3A, 20V - 200V Schottky Barrier Surface Mount Rectifier

FEATURES

- 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
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

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

MECHANICAL DATA

- Case: DO-214AC (SMA)
- 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: 0.070g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
I_F	3	A
V_{RRM}	20 - 200	V
I_{FSM}	70	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	
Configuration	Single die	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AC (SMA)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	SK 32A	SK 33A	SK 34A	SK 35A	SK 36A	SK 39A	SK 310A	SK 315A	SK 320A	UNIT
Marking code on the device		SK 32A	SK 33A	SK 34A	SK 35A	SK 36A	SK 39A	SK 310A	SK 315A	SK 320A	
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	90	100	150	200	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	63	70	105	140	V
Forward current	I_F	3									A
Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	70									A
Critical rate of rise of off-state voltage	dV/dt	10,000									V/μs
Junction temperature	T_J	- 55 to +150									°C
Storage temperature	T_{STG}	- 55 to +150									°C

THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\Theta JL}$	25	°C/W
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	66	°C/W

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

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage[1]	SK32A SK33A SK34A	I_F = 3A, T_J = 25°C	V_F	-	0.55	V
	SK35A SK36A			-	0.72	V
	SK39A SK310A			-	0.85	V
	SK315A SK320A			-	0.95	V
Reverse current @ rated V_R[2]	SK32A SK33A SK34A	T_J = 25°C	I_R	-	0.5	mA
	SK35A SK36A			-	0.2	mA
	SK39A SK310A SK315A SK320A			-	0.1	mA
Reverse current @ rated V_R[2]	SK32A SK33A SK34A	T_J = 100°C	I_R	-	10	mA
	SK35A SK36A			-	5	mA
	SK39A SK310A SK315A SK320A			-	-	mA
Reverse current @ rated V_R[2]	SK32A SK33A SK34A	T_J = 125°C	I_R	-	-	mA
	SK35A SK36A			-	10	mA
	SK39A SK310A SK315A SK320A			-	0.5	mA

Notes:

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

ORDERING INFORMATION

ORDERING CODE[1]	PACKAGE	PACKING
SK3xA	DO-214AC (SMA)	7,500 / Tape & Reel

Notes:

1. “x” defines voltage from 20V(SK32A) to 200V(SK320A)

CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 Forward Current Derating Curve

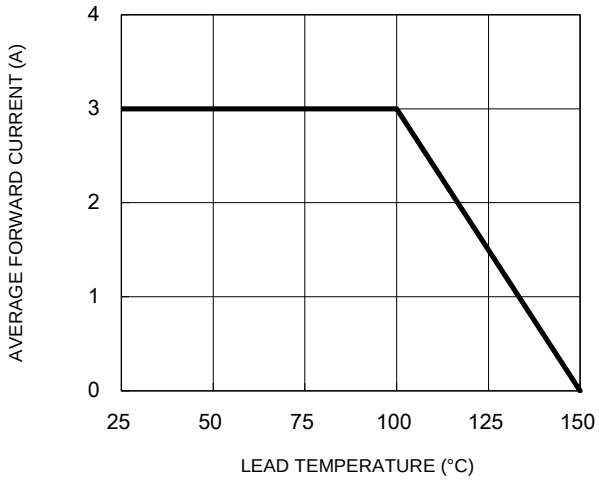


Fig.2 Typical Junction Capacitance

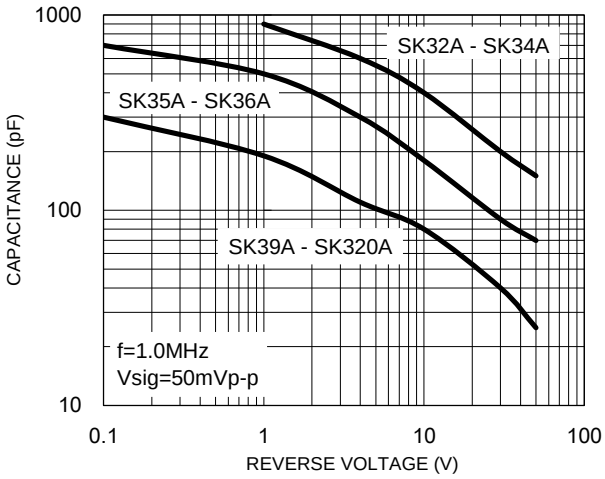


Fig.3 Typical Reverse Characteristics

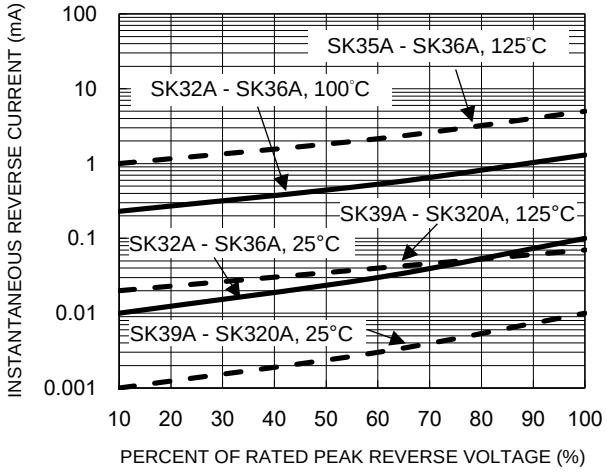


Fig.4 Typical Forward Characteristics

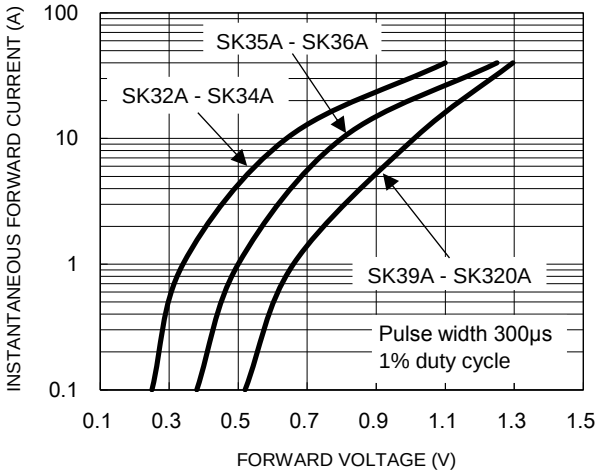
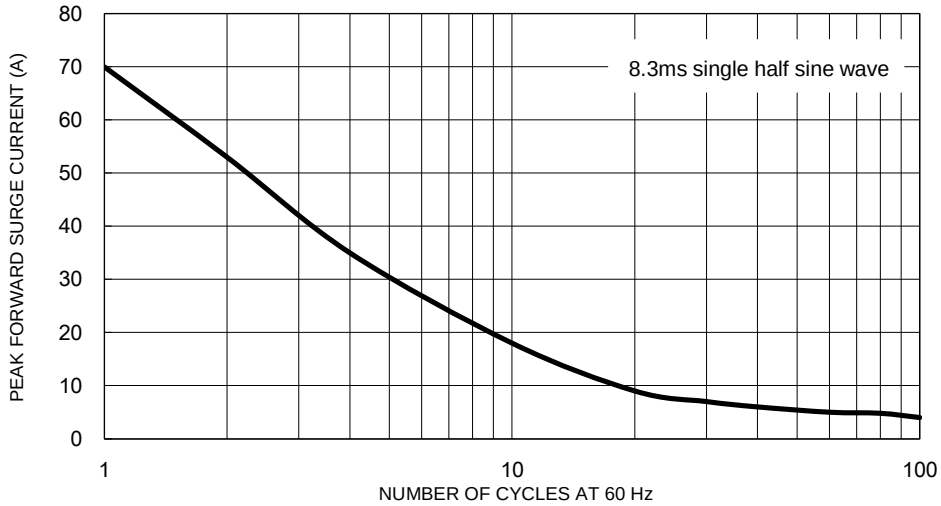


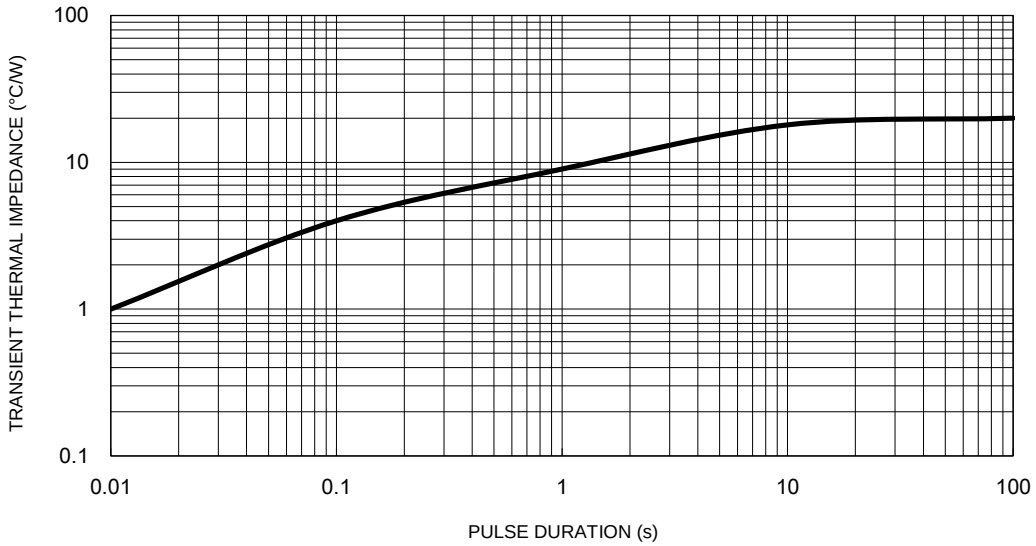
Fig.5 Maximum Non-Repetitive Forward Surge Current



CHARACTERISTICS CURVES

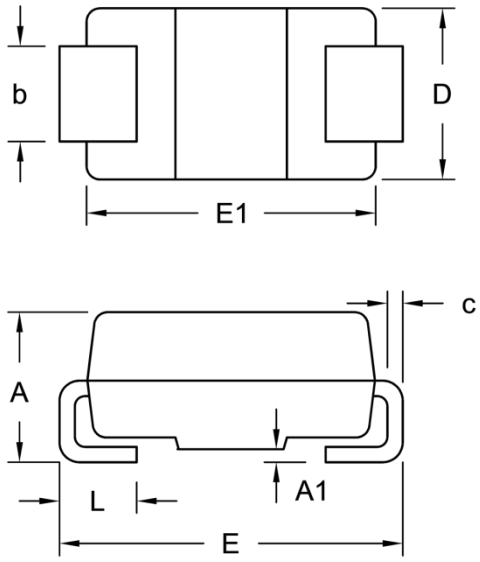
(T_A = 25°C unless otherwise noted)

Fig.6 Typical Transient Thermal Characteristics



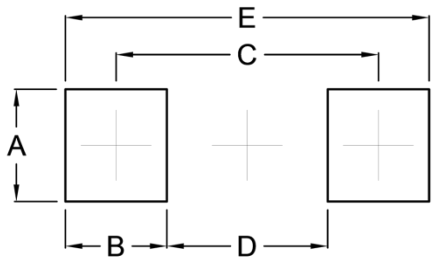
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.99	2.50	0.078	0.098
A1	0.10	0.20	0.004	0.008
b	1.27	1.58	0.050	0.062
c	0.15	0.31	0.006	0.012
D	2.29	2.83	0.090	0.111
E	4.95	5.33	0.195	0.210
E1	4.06	4.60	0.160	0.181
L	0.90	1.41	0.035	0.056

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM

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