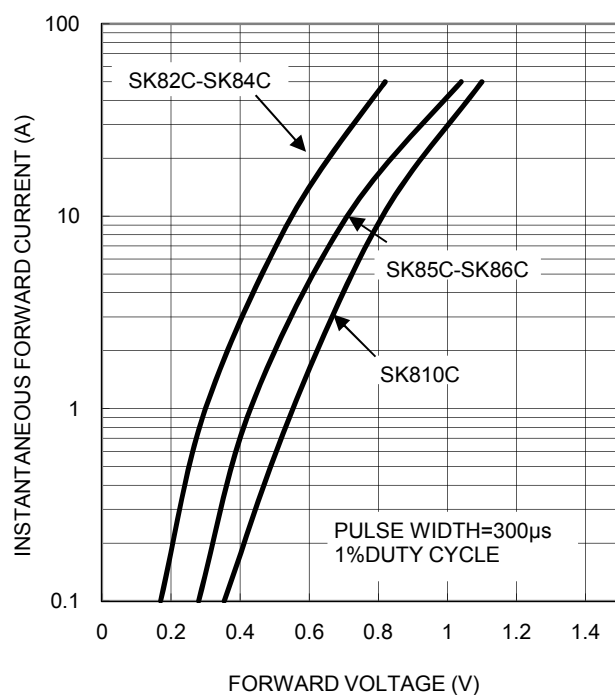


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

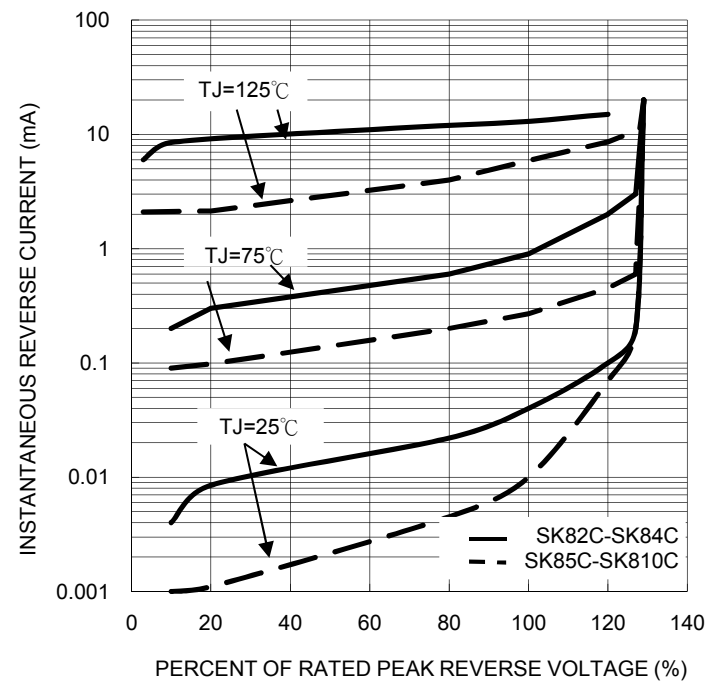


FIG. 5- TYPICAL JUNCTION CAPACITANCE

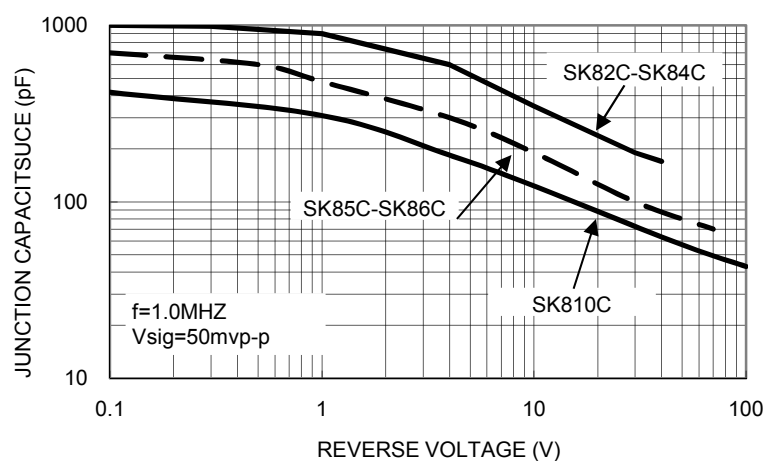
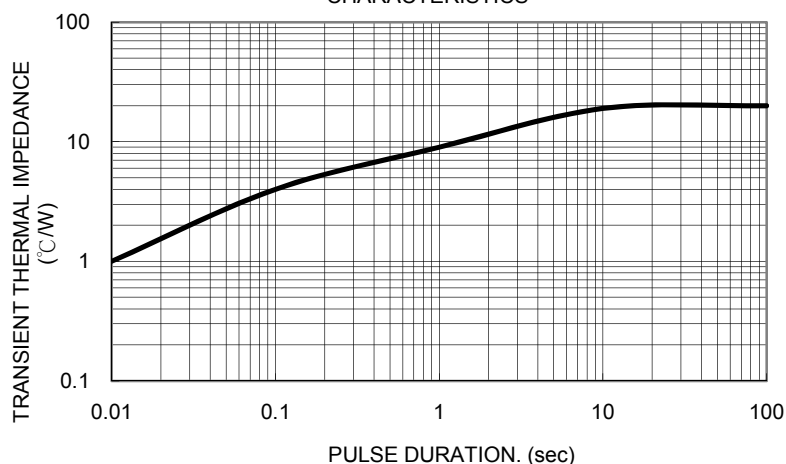
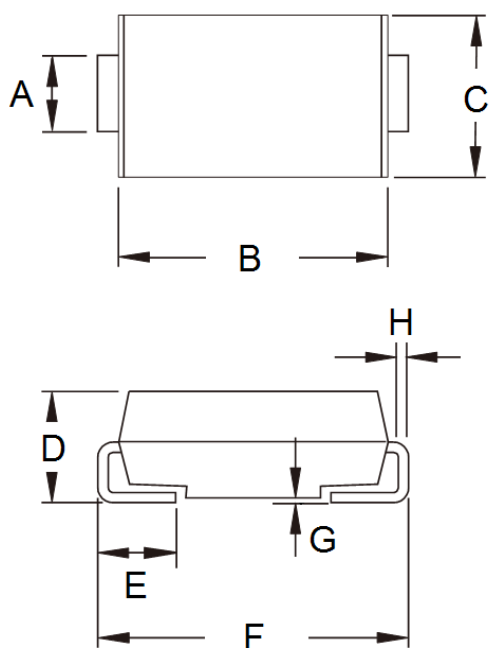


FIG. 6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS

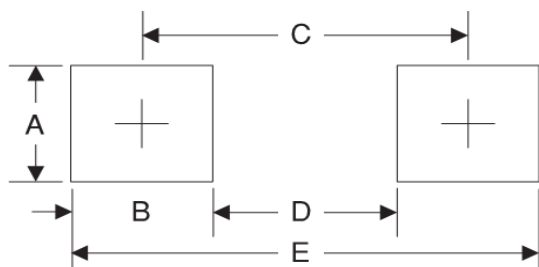


## PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.90	3.20	0.114	0.126
B	6.60	7.11	0.260	0.280
C	5.59	6.22	0.220	0.245
D	2.00	2.62	0.079	0.103
E	1.00	1.60	0.039	0.063
F	7.75	8.13	0.305	0.320
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	3.3	0.130
B	2.5	0.098
C	6.8	0.268
D	4.4	0.173
E	9.4	0.370

## MARKING DIAGRAM



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

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