

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/ μ s
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:

- Pulse test with $PW=0.3\text{ ms}$
- 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:

- "xx" defines voltage from 40V (SK34A-T) to 100V (SK310A-T)
- 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

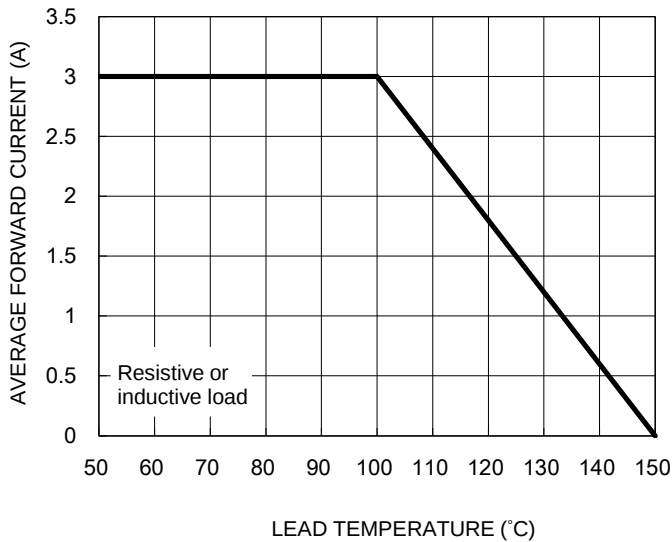


Fig2. Typical Junction Capacitance

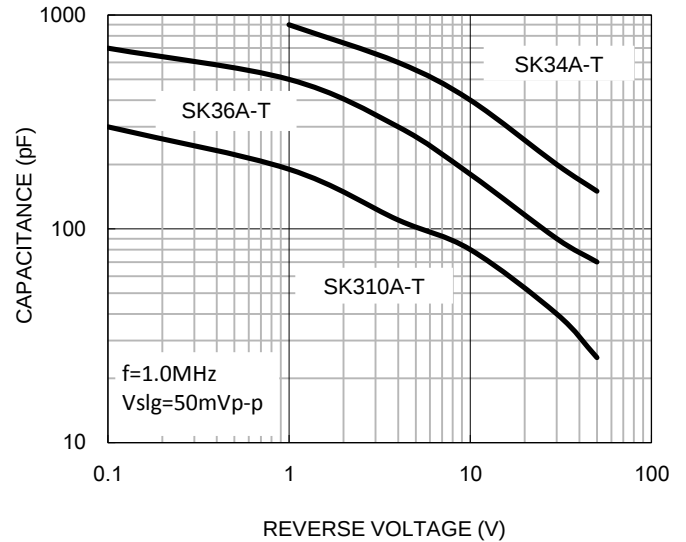


Fig3. Typical Reverse Characteristics

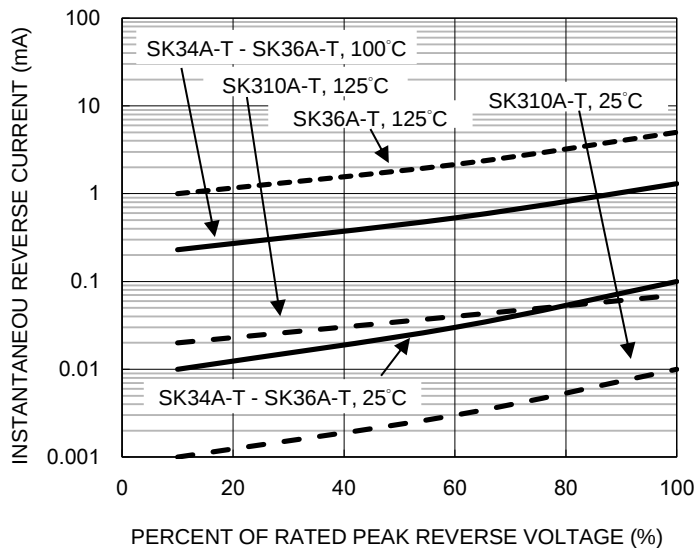
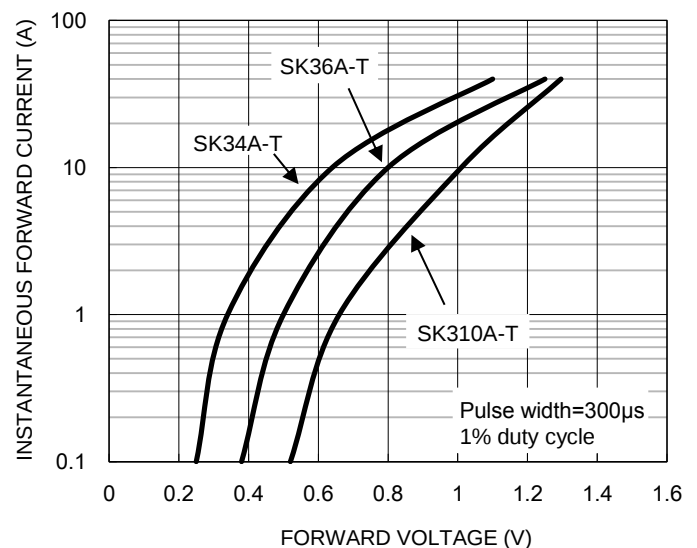


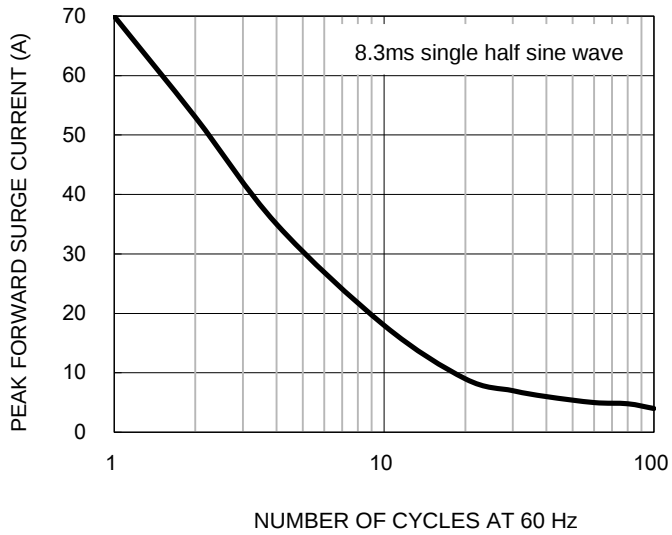
Fig4. Typical Forward Characteristics



CHARACTERISTICS CURVES

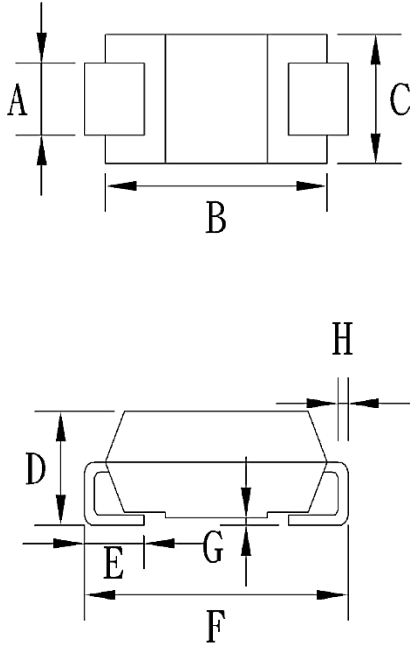
($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig5. Maximum Non-repetitive Forward Surge Current



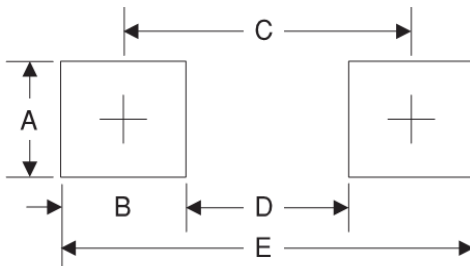
PACKAGE OUTLINE DIMENSIONS

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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