

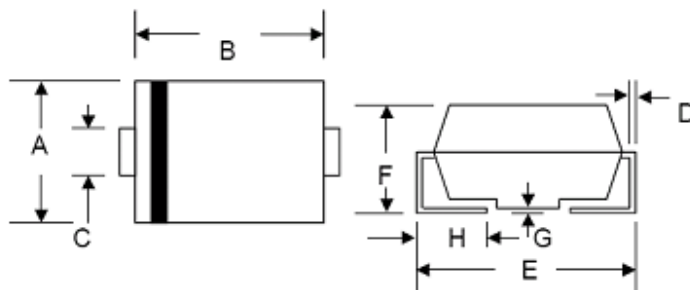


**Technical Data**

Data Sheet N0001, Rev. A

**Features**

- Glass Passivated Die Construction
- 3000W Peak Pulse Power Dissipation
- 5.0V – 170V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request



SMC/DO-214AB				
Dim	Min	Max	Min	Max
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.75	3.25	0.108	0.128
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.62	0.079	0.103
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.030	0.05
	In mm		In inch	

"C" Suffix Designates Bi-directional Devices  
 "A" Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

**Mechanical Data**

- Case: JEDEC DO-214AB Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking:  
 Unidirectional – Device Code and Cathode Band  
 Bidirectional – Device Code Only
- Weight: 0.21 grams (approx.)

**Ordering Information**

Device	Package	Shipping
3.0SMCJ SERIES	SMC (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

**Maximum Ratings and Electrical Characteristics** @ $T_A=25^{\circ}\text{C}$  unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000 $\mu\text{S}$ Waveform (Note 1, 2) Figure 1	PPPM	3000	W
Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 3	I <sub>PPM</sub>	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	I <sub>FSM</sub>	300	A
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	$^{\circ}\text{C}$

Note: 1. Non-repetitive current pulse, per Figure 3 and derated above  $T_A = 25^{\circ}\text{C}$  per Figure 2

2. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal

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

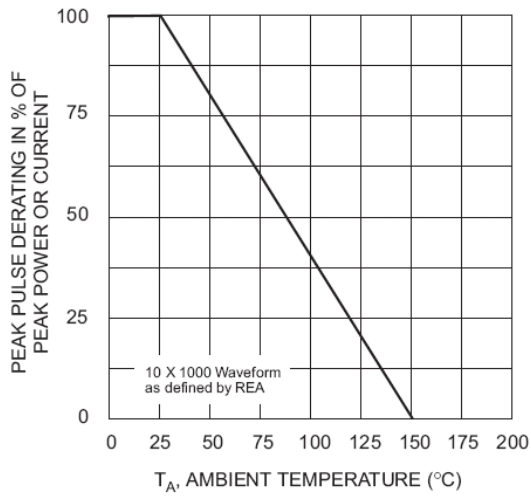


Fig. 1 Pulse Derating Curve

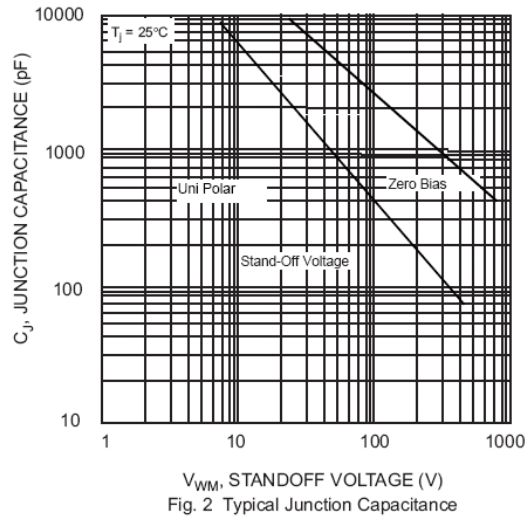


Fig. 2 Typical Junction Capacitance

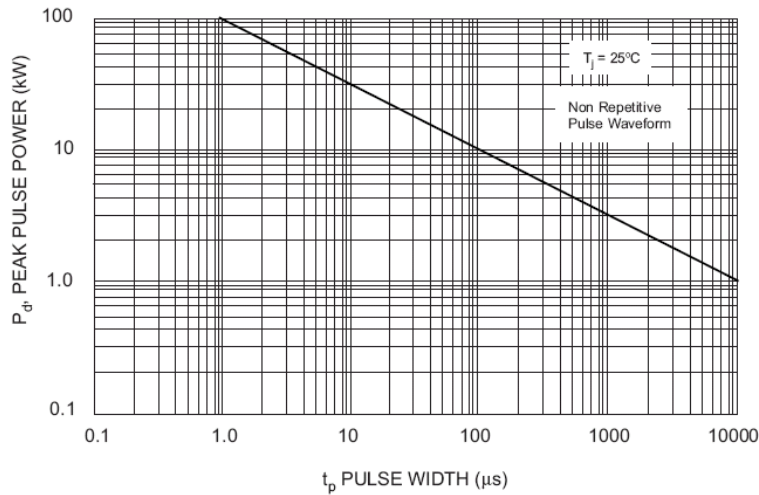


Fig. 3 Pulse Rating Curve

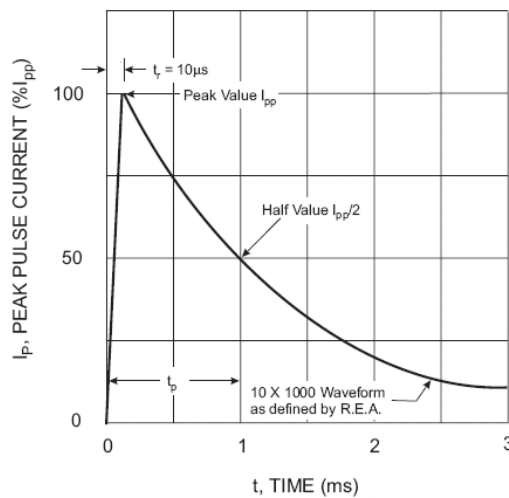


Fig. 4 Pulse Waveform



**Technical Data**  
**Data Sheet N0001, Rev. A**

**Green Products**

**UNI-DIRECTIONAL 3000 WATT SURFACE MOUNT TVS**

UNI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @1T	BREAKDOWN VOLTAGE VBR (V) MAX. @1T	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
3.0SMCJ5.0	HDD	5	6.4	7.82	10	9.6	312.5	1000
3.0SMCJ5.0A	HDE	5	6.4	7.07	10	9.2	326	1000
3.0SMCJ6.0	HDF	6	6.67	8.15	10	11.4	263.2	1000
3.0SMCJ6.0A	HDG	6	6.67	7.37	10	10.3	291.3	1000
3.0SMCJ6.5	HDH	6.5	7.22	8.82	10	12.3	243.9	500
3.0SMCJ6.5A	HDK	6.5	7.22	7.98	10	11.2	267.9	500
3.0SMCJ7.0	HDL	7	7.78	9.51	10	13.3	225.6	200
3.0SMCJ7.0A	HDM	7	7.78	8.60	10	12	250	200
3.0SMCJ7.5	HDN	7.5	8.33	10.18	1	14.3	209.8	100
3.0SMCJ7.5A	HDP	7.5	8.33	9.21	1	12.9	232.6	100
3.0SMCJ8.0	HDQ	8	8.99	10.99	1	15	220	50
3.0SMCJ8.0A	HDR	8	8.99	9.94	1	13.6	220.6	50
3.0SMCJ8.5	HDS	8.5	9.44	11.54	1	15.9	188.8	25
3.0SMCJ8.5A	HDT	8.5	9.44	10.43	1	14.4	208.4	25
3.0SMCJ9.0	HDU	9	10	12.22	1	16.9	177.4	10
3.0SMCJ9.0A	HDV	9	10	11.05	1	15.4	194.8	10
3.0SMCJ10	HDW	10	11.1	13.57	1	18.8	159.6	5
3.0SMCJ10A	HDX	10	11.1	12.27	1	17	176.4	5
3.0SMCJ11	HDY	11	12.2	14.91	1	20.1	149.2	5
3.0SMCJ11A	HDZ	11	12.2	13.48	1	18.2	184.8	5
3.0SMCJ12	HED	12	13.3	16.26	1	22	136.4	5
3.0SMCJ12A	HEE	12	13.3	14.70	1	19.9	150.6	5
3.0SMCJ13	HEF	13	14.4	17.60	1	23.8	126	5
3.0SMCJ13A	HEG	13	14.4	15.92	1	21.5	139.4	5
3.0SMCJ14	HEH	14	15.6	19.07	1	25.8	116.2	5
3.0SMCJ14A	HEK	14	15.6	17.24	1	23.2	129.4	5
3.0SMCJ15	HEL	15	16.7	20.41	1	26.9	111.6	5
3.0SMCJ15A	HEM	15	16.7	18.46	1	24.4	123	5
3.0SMCJ16	HEN	16	17.8	21.76	1	28.8	104.2	5
3.0SMCJ16A	HEP	16	17.8	19.67	1	26	115.4	5
3.0SMCJ17	HEQ	17	18.9	23.10	1	30.5	98.4	5
3.0SMCJ17A	HER	17	18.9	20.89	1	27.6	106.6	5
3.0SMCJ18	HES	18	20	24.44	1	32.2	93.2	5
3.0SMCJ18A	HET	18	20	22.11	1	29.2	102.8	5
3.0SMCJ20	HEU	20	22.2	27.13	1	35.8	83.8	5
3.0SMCJ20A	HEV	20	22.2	24.54	1	32.4	92.6	5
3.0SMCJ22	HEW	22	24.4	29.82	1	39.4	76.2	5
3.0SMCJ22A	HEX	22	24.4	26.97	1	35.5	84.4	5
3.0SMCJ24	HEY	24	26.7	32.63	1	43	69.8	5
3.0SMCJ24A	HEZ	24	26.7	29.51	1	38.9	77.2	5
3.0SMCJ26	HFD	26	28.9	35.32	1	46.6	64.4	5
3.0SMCJ26A	HFE	26	28.9	31.94	1	42.1	71.2	5
3.0SMCJ28	HFF	28	31.1	38.01	1	50	60	5
3.0SMCJ28A	HFG	28	31.1	34.37	1	45.4	66	5
3.0SMCJ30	HFH	30	33.3	40.70	1	53.5	56	5
3.0SMCJ30A	HFK	30	33.3	36.81	1	48.4	62	5
3.0SMCJ33	HFL	33	36.7	44.86	1	59	50.4	5
3.0SMCJ33A	HFM	33	36.7	40.56	1	53.3	56.2	5
3.0SMCJ36	HFN	36	40	48.89	1	64.3	46.6	5
3.0SMCJ36A	HFP	36	40	44.21	1	58.1	51.6	5
3.0SMCJ40	HFQ	40	44.4	54.27	1	71.4	42	5
3.0SMCJ40A	HFR	40	44.4	49.07	1	64.5	46.4	5
3.0SMCJ43	HFS	43	47.8	58.42	1	76.6	39.2	5
3.0SMCJ43A	HFT	43	47.8	52.83	1	69.4	43.2	5
3.0SMCJ45	HFU	45	50	61.11	1	80.3	37.4	5
3.0SMCJ45A	HFV	45	50	55.26	1	72.7	41.2	5
3.0SMCJ48	HFW	48	53.3	65.14	1	85.5	35	5
3.0SMCJ48A	HFY	48	53.3	58.91	1	77.4	38.8	5
3.0SMCJ51	HFY	51	56.7	69.30	1	91.1	37	5
3.0SMCJ51A	HFZ	51	56.7	62.67	1	82.4	36.4	5
3.0SMCJ54	HGD	54	60	73.33	1	96.3	31.2	5
3.0SMCJ54A	HGE	54	60	66.32	1	87.1	34.4	5
3.0SMCJ58	HGF	58	64.4	78.71	1	103	29.2	5
3.0SMCJ58A	HGG	58	64.4	71.18	1	93.6	32	5
3.0SMCJ60	HGH	60	66.7	81.52	1	107	28	5
3.0SMCJ60A	HGK	60	66.7	73.72	1	96.8	31	5
3.0SMCJ64	HGL	64	71.1	86.90	1	114	26.4	5
3.0SMCJ64A	HGM	64	71.1	78.58	1	103	29.2	5
3.0SMCJ70	HGN	70	77.8	95.09	1	125	24	5
3.0SMCJ70A	HGP	70	77.8	85.99	1	113	26.6	5
3.0SMCJ75	HGQ	75	83.3	101.81	1	134	22.4	5
3.0SMCJ75A	HGR	75	83.3	92.07	1	121	24.8	5
3.0SMCJ78	HGS	78	86.7	105.97	1	139	21.6	5
3.0SMCJ78A	HGT	78	86.7	95.83	1	126	22.8	5
3.0SMCJ85	HGU	85	94.4	115.38	1	151	19.8	5
3.0SMCJ85A	HGV	85	94.4	104.34	1	137	20.8	5
3.0SMCJ90	HGW	90	100	122.22	1	160	18.8	5
3.0SMCJ90A	HGX	90	100	110.53	1	146	20.6	5
3.0SMCJ100	HGY	100	111	135.67	1	179	16.6	5
3.0SMCJ100A	HGZ	100	111	122.68	1	162	18.6	5
3.0SMCJ110	HHD	110	122	149.11	1	196	15.4	5
3.0SMCJ110A	HHE	110	122	134.84	1	177	16.8	5
3.0SMCJ120	HHF	120	133	162.56	1	214	14	5
3.0SMCJ120A	HHG	120	133	147.00	1	193	15.6	5
3.0SMCJ130	HHH	130	144	176.00	1	231	13	5
3.0SMCJ130A	HHK	130	144	159.16	1	209	14.4	5
3.0SMCJ150	HHL	150	167	204.11	1	269	11.2	5
3.0SMCJ150A	HHM	150	167	184.58	1	243	12.4	5
3.0SMCJ160	HHN	160	178	217.56	1	287	10.4	5
3.0SMCJ160A	HHP	160	178	196.74	1	259	11.6	5
3.0SMCJ170	HHQ	170	189	231.00	1	304	9.8	5
3.0SMCJ170A	HHR	170	189	208.89	1	275	11	5



Technical Data  
Data Sheet N0001, Rev. A

**Green Products**

**BI-DIRECTIONAL 3000 WATT SURFACE MOUNT TVS**

BI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
3.0SMCJ5.0C	IDD	5	6.4	7.82	10	9.6	312.5	2000
3.0SMCJ5.0CA	IDE	5	6.4	7.07	10	9.2	326	2000
3.0SMCJ6.0C	IDF	6	6.67	8.15	10	11.4	263.2	2000
3.0SMCJ6.0CA	IDG	6	6.67	7.37	10	10.3	291.3	2000
3.0SMCJ6.5C	IDH	6.5	7.22	8.82	10	12.3	243.9	1000
3.0SMCJ6.5CA	IDK	6.5	7.22	7.98	10	11.2	267.9	1000
3.0SMCJ7.0C	IDL	7	7.78	9.51	10	13.3	225.6	400
3.0SMCJ7.0CA	IDM	7	7.78	8.60	10	12	250	400
3.0SMCJ7.5C	IDN	7.5	8.33	10.18	1	14.3	209.8	200
3.0SMCJ7.5CA	IDP	7.5	8.33	9.21	1	12.9	232.6	200
3.0SMCJ8.0C	IDQ	8	8.99	10.99	1	15	220	100
3.0SMCJ8.0CA	IDR	8	8.99	9.94	1	13.6	220.6	100
3.0SMCJ8.5C	IDS	8.5	9.44	11.54	1	15.9	188.8	50
3.0SMCJ8.5CA	IDT	8.5	9.44	10.43	1	14.4	208.4	50
3.0SMCJ9.0C	IDU	9	10	12.22	1	16.9	177.4	20
3.0SMCJ9.0CA	IDV	9	10	11.05	1	15.4	194.8	20
3.0SMCJ10C	IDW	10	11.1	13.57	1	18.8	159.6	5
3.0SMCJ10CA	IDX	10	11.1	12.27	1	17	176.4	5
3.0SMCJ11C	IDY	11	12.2	14.91	1	20.1	149.2	5
3.0SMCJ11CA	IDZ	11	12.2	13.48	1	18.2	184.8	5
3.0SMCJ12C	IED	12	13.3	16.26	1	22	136.4	5
3.0SMCJ12CA	IEE	12	13.3	14.70	1	19.9	150.6	5
3.0SMCJ13C	IEF	13	14.4	17.60	1	23.8	126	5
3.0SMCJ13CA	IEG	13	14.4	15.92	1	21.5	139.4	5
3.0SMCJ14C	IEH	14	15.6	19.07	1	25.8	116.2	5
3.0SMCJ14CA	IEK	14	15.6	17.24	1	23.2	129.4	5
3.0SMCJ15C	IEL	15	16.7	20.41	1	26.9	111.6	5
3.0SMCJ15CA	IEM	15	16.7	18.46	1	24.4	123	5
3.0SMCJ16C	IEN	16	17.8	21.76	1	28.8	104.2	5
3.0SMCJ16CA	IEP	16	17.8	19.67	1	26	115.4	5
3.0SMCJ17C	IEQ	17	18.9	23.10	1	30.5	98.4	5
3.0SMCJ17CA	IER	17	18.9	20.89	1	27.6	106.6	5
3.0SMCJ18C	IES	18	20	24.44	1	32.2	93.2	5
3.0SMCJ18CA	IET	18	20	22.11	1	29.2	102.8	5
3.0SMCJ20C	IEU	20	22.2	27.13	1	35.8	83.8	5
3.0SMCJ20CA	IEV	20	22.2	24.54	1	32.4	92.6	5
3.0SMCJ22C	IEW	22	24.4	29.82	1	39.4	76.2	5
3.0SMCJ22CA	IEX	22	24.4	26.97	1	35.5	84.4	5
3.0SMCJ24C	IEY	24	26.7	32.63	1	43	69.8	5
3.0SMCJ24CA	IEZ	24	26.7	29.51	1	38.9	77.2	5
3.0SMCJ26C	IFD	26	28.9	35.32	1	46.6	64.4	5
3.0SMCJ26CA	IFE	26	28.9	31.94	1	42.1	71.2	5
3.0SMCJ28C	IFF	28	31.1	38.01	1	50	60	5
3.0SMCJ28CA	IFG	28	31.1	34.37	1	45.4	66	5
3.0SMCJ30C	IFH	30	33.3	40.70	1	53.5	56	5
3.0SMCJ30CA	IFK	30	33.3	36.81	1	48.4	62	5
3.0SMCJ33C	IFL	33	36.7	44.86	1	59	50.4	5
3.0SMCJ33CA	IFM	33	36.7	40.56	1	53.3	56.2	5
3.0SMCJ36C	IFN	36	40	48.89	1	64.3	46.6	5
3.0SMCJ36CA	IFP	36	40	44.21	1	58.1	51.6	5
3.0SMCJ40C	IFQ	40	44.4	54.27	1	71.4	42	5
3.0SMCJ40CA	IFR	40	44.4	49.07	1	64.5	46.4	5
3.0SMCJ43C	IFS	43	47.8	58.42	1	76.6	39.2	5
3.0SMCJ43CA	IFT	43	47.8	52.83	1	69.4	43.2	5
3.0SMCJ45C	IFU	45	50	61.11	1	80.3	37.4	5
3.0SMCJ45CA	IFV	45	50	55.26	1	72.7	41.2	5
3.0SMCJ48C	IFW	48	53.3	65.14	1	85.5	35	5
3.0SMCJ48CA	IFX	48	53.3	58.91	1	77.4	38.8	5
3.0SMCJ51C	IFY	51	56.7	69.30	1	91.1	37	5
3.0SMCJ51CA	IFZ	51	56.7	62.67	1	82.4	36.4	5
3.0SMCJ54C	IGD	54	60	73.33	1	96.3	31.2	5
3.0SMCJ54CA	IGE	54	60	66.32	1	87.1	34.4	5
3.0SMCJ58C	IGF	58	64.4	78.71	1	103	29.2	5
3.0SMCJ58CA	IGG	58	64.4	71.18	1	93.6	32	5
3.0SMCJ60C	IGH	60	66.7	81.52	1	107	28	5
3.0SMCJ60CA	IGK	60	66.7	73.72	1	96.8	31	5
3.0SMCJ64C	IGL	64	71.1	86.90	1	114	26.4	5
3.0SMCJ64CA	IGM	64	71.1	78.58	1	103	29.2	5
3.0SMCJ70C	IGN	70	77.8	95.09	1	125	24	5
3.0SMCJ70CA	IGP	70	77.8	85.99	1	113	26.6	5
3.0SMCJ75C	IGQ	75	83.3	101.81	1	134	22.4	5
3.0SMCJ75CA	IGR	75	83.3	92.07	1	121	24.8	5
3.0SMCJ78C	IGS	78	86.7	105.97	1	139	21.6	5
3.0SMCJ78CA	IGT	78	86.7	95.83	1	126	22.8	5
3.0SMCJ85C	IGU	85	94.4	115.38	1	151	19.8	5
3.0SMCJ85CA	IGV	85	94.4	104.34	1	137	20.8	5
3.0SMCJ90C	IGW	90	100	122.22	1	160	18.8	5
3.0SMCJ90CA	IGX	90	100	110.53	1	146	20.6	5
3.0SMCJ100C	IGY	100	111	135.67	1	179	16.6	5
3.0SMCJ100CA	IGZ	100	111	122.88	1	162	18.6	5
3.0SMCJ110C	IHD	110	122	149.11	1	196	15.4	5
3.0SMCJ110CA	IHE	110	122	134.84	1	177	16.8	5
3.0SMCJ120C	IHF	120	133	162.56	1	214	14	5
3.0SMCJ120CA	IHG	120	133	147.00	1	193	15.6	5
3.0SMCJ130C	IHH	130	144	176.00	1	231	13	5
3.0SMCJ130CA	IHK	130	144	159.16	1	209	14.4	5
3.0SMCJ150C	IHL	150	167	204.11	1	269	11.2	5
3.0SMCJ150CA	IHM	150	167	184.58	1	243	12.4	5
3.0SMCJ160C	IHN	160	178	217.56	1	287	10.4	5
3.0SMCJ160CA	IHP	160	178	196.74	1	259	11.6	5
3.0SMCJ170C	IHQ	170	189	231.00	1	304	9.8	5
3.0SMCJ170CA	IHR	170	189	208.89	1	275	11	5



**DISCLAIMER:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC - Sangdest Microelectronics (Nanjing) Co., Ltd sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC - Sangdest Microelectronics (Nanjing) Co., Ltd assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC - Sangdest Microelectronics (Nanjing) Co., Ltd be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC - Sangdest Microelectronics (Nanjing) Co., Ltd.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..