



Vishay General Semiconductor

High Current Density Surface Mount **Dual Common-Cathode Schottky Rectifier**



TO-277A (SMPC)

-O Anode 1 Cathode -O Anode 2

PRIMARY CHARACTERISTICS				
I _{F(AV)}	2 x 3.0 A			
V _{RRM}	40 V			
I _{FSM}	70 A			
E _{AS}	20 mJ			
V_F at $I_F = 3$ A	0.53 V			
T _J max.	150 °C			

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters and polarity protection applications.

FEATURES

- Very low profile typical height of 1.1 mm
- · Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- · Low thermal resistance
- Meets MSL level 1, per J-STD-020
- AEC-Q101 qualified
- · Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

MECHANICAL DATA

Case: TO-277A (SMPC)

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS compliant, and commercial grade

Base P/NHM3 - halogen-free, RoHS compliant, and automotive grade

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 1A whisker test, HM3 suffix meets JESD 201 class 2 whisker test

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER		SYMBOL	SS6P4C	UNIT	
Device marking code			S64C		
Maximum repetitive peak reverse voltage		V _{RRM}	40	V	
Maximum average forward rectified current (fig. 1)	total devive	I	6.0	А	
	per diode	IF(AV)	3.0		
Peak forward surge current 10 ms single half sine-wave superimposed on rated load		I _{FSM}	70	А	
Non-repetitive avalanche energy at 25 °C, I_{AS} = 2 A per diode		E _{AS}	20		
Operating junction and storage temperature range		T _J , T _{STG}	- 55 to + 150	°C	

Available



FREE

SS6P4C



Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage per diode	I _F = 1.5 A	- T _A = 25 °C	- V _F (1)	0.47	-	- V
	I _F = 3.0 A			0.57	0.65	
	I _F = 1.5 A	T _A = 125 °C		0.40	-	
	I _F = 3.0 A			0.53	0.60	
Reverse current per diode	Dated V/	T _A = 25 °C	I _R ⁽²⁾	17	200	μA
	Rated V _R	T _A = 125 °C		6	20	mA
Typical junction capacitance per diode	4.0 V, 1 MHz		CJ	100	-	pF

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 % duty cycle

⁽²⁾ Pulse test: Pulse width \leq 40 ms

THERMAL CHARACTERISTICS ($T_A = 25 \text{ °C}$ unless otherwise specified)					
PARAMETER	SYMBOL	SS6P4C	UNIT		
Typical thermal resistance per diode	R _{0JA} ⁽¹⁾	80	°C/W		
	$R_{ extsf{ heta}JL}$	4	0/10		

Note

⁽¹⁾ Units mounted on recommended PCB 1 oz. pad layout

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
SS6P4C-M3/86A	0.10	86A	1500	7" diameter plastic tape and reel	
SS6P4C-M3/87A	0.10	87A	6500	13" diameter plastic tape and reel	
SS6P4CHM3/86A (1)	0.10	86A	1500	7" diameter plastic tape and reel	
SS6P4CHM3/87A (1)	0.10	87A	6500	13" diameter plastic tape and reel	

Note

⁽¹⁾ Automotive grade

For technical questions within your region, please contact one of the following: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> **New Product**



SS6P4C

Vishay General Semiconductor

RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

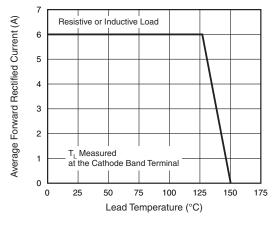


Fig. 1 - Maximum Forward Current Derating Curve

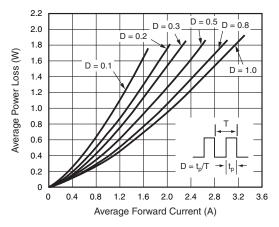


Fig. 2 - Forward Power Loss Characteristics Per Diode

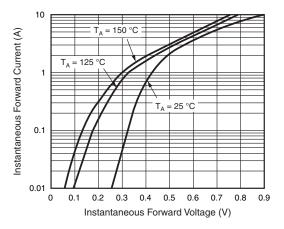


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

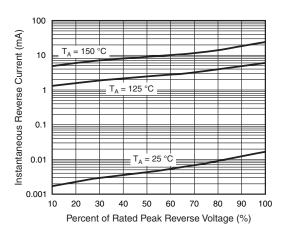


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

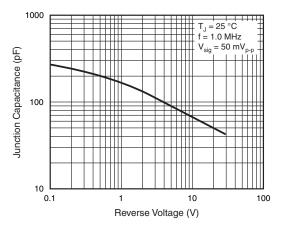


Fig. 5 - Typical Junction Capacitance Per Diode

 Document Number:
 89114
 For technical questions within your region, please contact one of the following:
 www

 Revision:
 10-May-11
 DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
 Www

www.vishay.com

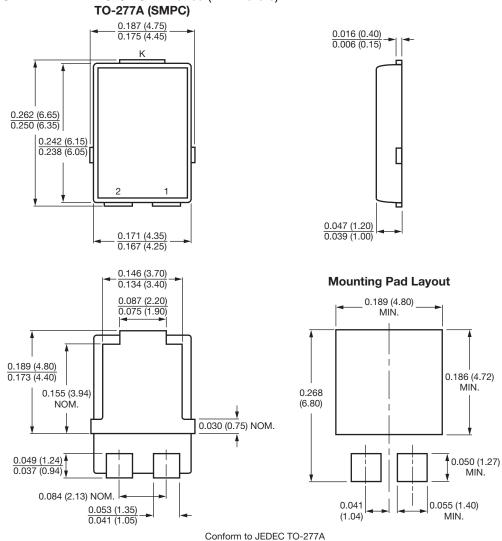
This document is subject to change without notice. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>

SS6P4C

VISHAY

Vishay General Semiconductor





www.vishay.com 4 For technical questions within your region, please contact one of the following: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u>

Document Number: 89114 Revision: 10-May-11

This document is subject to change without notice. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



Vishay

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk and agree to fully indemnify and hold Vishay and its distributors harmless from and against any and all claims, liabilities, expenses and damages arising or resulting in connection with such use or sale, including attorneys fees, even if such claim alleges that Vishay or its distributor was negligent regarding the design or manufacture of the part. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.