

SS14

SMA Schottky Barrier Rectifier Diode
SMA 肖特基势垒整流二极管

1. Description 描述

The SS14 is high-efficiency, low power loss, general-purpose schottky rectifier. This rectifier is suited for free wheeling, DC/DC converters, and polarity protection applications.

SS14 是一款高效、低功耗的通用型肖特基整流二极管。该整流管适用于续流、直流-直流转换器及极性保护等应用场景。

2. Features 特性

Feature 特性	Description 描述
High Current Capability 高电流能力	$I_F < 2A$
Low Forward Voltage 低正向电压	$V_F < 0.55V @ I_F = 2A$
Applications 应用	<ul style="list-style-type: none">• Ideal for automated placement 适合自动化贴装• Guardring for overvoltage protection 带保护环结构, 实现过压保护• High surge capability 抗浪涌能力强
Environmental Compliance 环保合规	Totally Lead-Free & Fully RoHS Compliant. 完全无铅和符合 RoHS 标准 ^[1] Halogen and Antimony Free, "Green" Device. 无卤素和无镉, “绿色”器件 ^[2]
Automotive Compliance 汽车合规	Qualified according to AEC-Q101 and recommended for use in automotive applications. 通过了 AEC-Q101 认证, 推荐用于汽车电子应用场景。

[1] No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.

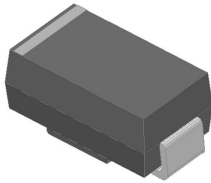
无铅, 完全符合欧盟标准 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) 和 2015/863/EU (RoHS 3)。

[2] Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

无卤素和无镉的“绿色”产品指溴含量<900ppm, 氯含量<900ppm (溴+氯总含量<1500ppm) 和镉化合物含量<1000ppm。

3. Mechanical Data 封装数据

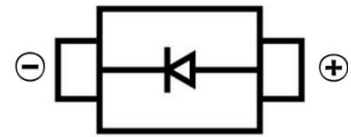
Feature 特性	Description 描述
Package 封装	SMA(DO-214AC)
Moisture Sensitivity Level 湿敏感度等级	J-STD-020 MSL1
Material 材料	Molded Plastic, "Green" Molding Compound; UL Flammability Classification Rating 94V-0. 模塑塑料封装, "绿色" 成型复合材料; UL 可燃性等级 94V-0.
Dimensions 尺寸	4.3mm × 2.65mm × 2.1mm body 封装本体 (不含引脚) 尺寸为 4.3mm × 2.65mm × 2.1mm
Terminals Compliance 引脚合规	2 terminals, Tin Plated Leads, Solderable per MILSTD-202, Method 208 ^③ 2 个镀锡引脚, 可焊性符合 MIL-STD-202 标准中 208 方法 e3 条款的要求
Weight 重量	0.064 grams (Approximate) 约 0.064 克
Polarity 极性	See diagrams below 见下图



SMA Top View



Device Symbol



Top View Pin-Out

4. Ordering Information 订购信息

Part Number	Compliance	Package	Reel Size (inches)	Tape Width (mm)	Quantity Per Reel
SS14	Automotive	SMA	7	12	1800
SS14	Automotive	SMA	13	12	5000

5. Marking Information 丝印信息

Part Number	Marking Code
SS14	SS14



6. Absolute Maximum Ratings($T_a = + 25^{\circ}\text{C}$) 绝对最大额定值

Characteristic 特性	Symbol 符号	Value 值	Unit 单位
Repetitive Peak Reverse Voltage 重复峰值反向电压	V_{RRM}	40	V
DC Reverse Voltage 直流反向电压	V_R	40	V
RMS Reverse Voltage 反向电压均方根值	$V_{R(RMS)}$	28	V
Forward Rectified Current 正向整流电流	I_F	2	A
Peak Surge Current 峰值浪涌电流	I_{FSM}	50	A

7. Thermal Characteristics($T_a = + 25^{\circ}\text{C}$) 热特性

Characteristic 特性	Symbol 符号	Value 值	Unit 单位
Thermal Resistance From Junction To Lead 结到管脚的热阻	$R_{\theta JL}$	10	$^{\circ}\text{C}/\text{W}$
Junction Temperature 结温	T_J	-65 ~ +150	$^{\circ}\text{C}$
Storage Temperature 储藏温度	T_{stg}	-65 ~ +150	$^{\circ}\text{C}$

8. Electrical Characteristics($T_a = + 25^{\circ}\text{C}$) 电特性

Characteristic 特性	Symbol 符号	Min. 最小值	Typ. 典型值	Max. 最大值	Unit 单位	Conditions 条件
Reverse Leakage Current 反向漏电流	I_R	-	-	0.1	mA	$V_R = V_{RRM},$ $T_a = + 25^{\circ}\text{C}$
		-	-	5	mA	$V_R = V_{RRM},$ $T_a = + 100^{\circ}\text{C}$
Forward Voltage 正向电压	V_F	-	-	0.55	V	$I_F = 2\text{A}$
Diode Capacitance 二极管电容	C_D	-	-	170	pF	$V_R = 4\text{V},$ $f = 1\text{MHz}$



9. Typical Electrical Characteristics Curve 典型电特性曲线

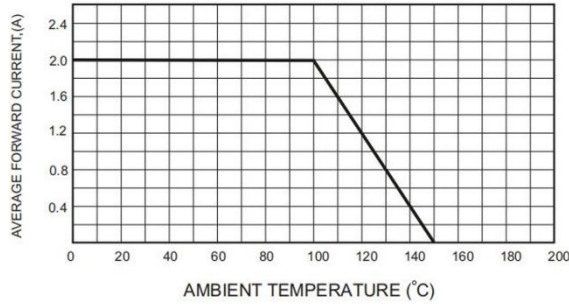


Fig.1 Typical forward current derating curve

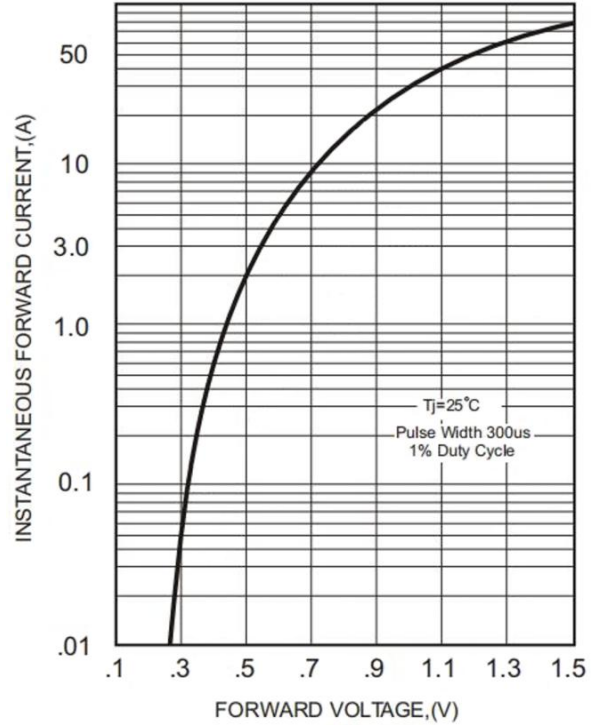


Fig.2 Typical forward characteristics

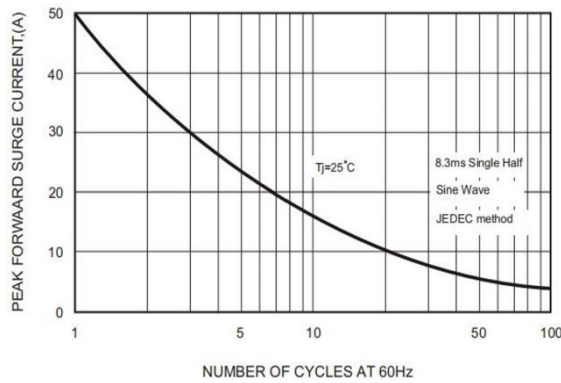


Fig.3 Maximum non-repetitive forward surge current

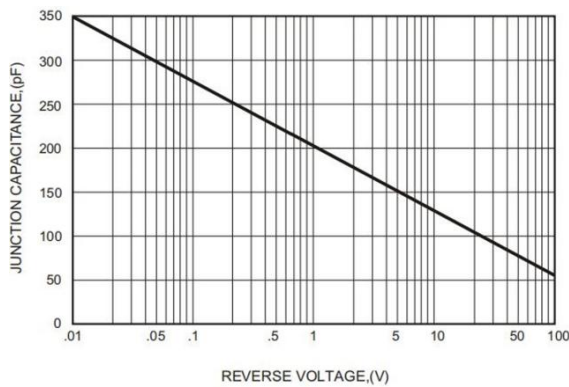


Fig.4 Typical junction capacitance

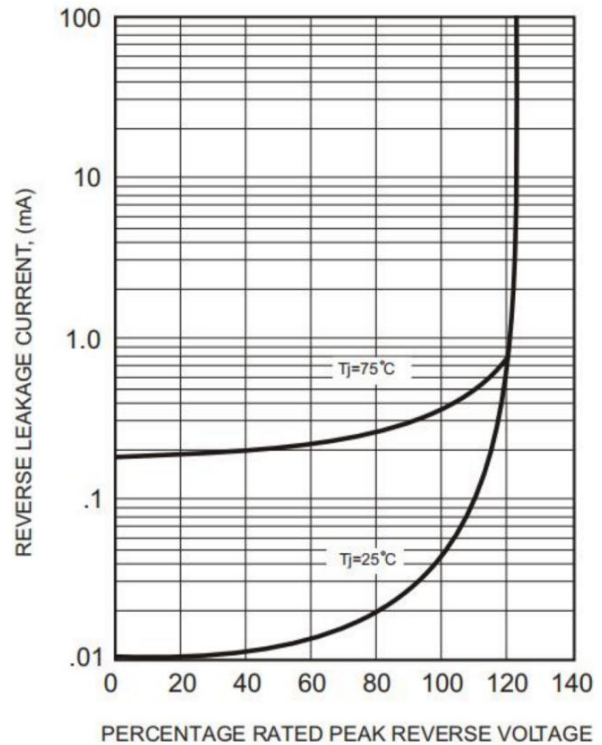
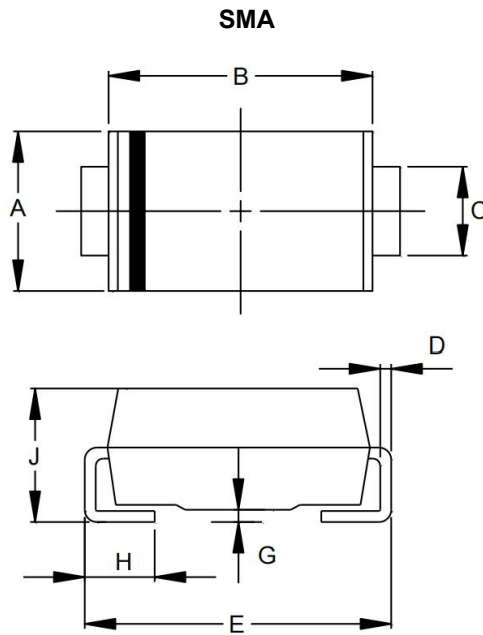


Fig.5 Typical reverse characteristics

10. Package Outline Dimensions 封装外形尺寸



Symbol 符号	Millimeters 毫米	
	Min.最小值	Max.最大值
A	2.54	2.79
B	3.99	4.50
C	1.32	1.47
D	0.15	0.31
E	4.93	5.28
G	-	0.127
H	0.76	1.52
J	1.98	2.29

11. Suggested Pad Layout 推荐焊盘布局

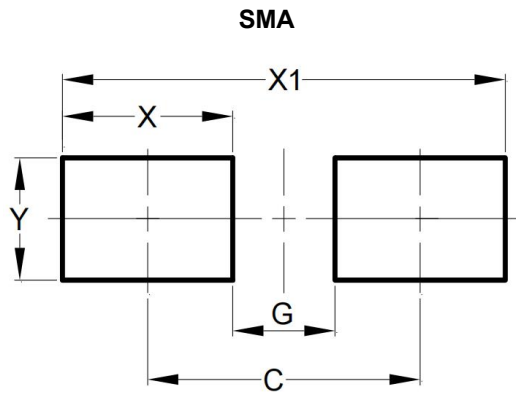


Fig. Soldering footprint for SMA

图 SMA 的引脚焊接

Dimensions 尺寸	Millimeters 毫米
C	4.0
G	1.5
X	2.5
X1	6.5
Y	1.7



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