

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/ μs
Junction temperature	T_J	- 55 to +125			- 55 to +150			°C
Storage temperature	T_{STG}	- 55 to +150						°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	20	°C/W

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

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	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

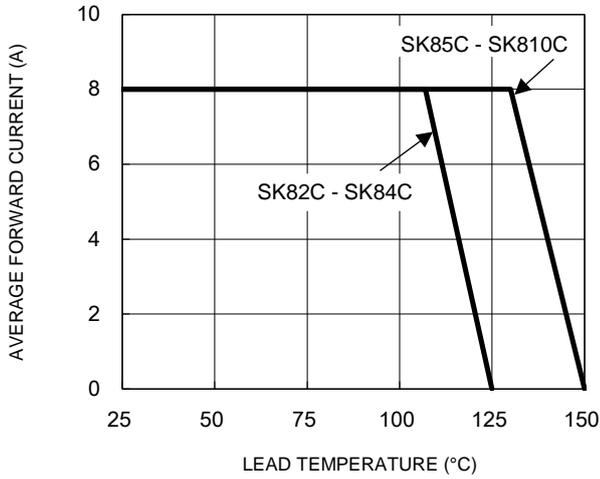


Fig.2 Typical Junction Capacitance

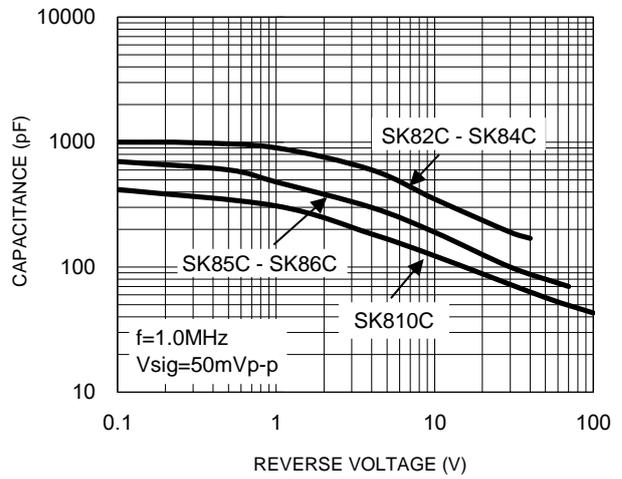


Fig.3 Typical Reverse Characteristics

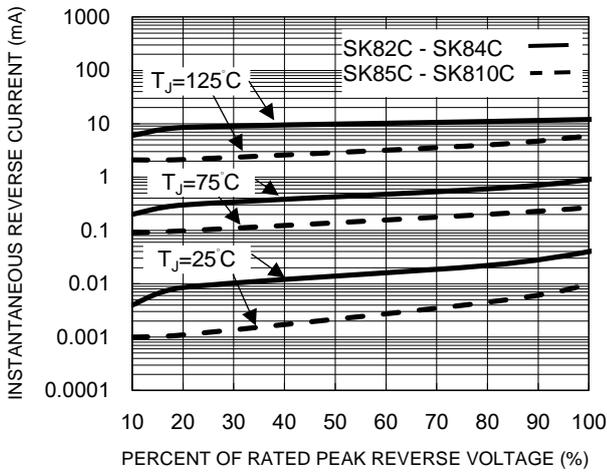


Fig.4 Typical Forward Characteristics

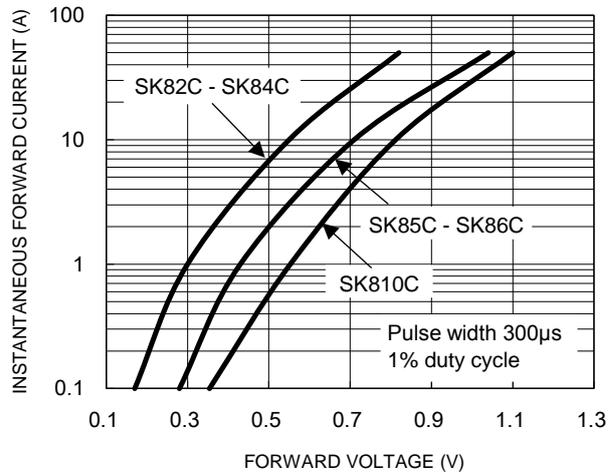


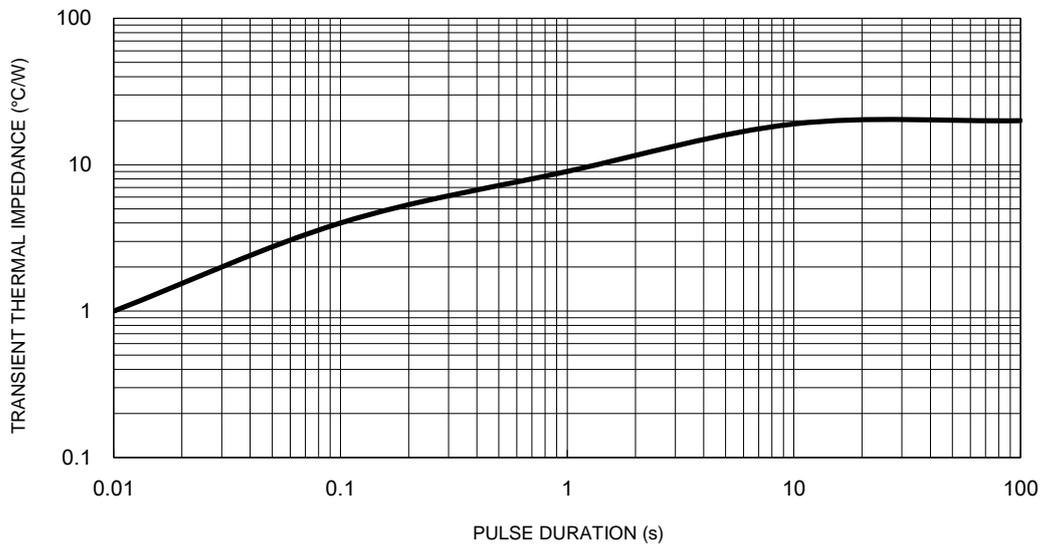
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

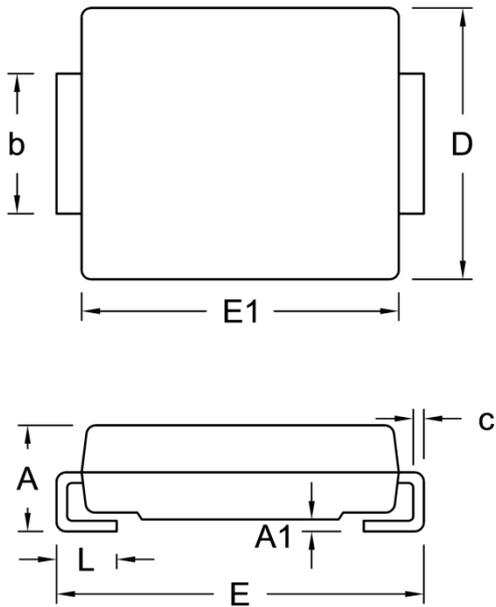
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



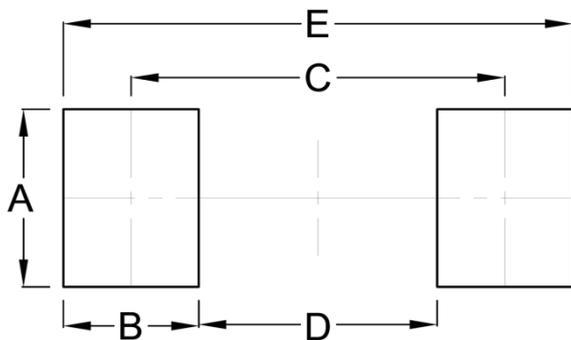
PACKAGE OUTLINE DIMENSIONS

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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