



# 1.5SMC-AU SERIES

**GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt**

**BREAK DOWN VOLTAGE**

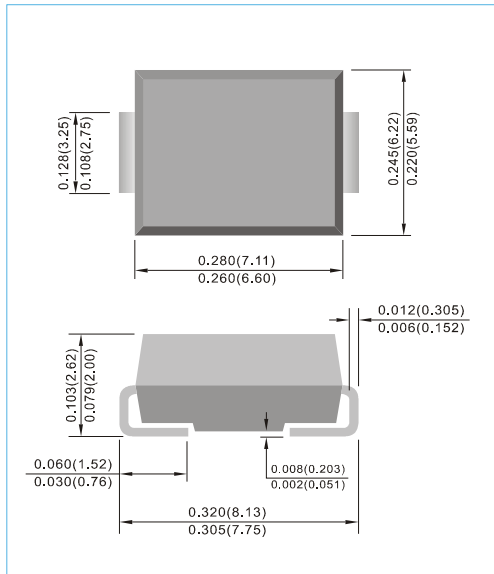
**6.8 to 250 Volt**

**SMC / DO-214AB**

Unit : inch(mm)

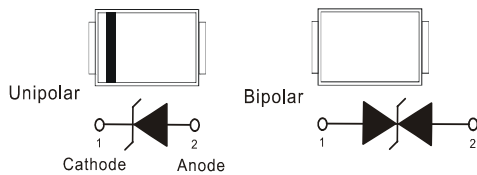
## FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction in SMC/DO-214AB package
- 1500W surge capability at 1ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1 ps from 0 volts to BV min
- High temperature soldering guaranteed: 260°C/10 seconds/0.375", (9.5mm) lead length/5lbs., (2.3kg) tension
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)



## MECHANICAL DATA

- Case: JEDEC SMC/DO-214AB molded plastic
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.0082 ounce, 0.233 gram



## DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SMC6.8 thru types 1.5SMC250.  
 Electrical characteristics apply in both directions.

## MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Notes 1)	$P_{PP}$	1500	Watts
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	$^\circ\text{C} / \text{W}$
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	$I_{PPM}$	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	$I_{FSM}$	200	Amps
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

### NOTES :

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on Copper Leaf area of  $0.79 \text{ in}^2 (20\text{mm}^2)$ .
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



# 1.5SMC-AU SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>r</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
<b>1500W Transient Voltage Suppressor</b>											
1.5SMC6.8-AU	1.5SMC6.8C-AU	5.5	6.12	7.48	10	1000	2000	10.8	139	FZA	JZA
1.5SMC6.8A-AU	1.5SMC6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	143	FZB	JZB
1.5SMC7.5-AU	1.5SMC7.5C-AU	6.05	6.75	8.25	10	500	1000	11.7	128	FZC	JZC
1.5SMC7.5A-AU	1.5SMC7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	132	FZD	JZD
1.5SMC8.2-AU	1.5SMC8.2C-AU	6.63	7.38	9.02	10	200	400	12.5	120	FZE	JZE
1.5SMC8.2A-AU	1.5SMC8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	124	FZF	JZF
1.5SMC9.1-AU	1.5SMC9.1C-AU	7.37	8.19	10	1	50	100	13.8	109	FZG	JZG
1.5SMC9.1A-AU	1.5SMC9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	112	FZH	JZH
1.5SMC10-AU	1.5SMC10C-AU	8.1	9	11	1	10	20	15	100	FZJ	JZJ
1.5SMC10A-AU	1.5SMC10CA-AU	8.55	9.5	10.5	1	10	20	14.5	103	FZK	JZK
1.5SMC11-AU	1.5SMC11C-AU	8.92	9.9	12.1	1	5	10	16.2	93	FZL	JZL
1.5SMC11A-AU	1.5SMC11CA-AU	9.4	10.5	11.6	1	5	10	15.6	96	FZM	JZM
1.5SMC12-AU	1.5SMC12C-AU	9.72	10.8	13.2	1	5	5	17.3	87	FZN	JZN
1.5SMC12A-AU	1.5SMC12CA-AU	10.2	11.4	12.6	1	5	5	16.7	90	FZP	JZP
1.5SMC13-AU	1.5SMC13C-AU	10.5	11.7	14.3	1	1	1	19	79	FZQ	JZQ
1.5SMC13A-AU	1.5SMC13CA-AU	11.1	12.4	13.7	1	1	1	18.2	82	FZR	JZR
1.5SMC15-AU	1.5SMC15C-AU	12.1	13.5	16.5	1	1	1	22	68	FZS	JZS
1.5SMC15A-AU	1.5SMC15CA-AU	12.8	14.3	15.8	1	1	1	21.2	71	FZT	JZT
1.5SMC16-AU	1.5SMC16C-AU	12.9	14.4	17.6	1	1	1	23.5	64	FZU	JZU
1.5SMC16A-AU	1.5SMC16CA-AU	13.6	15.2	16.8	1	1	1	22.5	67	FZV	JZV
1.5SMC18-AU	1.5SMC18C-AU	14.5	16.2	19.8	1	1	1	26.5	56.5	FZW	JZW
1.5SMC18A-AU	1.5SMC18CA-AU	15.3	17.1	18.9	1	1	1	25.2	59.5	FZX	JZX
1.5SMC20-AU	1.5SMC20C-AU	16.2	18	22	1	1	1	29.1	51.5	FZY	JZY
1.5SMC20A-AU	1.5SMC20CA-AU	17.1	19	21	1	1	1	27.7	54	FZZ	JZZ
1.5SMC22-AU	1.5SMC22C-AU	17.8	19.8	24.2	1	1	1	31.9	47	FXA	JXA
1.5SMC22A-AU	1.5SMC22CA-AU	18.8	20.9	23.1	1	1	1	30.6	49	FXB	JXB
1.5SMC24-AU	1.5SMC24C-AU	19.4	21.6	26.4	1	1	1	34.7	43	FXC	JXC
1.5SMC24A-AU	1.5SMC24CA-AU	20.5	22.8	25.2	1	1	1	33.2	45	FXD	JXD
1.5SMC27-AU	1.5SMC27C-AU	21.8	24.3	29.7	1	1	1	39.1	38.5	FXE	JXE
1.5SMC27A-AU	1.5SMC27CA-AU	23.1	25.7	28.4	1	1	1	37.5	40	FXF	JXF
1.5SMC30-AU	1.5SMC30C-AU	24.3	27	33	1	1	1	43.5	34.5	FXG	JXG
1.5SMC30A-AU	1.5SMC30CA-AU	25.6	28.5	31.5	1	1	1	41.4	36	FXH	JXH
1.5SMC33-AU	1.5SMC33C-AU	26.8	29.7	36.3	1	1	1	47.7	31.5	FXJ	JXJ
1.5SMC33A-AU	1.5SMC33CA-AU	28.2	31.4	34.7	1	1	1	45.7	33	FXK	JXK
1.5SMC36-AU	1.5SMC36C-AU	29.1	32.4	39.6	1	1	1	52	29	FXL	JXL
1.5SMC36A-AU	1.5SMC36CA-AU	30.8	34.2	37.8	1	1	1	49.9	30	FXM	JXM
1.5SMC39-AU	1.5SMC39C-AU	31.6	35.1	42.9	1	1	1	56.4	26.5	FXN	JXN
1.5SMC39A-AU	1.5SMC39CA-AU	33.3	37.1	41	1	1	1	53.9	28	FXP	JXP
1.5SMC43-AU	1.5SMC43C-AU	34.8	38.7	47.3	1	1	1	61.9	24	FXQ	JXQ

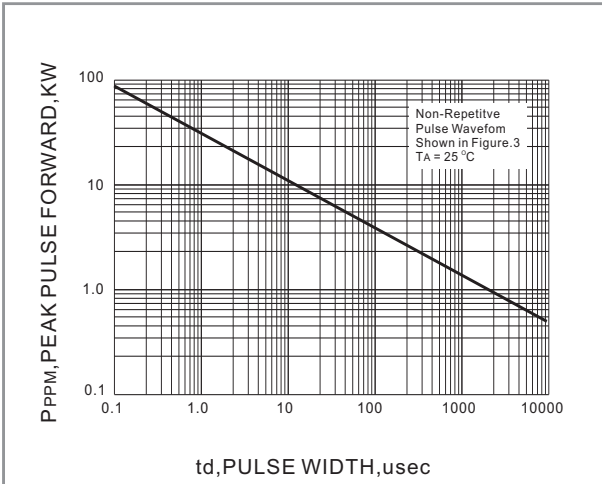


# 1.5SMC-AU SERIES

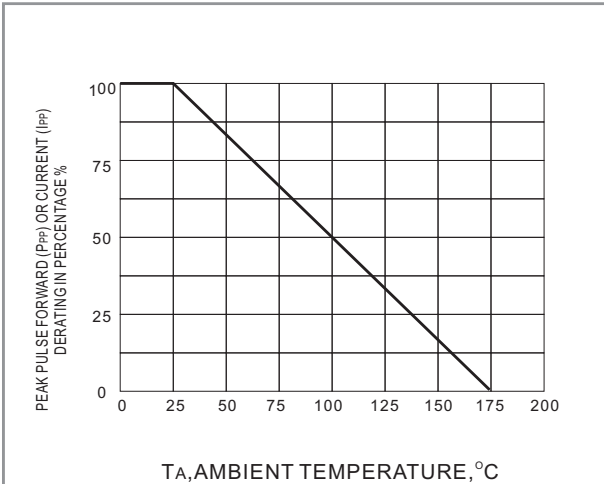
Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
			V <sub>BR</sub> @ I <sub>T</sub>			I <sub>R</sub> @ V <sub>RWM</sub>					
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
<b>1500W Transient Voltage Suppressor</b>											
1.5SMC43A-AU	1.5SMC43CA-AU	36.8	40.9	45.2	1	1	1	59.3	25.3	FXR	JXR
1.5SMC47-AU	1.5SMC47CA-AU	38.1	42.3	51.7	1	1	1	67.8	22.2	FXS	JXS
1.5SMC47A-AU	1.5SMC47CA-AU	40.2	44.7	49.4	1	1	1	64.8	23.2	FXT	JXT
1.5SMC51-AU	1.5SMC51CA-AU	41.3	45.9	56.1	1	1	1	73.5	20.4	FXU	JXU
1.5SMC51A-AU	1.5SMC51CA-AU	43.6	48.5	53.6	1	1	1	70.1	21.4	FXV	JXV
1.5SMC56-AU	1.5SMC56CA-AU	45.6	50.4	61.6	1	1	1	80.5	18.6	FXW	JXW
1.5SMC56A-AU	1.5SMC56CA-AU	47.8	53.2	58.8	1	1	1	77	19.5	FXX	JXX
1.5SMC62-AU	1.5SMC62CA-AU	50.2	55.8	68.2	1	1	1	89	16.9	FXY	JXY
1.5SMC62A-AU	1.5SMC62CA-AU	53	58.9	65.1	1	1	1	85	17.7	FXZ	JXZ
1.5SMC68-AU	1.5SMC68CA-AU	55.1	61.2	74.8	1	1	1	98	15.3	FYA	JYA
1.5SMC68A-AU	1.5SMC68CA-AU	58.1	64.6	71.4	1	1	1	92	16.3	FYB	JYB
1.5SMC75-AU	1.5SMC75CA-AU	60.7	67.5	82.5	1	1	1	108	13.9	FYC	JYC
1.5SMC75A-AU	1.5SMC75CA-AU	64.1	71.3	78.8	1	1	1	103	14.6	FYD	JYD
1.5SMC82-AU	1.5SMC82CA-AU	66.4	73.8	90.2	1	1	1	118	12.7	FYE	JYE
1.5SMC82A-AU	1.5SMC82CA-AU	70.1	77.9	86.1	1	1	1	113	13.3	FYF	JYF
1.5SMC91-AU	1.5SMC91CA-AU	73.7	81.9	100	1	1	1	131	11.4	FYG	JYG
1.5SMC91A-AU	1.5SMC91CA-AU	77.8	86.5	95.5	1	1	1	125	12	FYH	JYH
1.5SMC100-AU	1.5SMC100CA-AU	81	90	110	1	1	1	144	10.4	FYJ	JYJ
1.5SMC100A-AU	1.5SMC100CA-AU	85.5	95	105	1	1	1	137	11	FYK	JYK
1.5SMC110-AU	1.5SMC110CA-AU	89.2	99	121	1	1	1	158	9.5	FYL	JYL
1.5SMC110A-AU	1.5SMC110CA-AU	94	105	116	1	1	1	152	9.9	FYM	JYM
1.5SMC120-AU	1.5SMC120CA-AU	97.2	108	132	1	1	1	173	8.7	FYN	JYN
1.5SMC120A-AU	1.5SMC120CA-AU	102	114	126	1	1	1	165	9.1	FYP	JYP
1.5SMC130-AU	1.5SMC130CA-AU	105	117	143	1	1	1	187	8	FYQ	JYQ
1.5SMC130A-AU	1.5SMC130CA-AU	111	124	137	1	1	1	179	8.4	FYR	JYR
1.5SMC150-AU	1.5SMC150CA-AU	121	135	165	1	1	1	215	7	FYS	JYS
1.5SMC150A-AU	1.5SMC150CA-AU	128	143	158	1	1	1	207	7.2	FYT	JYT
1.5SMC160-AU	1.5SMC160CA-AU	130	144	176	1	1	1	230	6.5	FYU	JYU
1.5SMC160A-AU	1.5SMC160CA-AU	136	152	168	1	1	1	219	6.8	FYV	JYV
1.5SMC170-AU	1.5SMC170CA-AU	138	153	187	1	1	1	244	6.2	FYW	JYW
1.5SMC170A-AU	1.5SMC170CA-AU	145	162	179	1	1	1	234	6.4	FYX	JYX
1.5SMC180-AU	1.5SMC180CA-AU	146	162	198	1	1	1	258	5.8	FYY	JYY
1.5SMC180A-AU	1.5SMC180CA-AU	154	171	189	1	1	1	246	6.1	FYZ	JYZ
1.5SMC200-AU	1.5SMC200CA-AU	162	180	220	1	1	1	287	5.2	FWA	JWA
1.5SMC200A-AU	1.5SMC200CA-AU	171	190	210	1	1	1	274	5.5	FWB	JWB
1.5SMC220-AU	1.5SMC220CA-AU	175	198	242	1	1	1	344	4.3	FWC	JWC
1.5SMC220A-AU	1.5SMC220CA-AU	185	209	231	1	1	1	328	4.6	FWD	JWD
1.5SMC250-AU	1.5SMC250CA-AU	202	225	275	1	1	1	360	4.3	FWE	JWE
1.5SMC250A-AU	1.5SMC250CA-AU	214	237	263	1	1	1	344	4.5	FWF	JWF



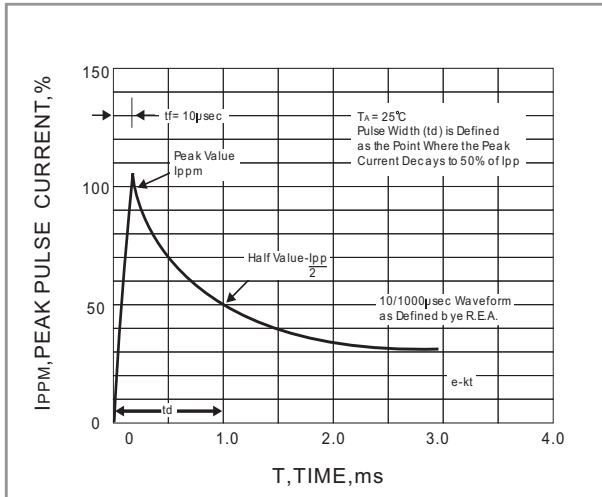
# 1.5SMC-AU SERIES



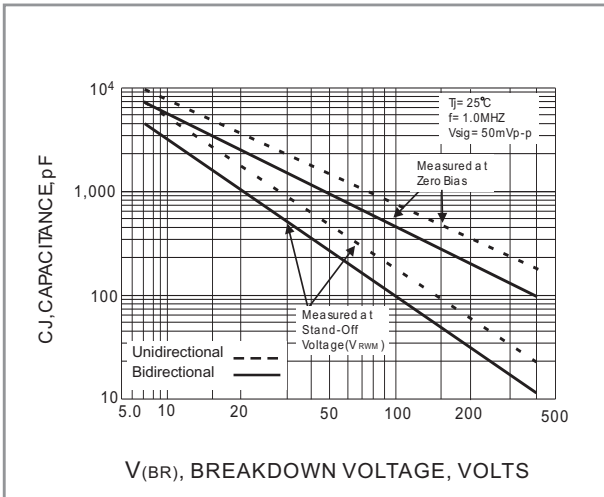
**Fig. 1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



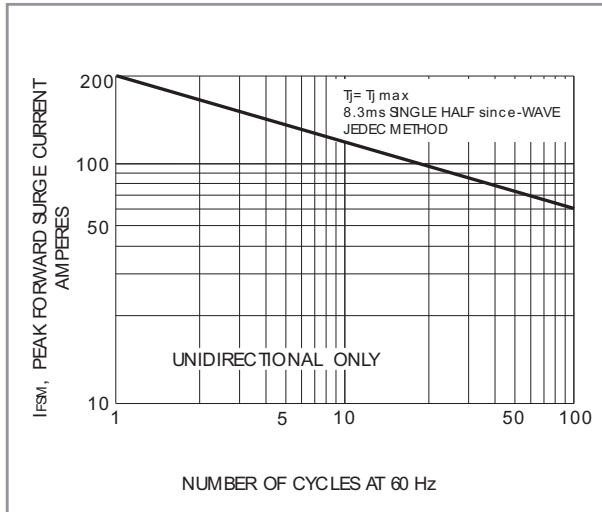
**Fig. 2 PULSE DERATING CURVE**



**Fig. 3 PULSE WAVEFORM**



**Fig. 4 TYPICAL JUNCTION CAPACITANCE**



**Fig. 5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**

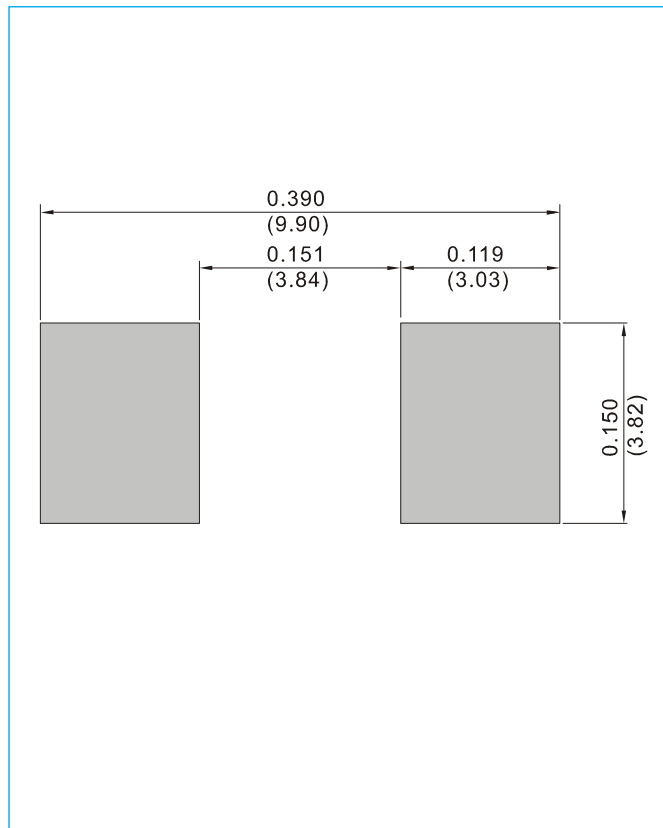


# 1.5SMC-AU SERIES

## MOUNTING PAD LAYOUT

SMC / DO-214AB

Unit : inch(mm)



## ORDER INFORMATION

- Packing information  
T/R - 3K per 13" plastic Reel  
T/R - 0.5K per 7" plastic Reel



# 1.5SMC-AU SERIES

## Part No\_packing code\_Version

1.5SMC6.8-AU\_R1\_000A1

1.5SMC6.8-AU\_R2\_000A1

For example :

**RB500V-40** **R2** **00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



## 1.5SMC-AU SERIES

---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.