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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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5A, 400V - 1000V Surface Mount Glass Passivated Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Low forward voltage drop
- 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
- Monitor
- TV

MECHANICAL DATA

- Case: DO-214AA (SMB)
- 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: 0.09 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	5	A
V_{RRM}	400 - 1000	V
$T_{J\ MAX}$	150	°C
Package	DO-214AA (SMB)	
Configuration	Signal Die	



DO-214AA (SMB)

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

PARAMETER		SYMBOL	S5GB	S5JB	S5KB	S5MB	UNIT
Marking code on the device			S5GB	S5JB	S5KB	S5MB	
Repetitive peak reverse voltage		V_{RRM}	400	600	800	1000	V
Reverse voltage, total rms value		$V_{R(RMS)}$	280	420	560	700	V
Maximum DC blocking voltage		V_{DC}	400	600	800	1000	V
Forward current		$I_{F(AV)}$	5				A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$T_J = 25^\circ\text{C}$	I_{FSM}	200				A
	$T_J = 125^\circ\text{C}$		150				A
Surge peak forward current, 1.0 ms single half sine-wave superimposed on rated load per diode	$T_J = 25^\circ\text{C}$		540				A
	$T_J = 125^\circ\text{C}$		290				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-ambient thermal resistance	$R_{\theta JA}$	47	°C/W
Junction-to-lead thermal resistance	$R_{\theta JL}$	13	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 5\text{A}, T_J = 25^\circ\text{C}$	V_F	-	1.1	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	10	μA
	$T_J = 125^\circ\text{C}$		-	250	μA
Junction capacitance	1 MHz, $V_R = 4\text{V}$	C_J	40	-	pF

Notes:

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

ORDERING INFORMATION

PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX(*)	PACKAGE	PACKING
S5xB (Note 1)	H	R5	G	SMB	850 / 7" Plastic reel
		R4		SMB	3,000 / 13" Paper reel
		M4		SMB	3,000 / 13" Plastic reel

Note:

1. "x" defines voltage from 400V (S5GB) to 1000V (S5MB)
- *: Optional available

EXAMPLE P/N

EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
S5GBHR5G	S5GB	H	R5	G	AEC-Q101 qualified Green compound

CHARACTERISTICS CURVES

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

Fig1. Forward Current Derating Curve

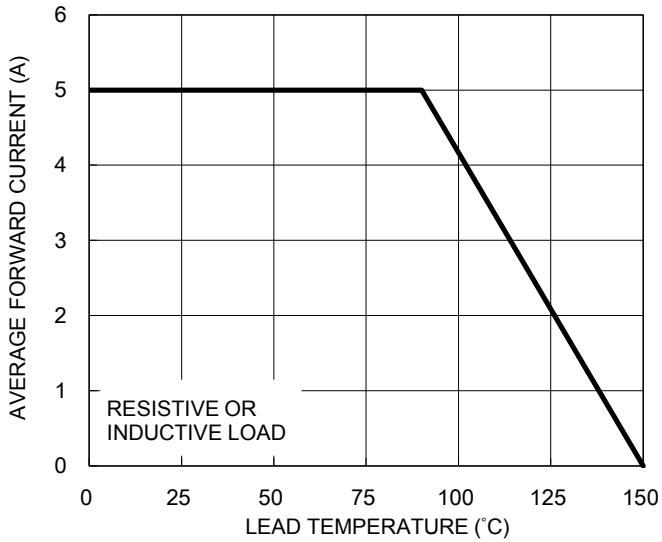


Fig2. Typical Junction Capacitance

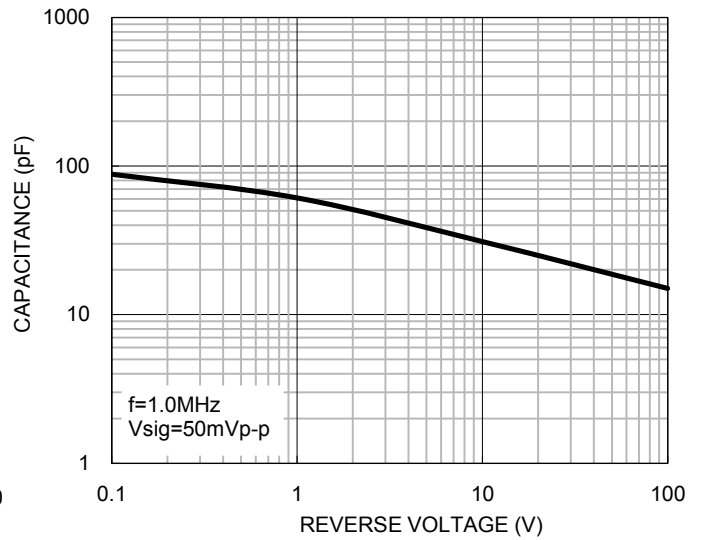


Fig3. Typical Reverse Characteristics

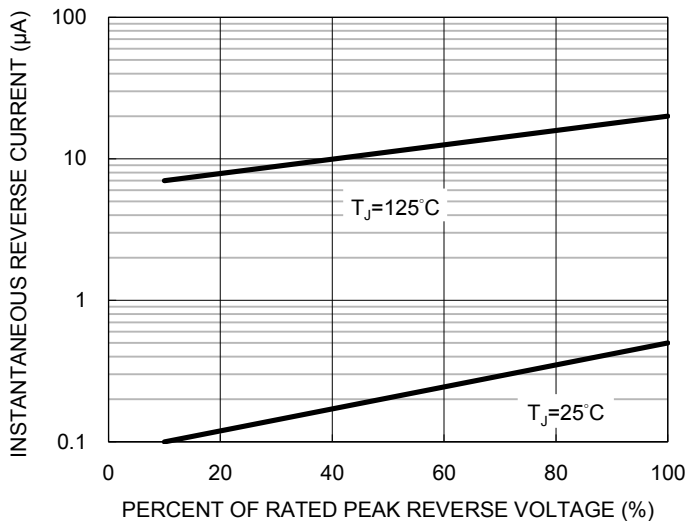


Fig4. Typical Forward Characteristics

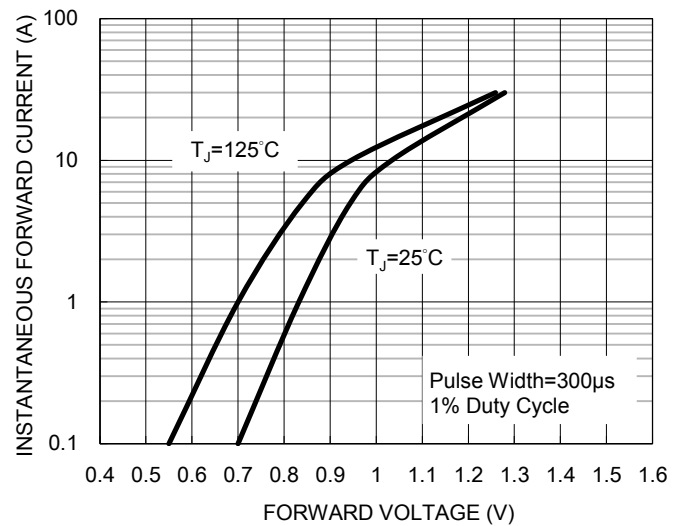
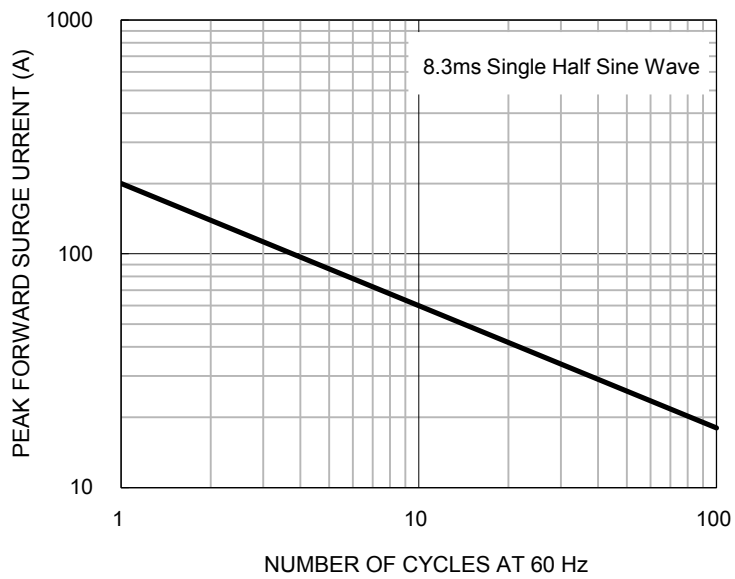


Fig5. Maximum Non-repetitive Forward Surge Current



PACKAGE OUTLINE DIMENSIONS

DO-214AA (SMB)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.95	2.20	0.077	0.087
B	4.05	4.60	0.159	0.181
C	3.30	3.95	0.130	0.156
D	1.95	2.65	0.077	0.104
E	0.75	1.60	0.030	0.063
F	5.10	5.60	0.201	0.220
G	0.05	0.20	0.002	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	2.3	0.091
B	2.5	0.098
C	4.3	0.169
D	1.8	0.071
E	6.8	0.268

MARKING DIAGRAM



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

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