

## 8A, 20V - 100V Schottky Barrier Surface Mount Rectifier

### FEATURES

- 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

### APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application
- Converter

### MECHANICAL DATA

- Case: DO-214AB (SMC)
- 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: 0.210g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_F$	8	A
$V_{RRM}$	20 - 100	V
$I_{FSM}$	150	A
$T_{J\ MAX}$	125, 150	°C
Package	DO-214AB (SMC)	
Configuration	Single die	



**DO-214AB (SMC)**



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)								
PARAMETER	SYMBOL	SK 82C	SK 83C	SK 84C	SK 85C	SK 86C	SK 810C	UNIT
Marking code on the device		SK 82C	SK 83C	SK 84C	SK 85C	SK 86C	SK 810C	
Repetitive peak reverse voltage	$V_{RRM}$	20	30	40	50	60	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	70	V
Forward current	$I_F$	8						A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	150						A
Critical rate of rise of off-state voltage	dV/dt	10,000						V/ $\mu\text{s}$
Junction temperature	$T_J$	- 55 to +125			- 55 to +150			°C
Storage temperature	$T_{STG}$	- 55 to +150						°C

<b>THERMAL PERFORMANCE</b>			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	20	$^{\circ}C/W$

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^{\circ}C$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	SK82C SK83C SK84C	$I_F = 8A, T_J = 25^{\circ}C$	$V_F$	-	0.55	V
	SK85C SK86C			-	0.75	V
	SK810C			-	0.90	V
Reverse current @ rated $V_R$ <sup>(2)</sup>		$T_J = 25^{\circ}C$	$I_R$	-	0.5	mA
Reverse current @ rated $V_R$ <sup>(2)</sup>	SK82C SK83C SK84C	$T_J = 100^{\circ}C$	$I_R$	-	15	mA
	SK85C SK86C SK810C			-	10	mA

**Notes:**

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

<b>ORDERING INFORMATION</b>		
ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
SK8xC	DO-214AB (SMC)	3,000 / Tape & Reel

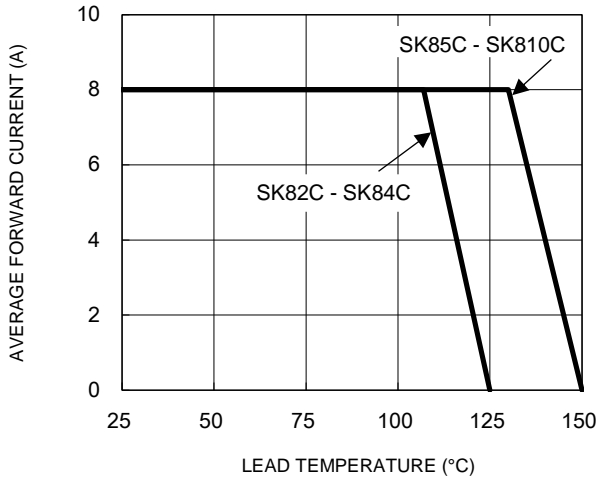
**Notes:**

1. "x" defines voltage from 20V(SK82C) to 100V(SK810C)

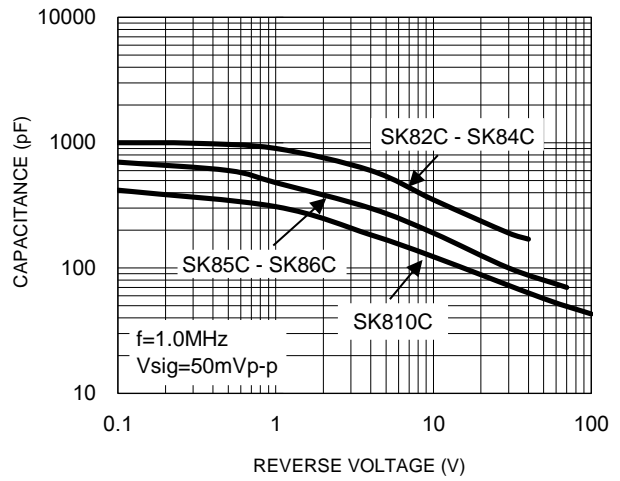
**CHARACTERISTICS CURVES**

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

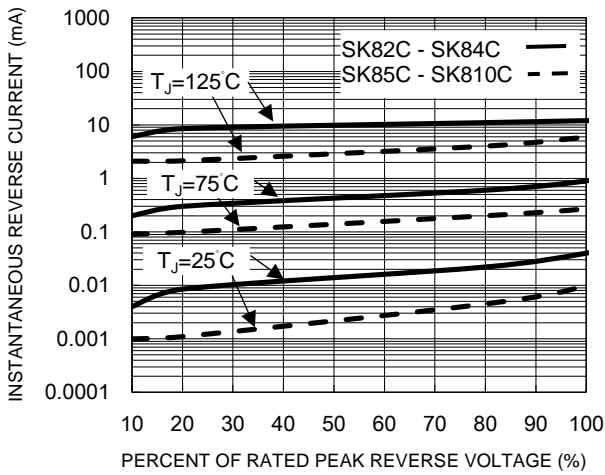
**Fig.1 Forward Current Derating Curve**



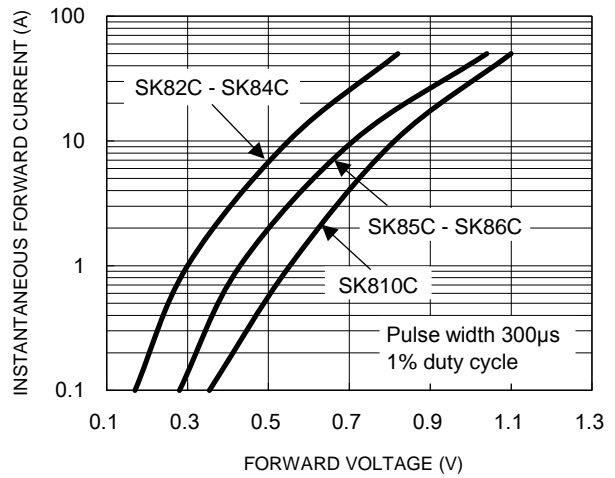
**Fig.2 Typical Junction Capacitance**



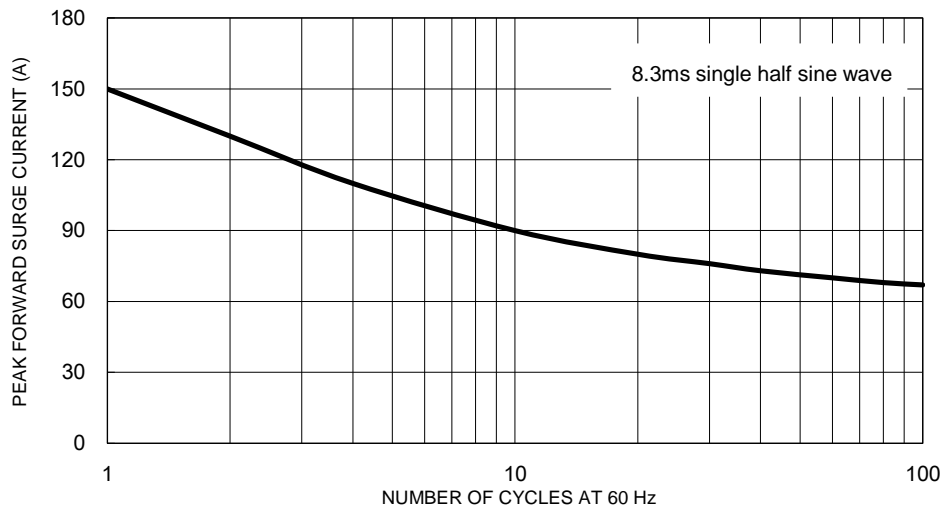
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Forward Characteristics**



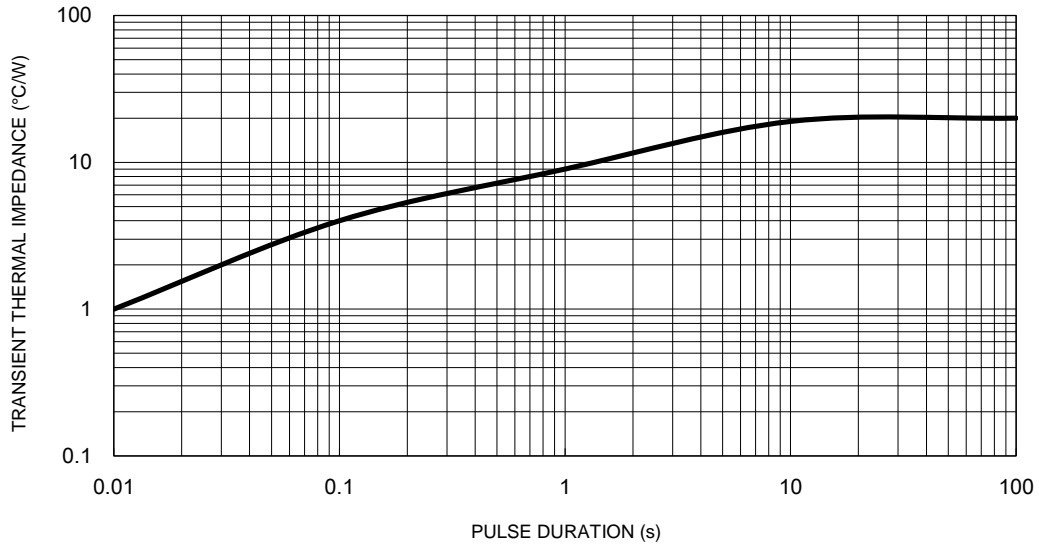
**Fig.5 Maximum Non-Repetitive Forward Surge Current**



**CHARACTERISTICS CURVES**

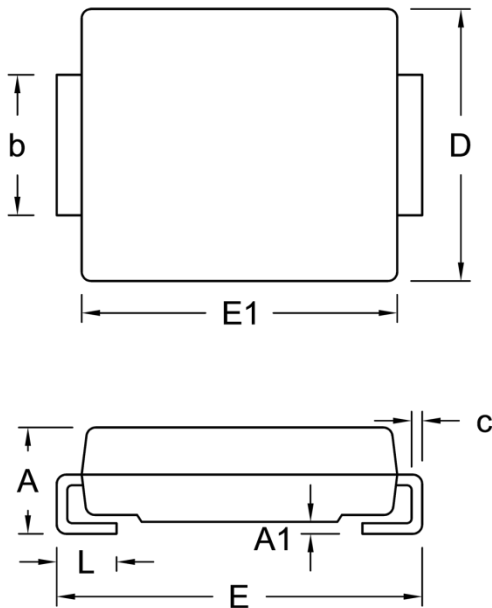
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig.6 Typical Transient Thermal Characteristics**



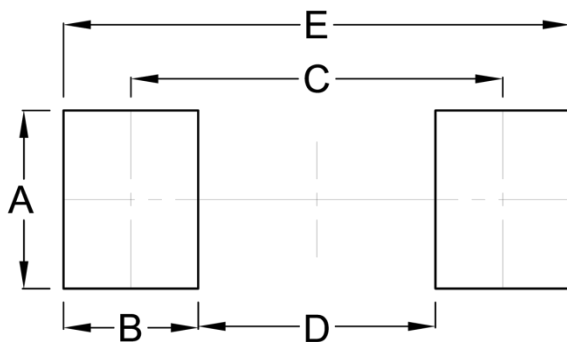
**PACKAGE OUTLINE DIMENSIONS**

DO-214AB (SMC)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.00	2.62	0.079	0.103
A1	0.10	0.20	0.004	0.008
b	2.90	3.20	0.114	0.126
c	0.15	0.31	0.006	0.012
D	5.59	6.22	0.220	0.245
E	7.75	8.13	0.305	0.320
E1	6.60	7.11	0.260	0.280
L	1.00	1.60	0.039	0.063

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	3.30	0.130
B	2.50	0.098
C	6.90	0.272
D	4.40	0.173
E	9.40	0.370

**MARKING DIAGRAM**



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

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