

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/ μs
Junction temperature	T_J	- 55 to +150			$^\circ\text{C}$
Storage temperature	T_{STG}	- 55 to +150			$^\circ\text{C}$

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	LIMIT	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 ($T_A = 25^\circ\text{C}$ unless otherwise noted)

PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	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 ⁽²⁾	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

PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
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

EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
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

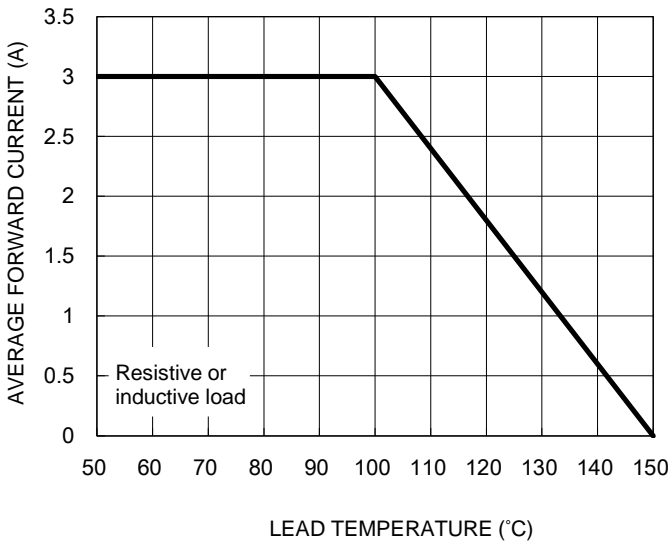


Fig2. Typical Junction Capacitance

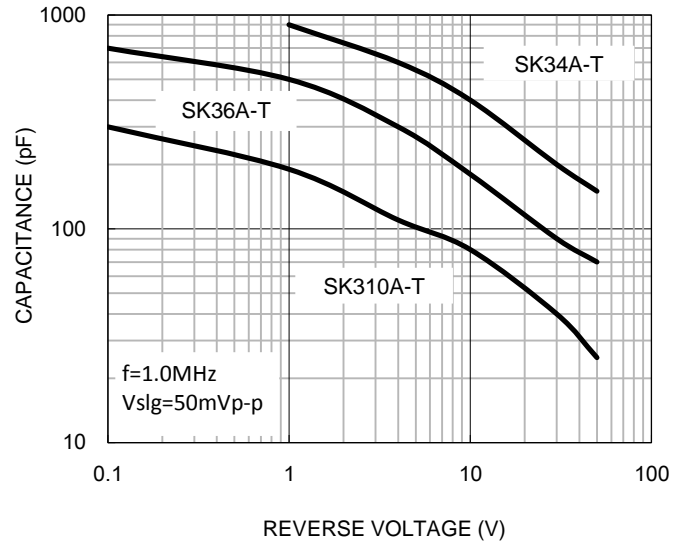


Fig3. Typical Reverse Characteristics

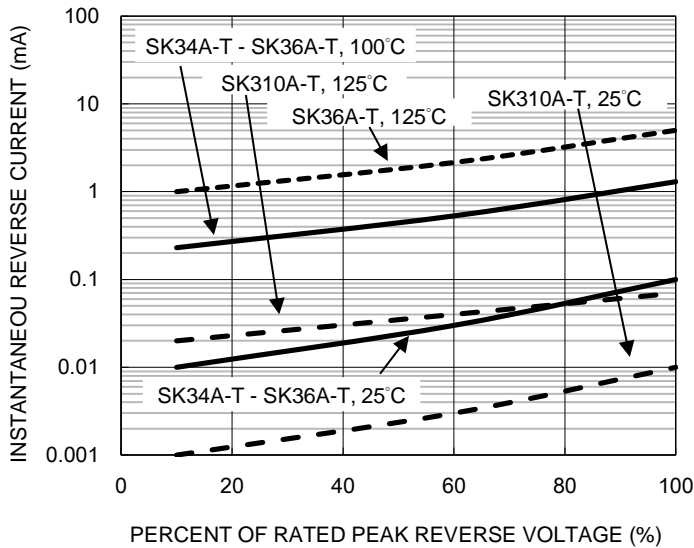
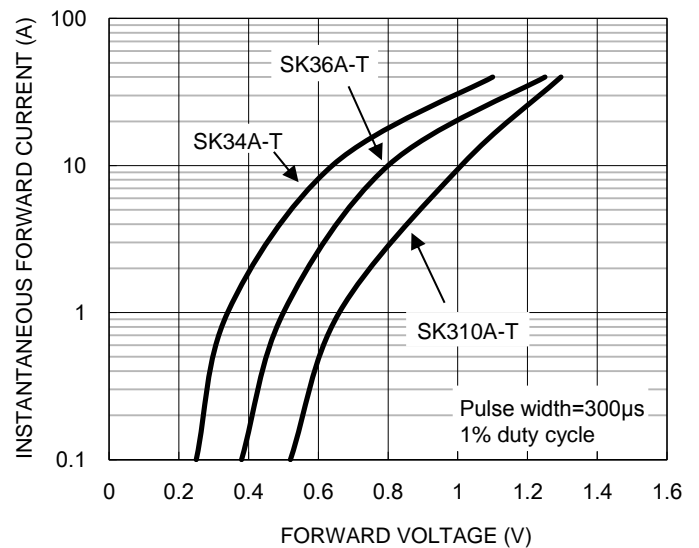


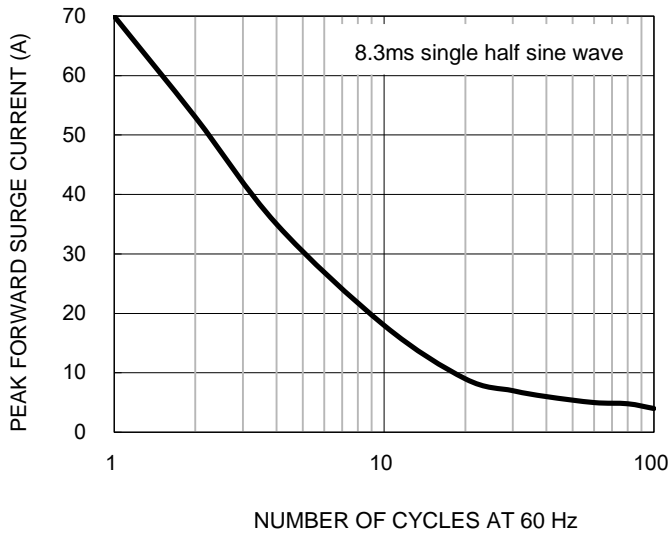
Fig4. Typical Forward Characteristics



CHARACTERISTICS CURVES

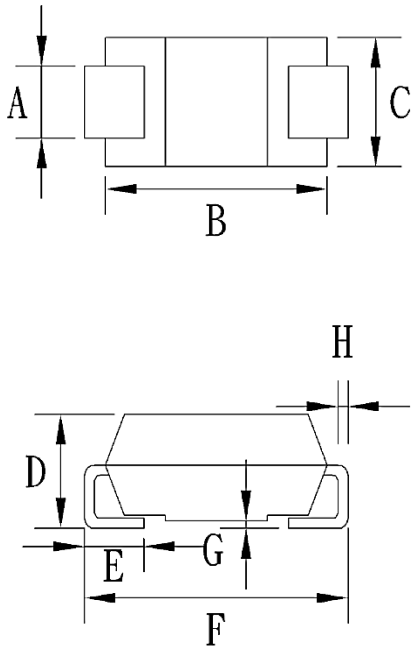
(T_A = 25°C unless otherwise noted)

Fig5. Maximum Non-repetitive Forward Surge Current



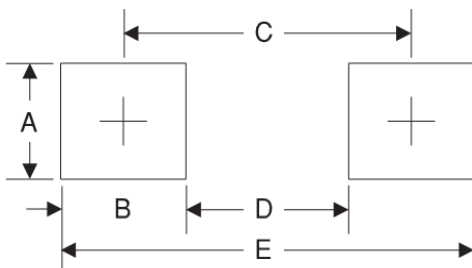
PACKAGE OUTLINE DIMENSIONS

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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.