

## 3A, 40V - 100V Surface Mount Schottky Barrier Rectifier

### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- Guard ring for over-voltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- 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
- Moisture sensitivity level: level 1, per J-STD-020
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.07 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	3	A
$V_{RRM}$	40 - 100	V
$I_{FSM}$	70	A
Package	DO-214AC (SMA)	
Configuration	Single Die	



DO-214AC (SMA)

ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	SK34A-T	SK36A-T	SK310A-T	UNIT
Marking code on the device		SK34A	SK36A	SK310A	
Repetitive peak reverse voltage	$V_{RRM}$	40	60	100	V
Reverse voltage, total rms value	$V_{R(RMS)}$	28	42	70	V
Maximum DC blocking voltage	$V_{DC}$	40	60	100	V
Forward current	$I_{F(AV)}$	3			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode)	$I_{FSM}$	70			A
Voltage rate of change (Rated $V_R$ )	dV/dt	10000			V/ $\mu\text{s}$
Junction temperature	$T_J$	- 55 to +150			$^\circ\text{C}$
Storage temperature	$T_{STG}$	- 55 to +150			$^\circ\text{C}$

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>LIMIT</b>	<b>UNIT</b>
Junction-to-lead thermal resistance	$R_{\theta JL}$	25	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	66	°C/W

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

<b>PARAMETER</b>		<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	SK34A-T	$I_F = 3\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	0.55	V
	SK36A-T			-	0.72	V
	SK310A-T			-	0.85	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	SK34A-T	$T_J = 25^\circ\text{C}$	$I_R$	-	0.5	mA
		$T_J = 100^\circ\text{C}$		-	10.0	mA
		$T_J = 125^\circ\text{C}$		-	-	mA
	SK36A-T	$T_J = 25^\circ\text{C}$		-	0.2	mA
		$T_J = 100^\circ\text{C}$		-	5.0	mA
		$T_J = 125^\circ\text{C}$		-	10.0	mA
	SK310A-T	$T_J = 25^\circ\text{C}$		-	0.1	mA
		$T_J = 100^\circ\text{C}$		-	-	mA
		$T_J = 125^\circ\text{C}$		-	0.5	mA

**Notes:**

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

**ORDERING INFORMATION**

<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
SK3xxA-T (Note 1, 2)	R3	G	SMA	1,800 / 7" Plastic reel
	R2		SMA	7,500 / 13" Paper reel

**Notes:**

1. "xx" defines voltage from 40V (SK34A-T) to 100V (SK310A-T)
2. Whole series with green compound (halogen-free)

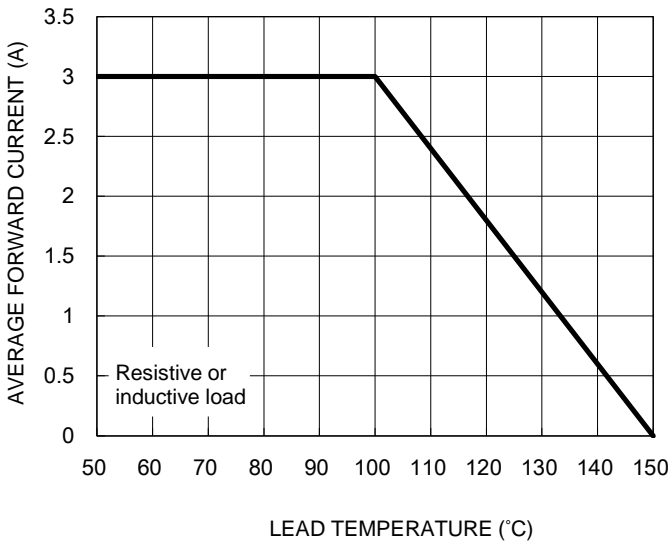
**EXAMPLE P/N**

<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
SK36A-T R3G	SK36A-T	R3	G	Green compound

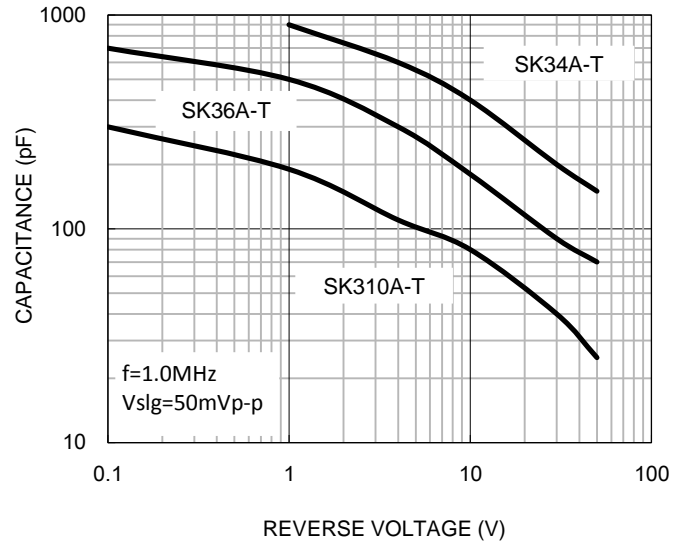
**CHARACTERISTICS CURVES**

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

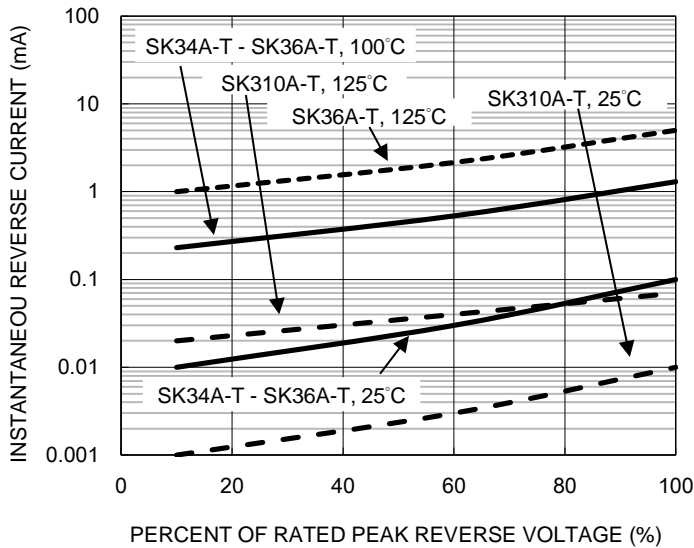
**Fig1. Forward Current Derating Curve**



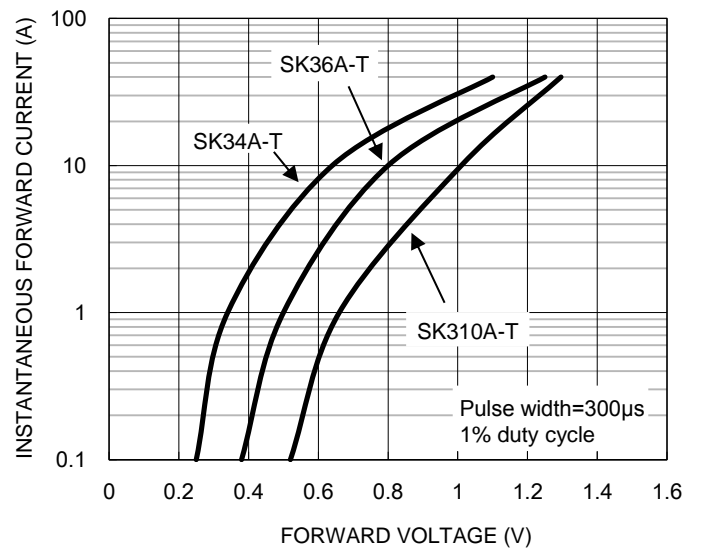
**Fig2. Typical Junction Capacitance**



**Fig3. Typical Reverse Characteristics**



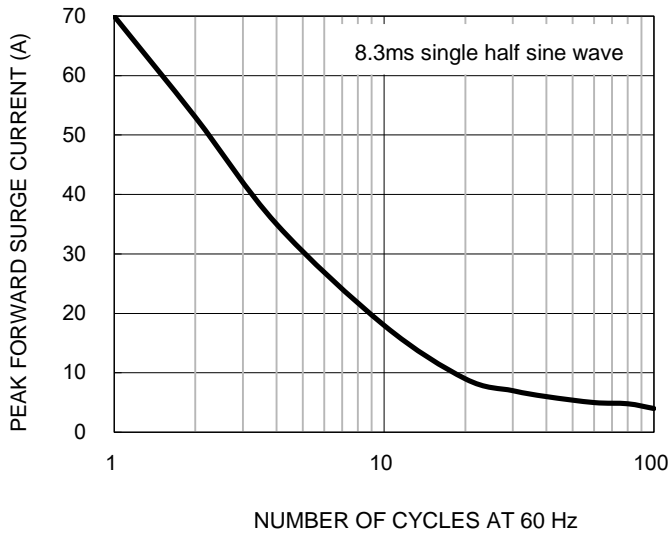
**Fig4. Typical Forward Characteristics**



**CHARACTERISTICS CURVES**

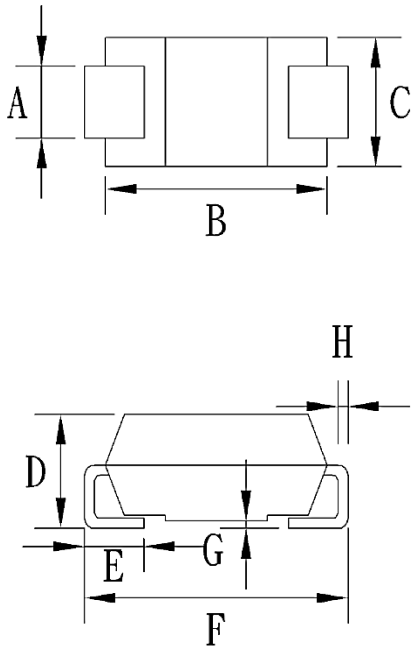
( $T_A = 25^\circ\text{C}$  unless otherwise noted)

**Fig5. Maximum Non-repetitive Forward Surge Current**



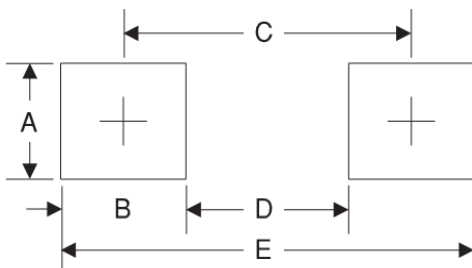
**PACKAGE OUTLINE DIMENSIONS**

DO-214AC (SMA)



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.27	1.58	0.050	0.062
B	4.06	4.60	0.160	0.181
C	2.29	2.83	0.090	0.111
D	1.99	2.50	0.078	0.098
E	0.90	1.41	0.035	0.056
F	4.95	5.33	0.195	0.210
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	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

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