3A, 60V Trench Schottky Rectifier

FEATURES

- Patented Trench Schottky technology
- Ideal for automated placement
- 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

- Trench Schottky barrier rectifier is designed for high frequency miniature switched mode power supplies such as adapters, lighting.

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)
- Part no. with suffix “H” means AEC-Q101 qualified
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.06 g (approximately)

KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
$I_{F(AV)}$	3	A
V_{RRM}	60	V
I_{FSM}	60	A
$T_{J\ MAX}$	150	°C
Package	DO-214AC (SMA)	
Configuration	Single dice	

Pb-Free RoHS COMPLIANT HALOGEN FREE

DO-214AC (SMA)

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)			
PARAMETER	**SYMBOL**	**TSSA3U60**	**UNIT**
Marking code on the device		3U60	
Repetitive peak reverse voltage	V_{RRM}	60	V
Reverse voltage, total rms value	V_{RMS}	42	V
Maximum DC blocking voltage	V_{DC}	60	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}	60	A
Junction temperature	T_J	- 55 to +150	°C
Storage temperature	T_{STG}	- 55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	**SYMBOL**	**LIMIT**	**UNIT**
Junction to Lead Thermal Resistance	$R_{\Theta JL}$	27	°C/W
Junction to Ambient Thermal Resistance	$R_{\Theta JA}$	70	°C/W
Junction to Case Thermal Resistance	$R_{\Theta JC}$	20	°C/W

Thermal Performance Note: Units mounted on recommended PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)					
PARAMETER	**CONDITIONS**	**SYMBOL**	**TYP**	**MAX**	**UNIT**
Forward voltage per diode (1)	I_F = 3A,T_J = 25°C	V_F	0.48	0.54	V
	I_F = 3A,T_J = 125°C		0.41	0.50	
Reverse current @ rated V_R per diode (2)	T_J = 25°C	I_R	-	500	μA
	T_J = 125°C		12	30	mA
Junction capacitance	1 MHz, V_R=4.0V	C_T	450	610	pF
Reverse recovery time	I_F=0.5A ,I_R=1.0A I_{RR}=0.25A	t_{rr}	20	25	ns

Notes:

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

ORDERING INFORMATION					
PART NO.	**PART NO. SUFFIX**	**PACKING CODE**	**PACKING CODE SUFFIX**	**PACKAGE**	**PACKING**
TSSA3U60 (Note 1)	H	E3	G	Clip SMA	1,800 / 7" Plastic reel
		E2		Clip SMA	7,500 / 13" Plastic reel
		M2		SMA	7,500 / 13" Plastic reel
		R3		SMA	1,800 / 7" Plastic reel

Note:

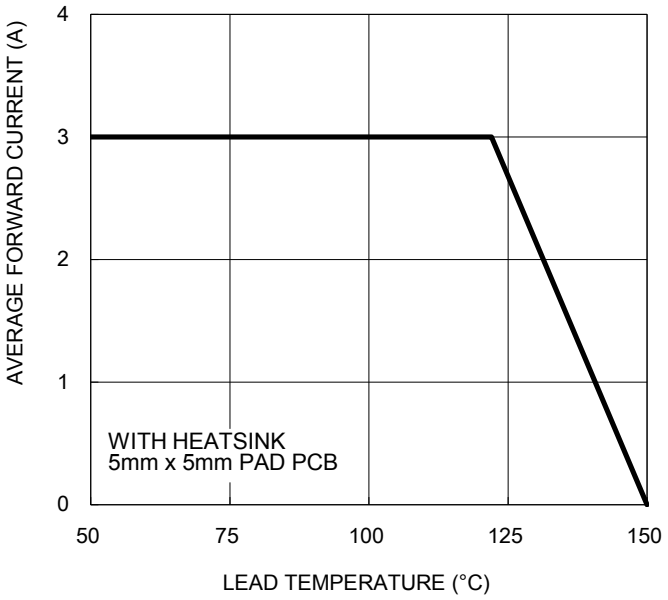
1. Whole series with green compound (halogen-free)

EXAMPLE					
EXAMPLE P/N	**PART NO.**	**PART NO. SUFFIX**	**PACKING CODE**	**PACKING CODE SUFFIX**	**DESCRIPTION**
TSSA3U60HR3G	TSSA3U60	H	R3	G	Green compound AEC-Q101 qualified

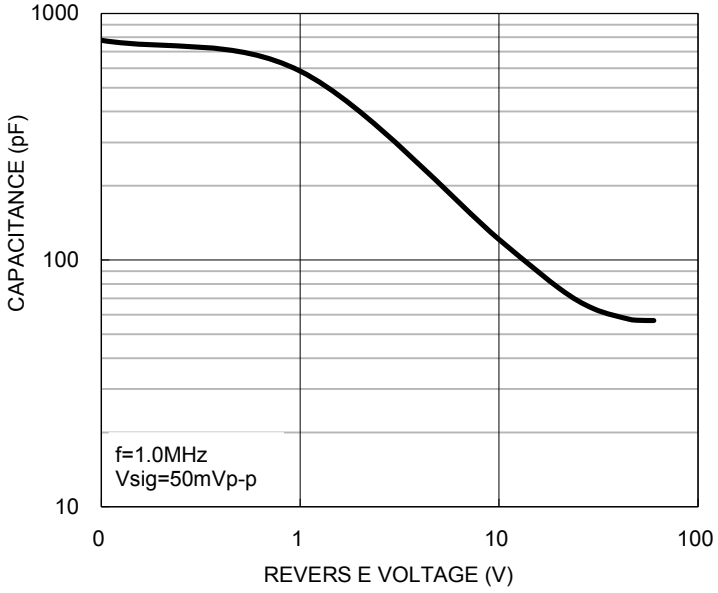
CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

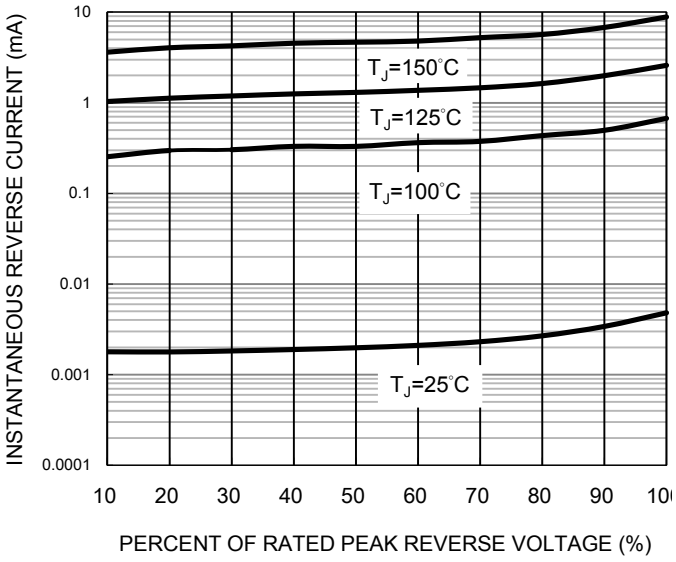
Forward Current Derating Curve



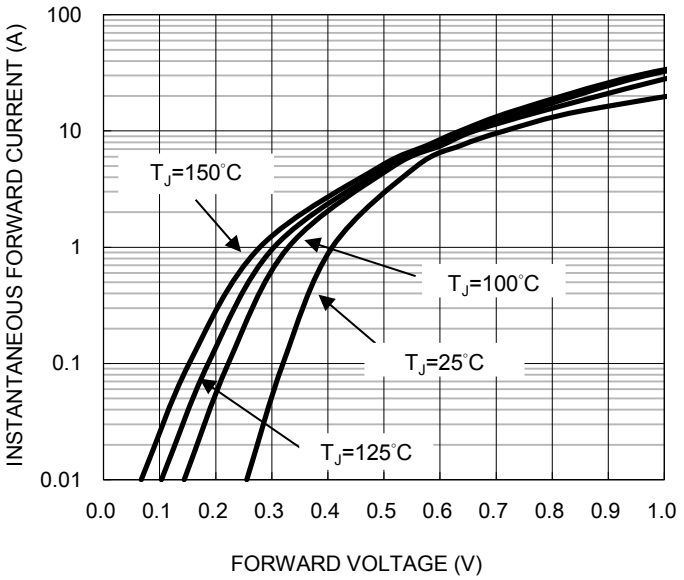
Total Capacitance Characteristics



Typical Reverse Characteristics

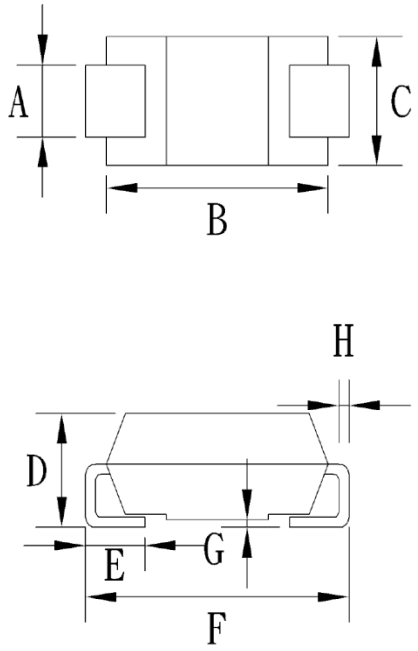


Typical Forward Characteristics



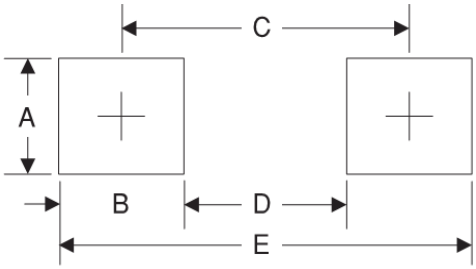
PACKAGE OUTLINE DIMENSIONS

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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