



# P6SMB-AU SERIES

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

**BREAK DOWN VOLTAGE**

**6.8 to 250 Volt**

**SMB / DO-214AA**

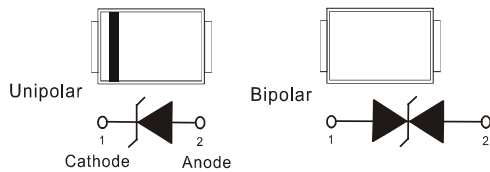
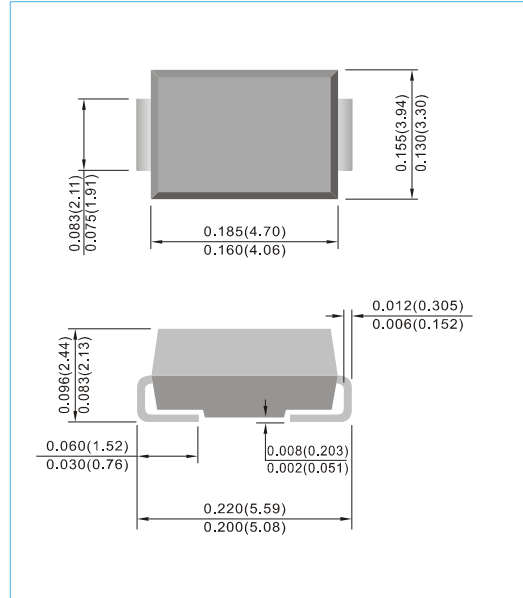
Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Fammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air  $\pm$  30kV, Contact  $\pm$  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 DO-214AA ,Molded plastic over passivated junction
- Terminals: Solder plated,solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 12mm tape (EIA-481)
- Weight: 0.003 ounce, 0.093 gram



### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types  
 Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
 For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on $t_p=10/1000\mu s$ waveform (Notes 1,2, Fig.1)	$P_{PP}$	600	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Notes 2,3)	$I_{FSM}$	100	Amps
Peak Pulse Current on $t_p=10/1000\mu s$ waveform (Notes 1) Fig.3	$I_{PPM}$	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	60	$^{\circ}C / W$
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	$^{\circ}C$

#### NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^{\circ}C$  per Fig. 2.
2. Mounted on  $5mm^2$  (0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute 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.



## P6SMB-AU SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000 $\mu$ s	Peak Pulse Current 10/1000 $\mu$ s	Marking Code	
			$V_{BR} @ I_T$			$I_R @ V_{RWM}$					
		$V_{RWM}$ (Notes 4)	Min.	Max.	$I_T$	UNI	BI	$V_C @ I_{PP}$	$I_{PP}$	UNI	BI
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>600W Transient Voltage Suppressor</b>											
P6SMB6.8-AU	P6SMB6.8CA-AU	5.5	6.12	7.48	10	1000	2000	10.8	56	EZA	DZA
P6SMB6.8A-AU	P6SMB6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	57	EZB	DZB
P6SMB7.5-AU	P6SMB7.5CA-AU	6.05	6.75	8.25	10	500	1000	11.7	51	EZC	DZC
P6SMB7.5A-AU	P6SMB7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	53	EZD	DZD
P6SMB8.2-AU	P6SMB8.2CA-AU	6.63	7.38	9.02	10	200	400	12.5	48	EZE	DZE
P6SMB8.2A-AU	P6SMB8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	50	EZF	DZF
P6SMB9.1-AU	P6SMB9.1CA-AU	7.37	8.19	10	1	50	100	13.8	44	EZG	DZG
P6SMB9.1A-AU	P6SMB9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	45	EZH	DZH
P6SMB10-AU	P6SMB10CA-AU	8.1	9	11	1	10	20	15	40	EZJ	DZJ
P6SMB10A-AU	P6SMB10CA-AU	8.55	9.5	10.5	1	10	20	14.5	41	EZK	DZK
P6SMB11-AU	P6SMB11CA-AU	8.92	9.9	12.1	1	5	10	16.2	37	EZL	DZL
P6SMB11A-AU	P6SMB11CA-AU	9.4	10.5	11.6	1	5	10	15.6	38	EZM	DZM
P6SMB12-AU	P6SMB12CA-AU	9.72	10.8	13.2	1	5	5	17.3	35	EZN	DZN
P6SMB12A-AU	P6SMB12CA-AU	10.2	11.4	12.6	1	5	5	16.7	36	EZP	DZP
P6SMB13-AU	P6SMB13CA-AU	10.5	11.7	14.3	1	1	1	19	32	EZQ	DZQ
P6SMB13A-AU	P6SMB13CA-AU	11.1	12.4	13.7	1	1	1	18.2	33	EZR	DZR
P6SMB15-AU	P6SMB15CA-AU	12.1	13.5	16.5	1	1	1	22	27	EZS	DZS
P6SMB15A-AU	P6SMB15CA-AU	12.8	14.3	15.8	1	1	1	21.2	28	EZT	DZT
P6SMB16-AU	P6SMB16CA-AU	12.9	14.4	17.6	1	1	1	23.5	26	EZU	DZU
P6SMB16A-AU	P6SMB16CA-AU	13.6	15.2	16.8	1	1	1	22.5	27	EZV	DZV
P6SMB18-AU	P6SMB18CA-AU	14.5	16.2	19.8	1	1	1	26.5	23	EZW	DZW
P6SMB18A-AU	P6SMB18CA-AU	15.3	17.1	18.9	1	1	1	25.2	24	EZX	DZX
P6SMB20-AU	P6SMB20CA-AU	16.2	18	22	1	1	1	29.1	21	EZY	DZY
P6SMB20A-AU	P6SMB20CA-AU	17.1	19	21	1	1	1	27.7	22	EZZ	DZZ
P6SMB22-AU	P6SMB22CA-AU	17.8	19.8	24.2	1	1	1	31.9	19	EXA	DXA
P6SMB22A-AU	P6SMB22CA-AU	18.8	20.9	23.1	1	1	1	30.6	20	EXB	DXB
P6SMB24-AU	P6SMB24CA-AU	19.4	21.6	26.4	1	1	1	34.7	17	EXC	DXC
P6SMB24A-AU	P6SMB24CA-AU	20.5	22.8	25.2	1	1	1	33.2	18	EXD	DXD
P6SMB27-AU	P6SMB27CA-AU	21.8	24.3	29.7	1	1	1	39.1	15	EXE	DXE
P6SMB27A-AU	P6SMB27CA-AU	23.1	25.7	28.4	1	1	1	37.5	16	EXF	DXF
P6SMB30-AU	P6SMB30CA-AU	24.3	27	33	1	1	1	43.5	14	EXG	DXG
P6SMB30A-AU	P6SMB30CA-AU	25.6	28.5	31.5	1	1	1	41.4	14.4	EXH	DXH
P6SMB33-AU	P6SMB33CA-AU	26.8	29.7	36.3	1	1	1	47.7	12.6	EXJ	DXJ
P6SMB33A-AU	P6SMB33CA-AU	28.2	31.4	34.7	1	1	1	45.7	13.2	EXK	DXK
P6SMB36-AU	P6SMB36CA-AU	29.1	32.4	39.6	1	1	1	52	11.6	EXL	DXL
P6SMB36A-AU	P6SMB36CA-AU	30.8	34.2	37.8	1	1	1	49.9	12	EXM	DXM
P6SMB39-AU	P6SMB39CA-AU	31.6	35.1	42.9	1	1	1	56.4	10.6	EXN	DXN
P6SMB39A-AU	P6SMB39CA-AU	33.3	37.1	41	1	1	1	53.9	11.2	EXP	DXP
P6SMB43-AU	P6SMB43CA-AU	34.8	38.7	47.3	1	1	1	61.9	9.6	EXQ	DXQ
P6SMB43A-AU	P6SMB43CA-AU	36.8	40.9	45.2	1	1	1	59.3	10.1	EXR	DXR
P6SMB47-AU	P6SMB47CA-AU	38.1	42.3	51.7	1	1	1	67.8	8.9	EXS	DXS
P6SMB47A-AU	P6SMB47CA-AU	40.2	44.7	49.4	1	1	1	64.8	9.3	EXT	DXT
P6SMB51-AU	P6SMB51CA-AU	41.3	45.9	56.1	1	1	1	73.5	8.2	EXU	DXU
P6SMB51A-AU	P6SMB51CA-AU	43.6	48.5	53.6	1	1	1	70.1	8.6	EXV	DXV
P6SMB56-AU	P6SMB56CA-AU	45.6	50.4	61.6	1	1	1	80.5	7.4	EXW	DXW

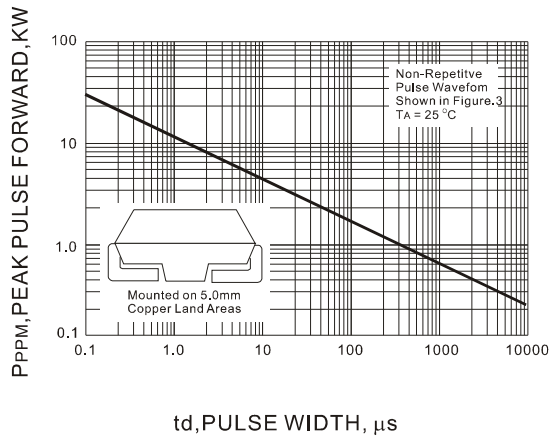


## P6SMB-AU SERIES

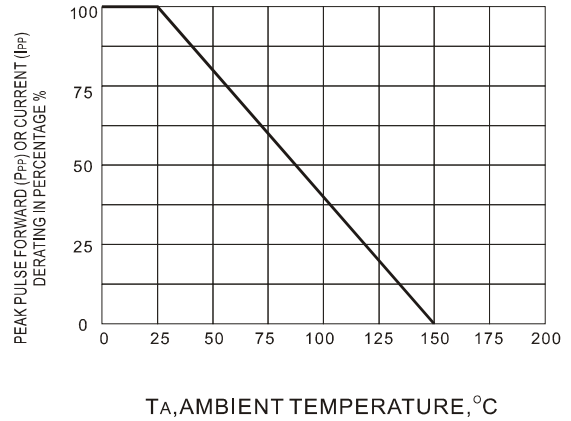
Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000 $\mu$ s	Peak Pulse Current 10/1000 $\mu$ s	Marking Code	
			$V_{RWM}$ (Notes 4)	$V_{BR} @ I_T$		$I_T$	$I_R @ V_{RWM}$				
		Min.		Max.	UNI		BI	$V_C @ I_{PP}$	$I_{PP}$		
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>600W Transient Voltage Suppressor</b>											
P6SMB56A-AU	P6SMB56CA-AU	47.8	53.2	58.8	1	1	1	77	7.8	EXX	DXX
P6SMB62A-AU	P6SMB62CA-AU	50.2	55.8	68.2	1	1	1	89	6.8	EXY	DXY
P6SMB62A-AU	P6SMB62CA-AU	53	58.9	65.1	1	1	1	85	7.1	EXZ	DXZ
P6SMB68A-AU	P6SMB68CA-AU	55.1	61.2	74.8	1	1	1	98	6.1	EYA	DYA
P6SMB68A-AU	P6SMB68CA-AU	58.1	64.6	71.4	1	1	1	92	6.5	EYB	DYB
P6SMB75A-AU	P6SMB75CA-AU	60.7	67.5	82.5	1	1	1	108	5.5	EYC	DYC
P6SMB75A-AU	P6SMB75CA-AU	64.1	71.3	78.8	1	1	1	103	5.8	EYD	DYD
P6SMB82A-AU	P6SMB82CA-AU	66.4	73.8	90.2	1	1	1	118	5.1	EYE	DYE
P6SMB82A-AU	P6SMB82CA-AU	70.1	77.9	86.1	1	1	1	113	5.3	EYF	DYF
P6SMB91A-AU	P6SMB91CA-AU	73.7	81.9	100	1	1	1	131	4.5	EYG	DYG
P6SMB91A-AU	P6SMB91CA-AU	77.8	86.5	95.5	1	1	1	125	4.8	EYH	DYH
P6SMB100A-AU	P6SMB100CA-AU	81	90	110	1	1	1	144	4.2	EYJ	DYJ
P6SMB100A-AU	P6SMB100CA-AU	85.5	95	105	1	1	1	137	4.4	EYK	DYK
P6SMB110A-AU	P6SMB110CA-AU	89.2	99	121	1	1	1	158	3.8	EYL	DYL
P6SMB110A-AU	P6SMB110CA-AU	94	105	116	1	1	1	152	4	EYM	DYM
P6SMB120A-AU	P6SMB120CA-AU	97.2	108	132	1	1	1	173	3.5	EYN	DYN
P6SMB120A-AU	P6SMB120CA-AU	102	114	126	1	1	1	165	3.6	EYP	DYP
P6SMB130A-AU	P6SMB130CA-AU	105	117	143	1	1	1	187	3.2	EYQ	DYQ
P6SMB130A-AU	P6SMB130CA-AU	111	124	137	1	1	1	179	3.3	EYR	DYR
P6SMB150A-AU	P6SMB150CA-AU	121	135	165	1	1	1	215	2.8	EYS	DYS
P6SMB150A-AU	P6SMB150CA-AU	128	143	158	1	1	1	207	2.9	EYT	DYT
P6SMB160A-AU	P6SMB160CA-AU	130	144	176	1	1	1	230	2.6	EYU	DYU
P6SMB160A-AU	P6SMB160CA-AU	136	152	168	1	1	1	219	2.7	EYV	DYV
P6SMB170A-AU	P6SMB170CA-AU	138	153	187	1	1	1	244	2.5	EYW	DYW
P6SMB170A-AU	P6SMB170CA-AU	145	162	179	1	1	1	234	2.6	EYX	DYX
P6SMB180A-AU	P6SMB180CA-AU	146	162	198	1	1	1	258	2.3	EYY	DYY
P6SMB180A-AU	P6SMB180CA-AU	154	171	189	1	1	1	246	2.4	EYZ	DYZ
P6SMB200A-AU	P6SMB200CA-AU	162	180	220	1	1	1	287	2.1	EWA	DWA
P6SMB200A-AU	P6SMB200CA-AU	171	190	210	1	1	1	274	2.2	EWB	DWB
P6SMB220A-AU	P6SMB220CA-AU	175	198	242	1	1	1	344	1.8	EWC	DWC
P6SMB220A-AU	P6SMB220CA-AU	185	209	231	1	1	1	328	1.9	EWD	DWD
P6SMB250A-AU	P6SMB250CA-AU	202	225	275	1	1	1	360	1.7	EWE	DWE
P6SMB250A-AU	P6SMB250CA-AU	214	237	263	1	1	1	344	1.8	EFW	DWF



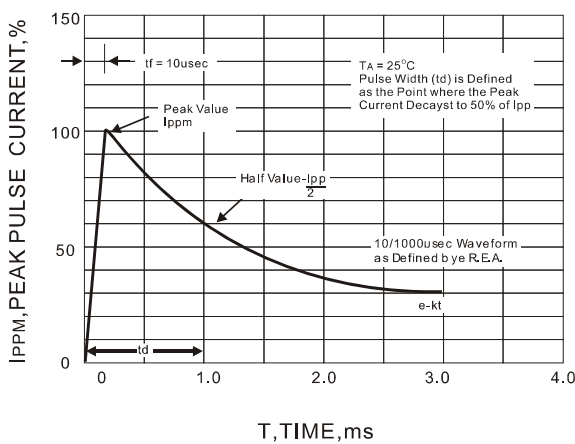
## P6SMB-AU SERIES



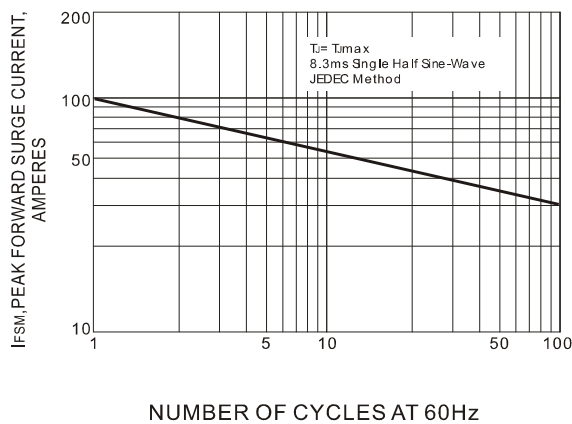
**Fig.1 PEAK PULSE POWER RATING CURVE**



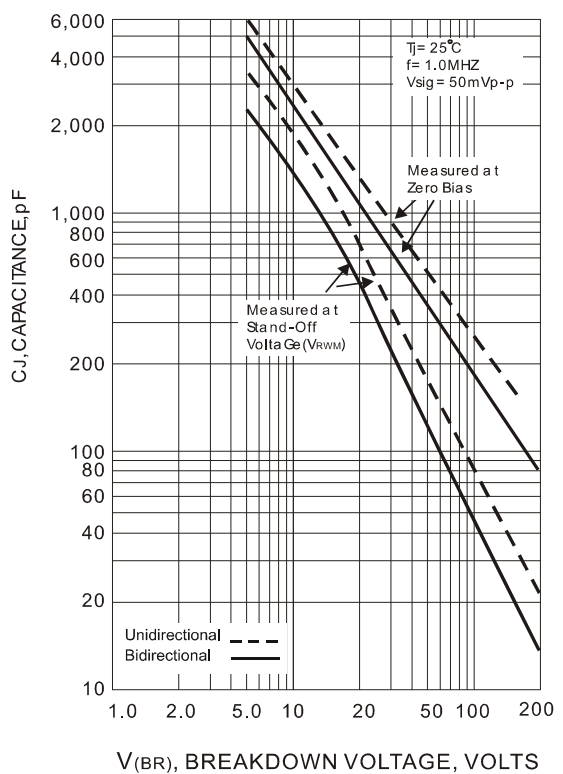
**Fig.2 DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



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



**Fig.4 TYPICAL CAPACITANCE**

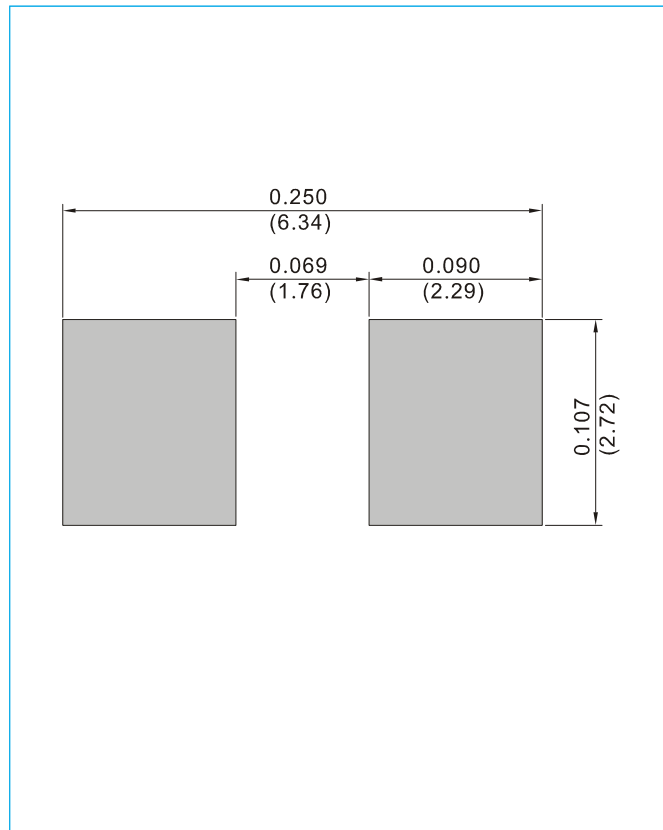


## P6SMB-AU SERIES

### MOUNTING PAD LAYOUT

SMB / DO-214AA

Unit : inch(mm)



### ORDER INFORMATION

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



## P6SMB-AU SERIES

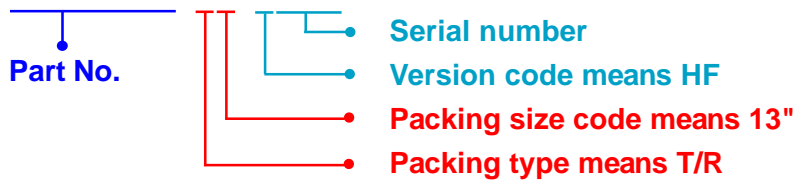
### Part No\_packing code\_Version

P6SMB6.8-AU\_R1\_000A1

P6SMB6.8-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)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



## P6SMB-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.