



Features

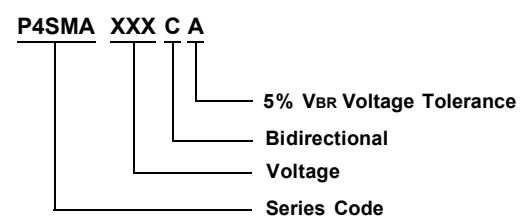
- 400W Peak Pulse Power Dissipation
- 6.8V - 550V Standoff Voltages
- Uni- and Bi-Directional Versions Available Excellent Clamping Capability
- Glass Passivated Die Construction
- Low inductance
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0



Mechanical Data

- Case: SMA Molded plastic body
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity Indicator: Cathode Band (Note: Bi-directional devices have no polarity indicator)
- Marking: Data Code and Marking Code
- Weight: 0.00095ounce, 0.027grams

Part Number Code



Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Maxmim Ratings (Ta=25°C unless otherwise noted)

Peak pulse power dissipation at 10/1000μs waveform (Note1, Note2, Fig.1)	P _{PPM}	400	W
Peak pulse current of at 10/1000μs waveform (Note 1, Fig.3)	I _{PPM}	See Tale	A
Steady state power dissipation at T _A =50°C (Fig.5)	P _{M(AV)}	3.3	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	I _{FSM}	60	A
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-65 to +150	°C
Typical thermal resistance junction to lead	R _{θJL}	30	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	100	°C/W

Notes:1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.

2. Mounted on 5.0mm×5.0mm (0.03mm thick) copper pads to each terminal.

3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.



Electrical Characteristics (Ta=25°C)

Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Unidirectional	Bidirectional	UNI	BI	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)
P4SMA6.8A	P4SMA6.8CA	6V8A	6V8C	5.80	6.45~7.14	10	10.5	39.0	1000
P4SMA7.5A	P4SMA7.5CA	7V5A	7V5C	6.40	7.13~7.88	10	11.3	36.3	500
P4SMA8.2A	P4SMA8.2CA	8V2A	8V2C	7.02	7.79~8.61	10	12.1	33.9	200
P4SMA9.1A	P4SMA9.1CA	9V1A	9V1C	7.78	8.65~9.55	1	13.4	30.6	50
P4SMA10A	P4SMA10CA	10A	10C	8.55	9.50~10.50	1	14.5	28.3	10
P4SMA11A	P4SMA11CA	11A	11C	9.40	10.50~11.60	1	15.6	26.3	5
P4SMA12A	P4SMA12CA	12A	12C	10.20	11.40~12.60	1	16.7	24.6	5
P4SMA13A	P4SMA13CA	13A	13C	11.10	12.40~13.70	1	18.2	22.5	1
P4SMA15A	P4SMA15CA	15A	15C	12.80	14.30~15.80	1	21.2	19.3	1
P4SMA16A	P4SMA16CA	16A	16C	13.60	15.20~16.80	1	22.5	18.2	1
P4SMA18A	P4SMA18CA	18A	18C	15.30	17.10~18.90	1	25.2	16.1	1
P4SMA20A	P4SMA20CA	20A	20C	17.10	19.00~21.00	1	27.7	14.8	1
P4SMA22A	P4SMA22CA	22A	22C	18.80	20.90~23.10	1	30.6	13.4	1
P4SMA24A	P4SMA24CA	24A	24C	20.50	22.80~25.20	1	33.2	12.3	1
P4SMA27A	P4SMA27CA	27A	27C	23.10	25.70~28.40	1	37.5	10.9	1
P4SMA30A	P4SMA30CA	30A	30C	25.60	28.50~31.50	1	41.4	9.9	1
P4SMA33A	P4SMA33CA	33A	33C	28.20	31.40~34.70	1	45.7	9.0	1
P4SMA36A	P4SMA36CA	36A	36C	30.80	34.20~37.80	1	49.9	8.2	1
P4SMA39A	P4SMA39CA	39A	39C	33.30	37.10~41.00	1	53.9	7.6	1
P4SMA43A	P4SMA43CA	43A	43C	36.80	40.90~45.20	1	59.3	6.9	1
P4SMA47A	P4SMA47CA	47A	47C	40.20	44.70~49.40	1	64.8	6.3	1
P4SMA51A	P4SMA51CA	51A	51C	43.60	48.50~53.60	1	70.1	5.8	1
P4SMA56A	P4SMA56CA	56A	56C	47.80	53.20~58.80	1	77.0	5.3	1
P4SMA62A	P4SMA62CA	62A	62C	53.00	58.90~65.10	1	85.0	4.8	1
P4SMA68A	P4SMA68CA	68A	68C	58.10	64.60~71.40	1	92.0	4.5	1
P4SMA75A	P4SMA75CA	75A	75C	64.10	71.30~78.80	1	103.0	4.0	1
P4SMA82A	P4SMA82CA	82A	82C	70.10	77.90~86.10	1	113.0	3.6	1
P4SMA91A	P4SMA91CA	91A	91C	77.80	86.50~95.50	1	125.0	3.3	1
P4SMA100A	P4SMA100CA	100A	100C	85.50	95.00~105.00	1	137.0	3.0	1



Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
Unidirectional	Bidirectional	UNI	BI	$V_{RWM}(V)$	$V_{BR}(V)$	$I_T(mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
P4SMA110A	P4SMA110CA	110A	110C	94.00	105.00~116.00	1	152.0	2.7	1
P4SMA120A	P4SMA120CA	120A	120C	102.00	114.00~126.00	1	165.0	2.5	1
P4SMA130A	P4SMA130CA	130A	130C	111.00	124.00~137.0	1	179.0	2.3	1
P4SMA150A	P4SMA150CA	150A	150C	128.00	143.00~158.0	1	207.0	2.0	1
P4SMA160A	P4SMA160CA	160A	160C	136.00	152.00~168.0	1	219.0	1.9	1
P4SMA170A	P4SMA170CA	170A	170C	145.00	162.00~179.0	1	234.0	1.8	1
P4SMA180A	P4SMA180CA	180A	180C	154.00	171.00~189.0	1	246.0	1.7	1
P4SMA200A	P4SMA200CA	200A	200C	171.00	190.00~210.0	1	274.0	1.5	1
P4SMA220A	P4SMA220CA	220A	220C	185.00	209.00~231.0	1	328.0	1.3	1
P4SMA250A	P4SMA250CA	250A	250C	214.00	237.00~263.0	1	344.0	1.2	1
P4SMA300A	P4SMA300CA	300A	300C	256.00	285.00~315.0	1	414.0	1.0	1
P4SMA350A	P4SMA350CA	350A	350C	300.00	332.00~368.0	1	482.0	0.85	1
P4SMA400A	P4SMA400CA	400A	400C	342.00	380.00~420.0	1	548.0	0.75	1
P4SMA440A	P4SMA440CA	440A	440C	376.00	418.00~462.0	1	602.0	0.68	1
P4SMA480A	P4SMA480CA	480A	480C	408.00	456.00~504.0	1	658.0	0.61	1
P4SMA510A	P4SMA510CA	510A	510C	434.00	485.00~535.0	1	698.0	0.57	1
P4SMA530A	P4SMA530CA	530A	530C	450.00	503.50~556.5	1	725.0	0.55	1
P4SMA540A	P4SMA540CA	540A	540C	459.00	513.00~567.0	1	740.0	0.54	1
P4SMA550A	P4SMA550CA	550A	550C	467.00	522.50~577.5	1	760.0	0.52	1
P4SMA600A	P4SMA600CA	600A	600C	510.00	570.00~630.0	1	828.0	0.48	1



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

Figure 1. Peak Pulse Power Rating Curve

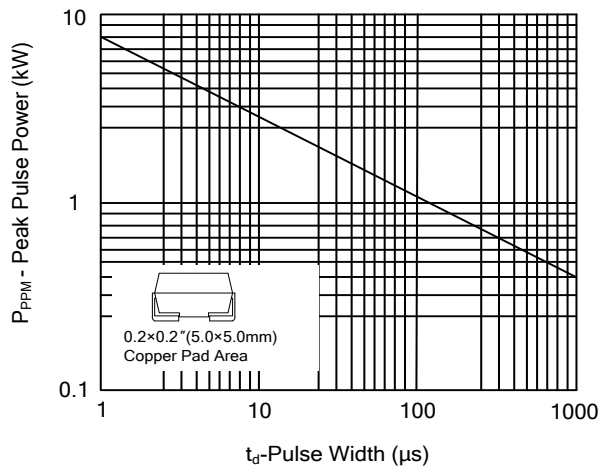


Figure 2. Pulse Derating Curve

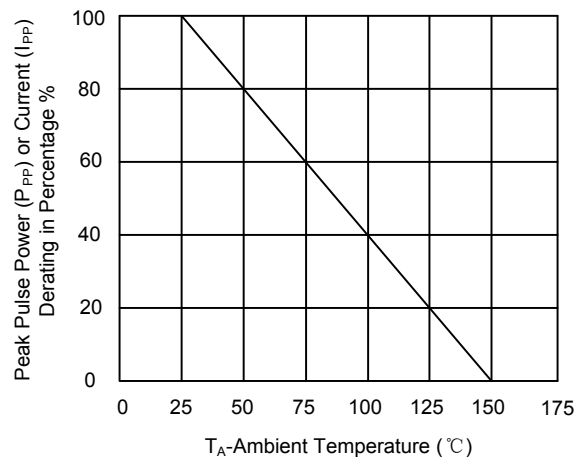


Figure 3. Pulse Waveform

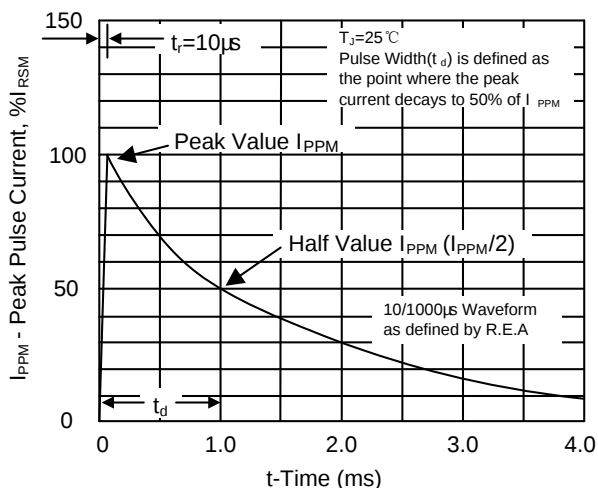


Figure 4. Typical Junction Capacitance

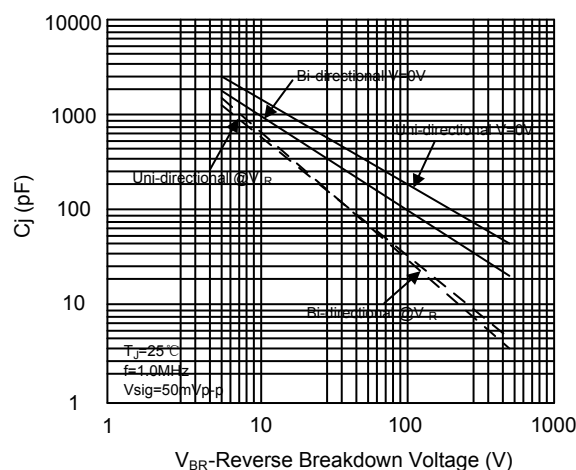


Figure 5. Steady State Power Dissipation Derating Curve

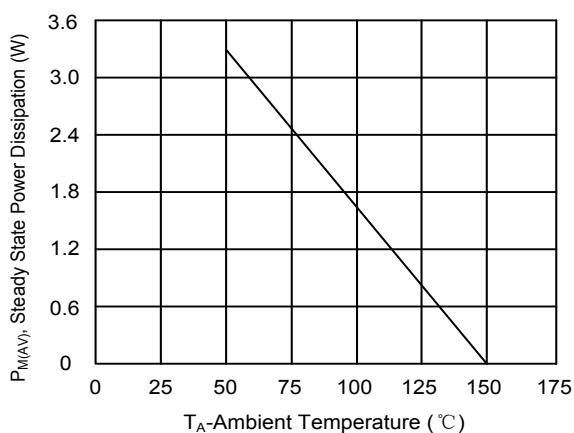
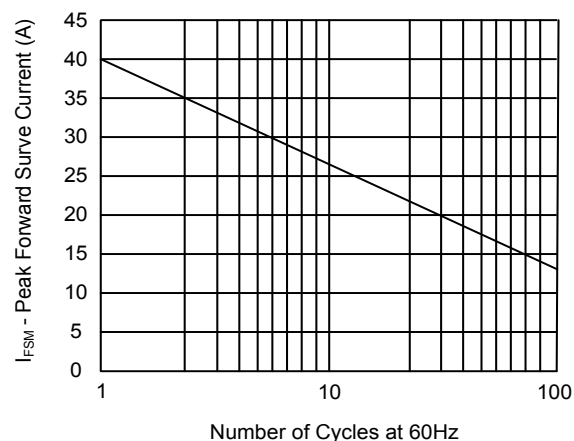
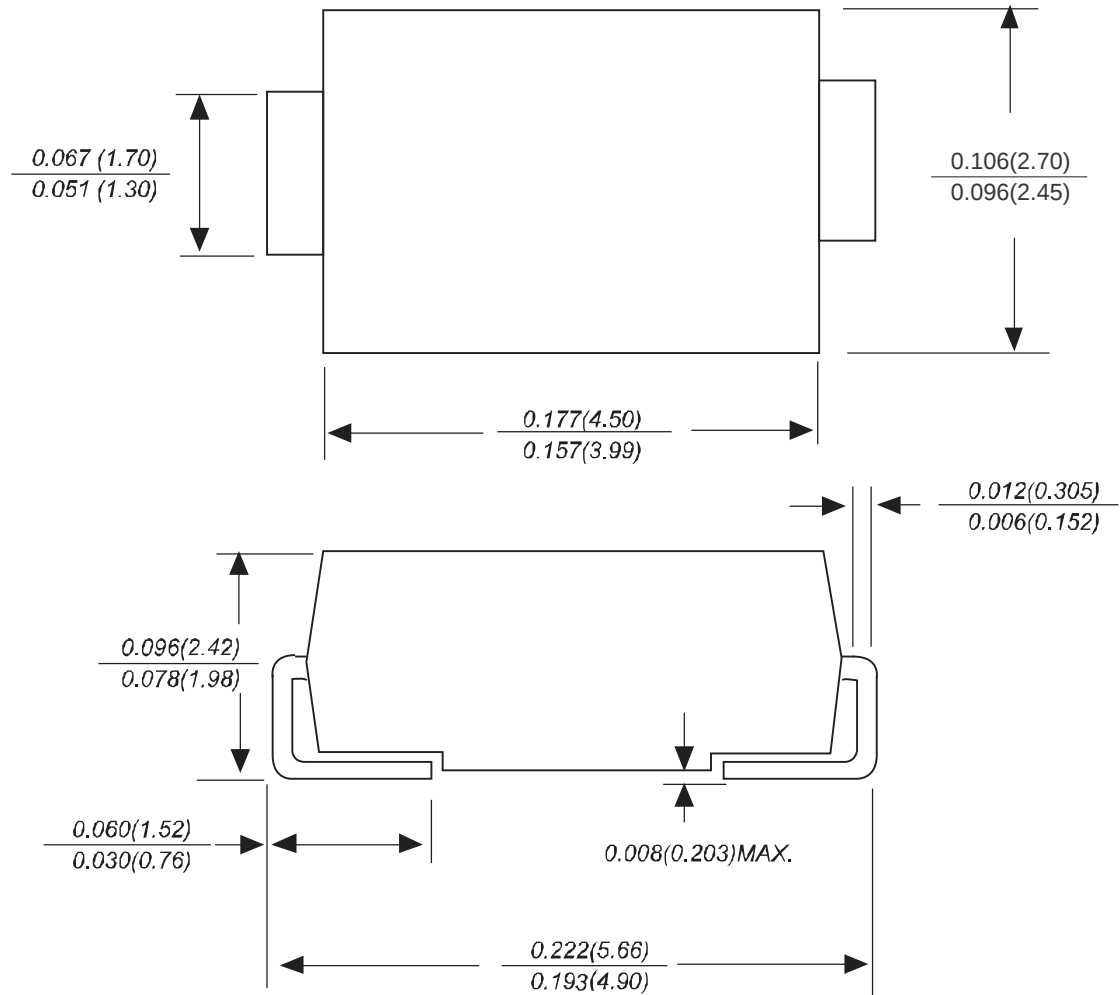


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





Package Outline Dimensions
SMA(DO-214AC)



Dimensions in inches and (millimeters)



Attention

- Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.
- HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.
- Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.