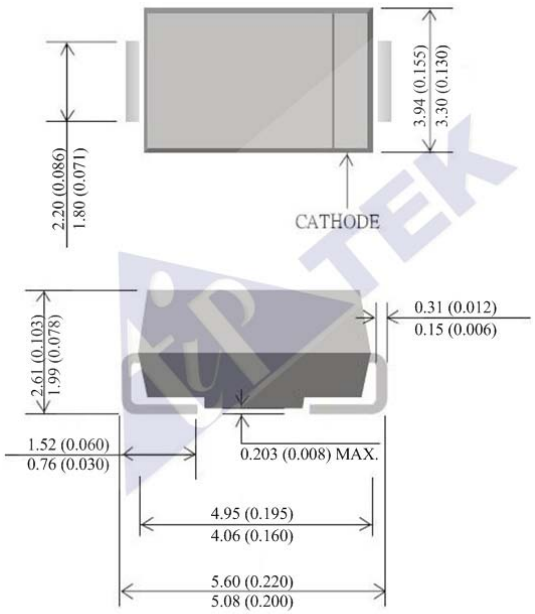
600W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



CASE：DO-214AA(SMB)

DIMENSIONS IN MILLIMETERS AND (INCHES)

FEATURES

- OPTIMIZED FOR LAN PROTECTION APPLICATION
- IDEAL FOR ESD PROTECTION OF DATA LINES IN ACCORDANCE WITH IEC 1000-4-2(IEC801-2)
- IDEAL FOR EFT PROTECTION OF DATA LINE IN ACCORDANCE WITH IEC 1000-4-4(IEC801-4)
- EXCELLENT CLAMPING CAPABILITY
- LOW INCREMENTAL SURGE RESISTANCE
- FAST RESPONSE TIME:TYPICALLY LESS THAN 1.0 ps FROM 0 VOLTS TO V(BR) MIN
- 600 W PEAK PULSE POWER CAPABILITY WITH A 10/1000 μS WAVEFORM , REPETITION RATE (DUTY CYCLE)：0.01%
- TYPICAL I_D LESS THAN 1 μA ABOVE 10V
- HIGH TEMPERATURE SOLDERING GUARANTEED: 260℃/10 SECONDS AT TERMINAL

MECHANICAL DATA

- CASE：MOLDED PLASTIC
- TERMINALS：SOLDER PLATED
- POLARITY：INDICATED BY CATHODE BAND
- WEIGHT：0.099 GRAMS
- Pb- Free: P6SMBJ5.0~P6SMBJ440CA
  Halogen Free: P6SMBJ5.0-H~P6SMBJ440CA-H

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

RATINGS AT 25°C AMBIENT TEMPERATURE UNLESS OTHERWISE SPECIFIED

PARAMETER	SYMBOL	VALUE	UNITS
PEAK PULSE POWER DISSIPATION 0N 10/1000μS WAVEFORM (NOTE 1,FIG. 1)	P_{PPM}	MINIMUM 600	WATTS
PEAK PULSE CURRENT OF ON 10/1000μS WAVEFORM (NOTE1,FIG.3)	I_{PPM}	SEE TABLE 1	A
STEADY STATE POWER DISSIPATION AT TL=75℃(NOTE 2)	$P_{M(AV)}$	1.0	WATTS
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD,UNIDIRECTIONAL ONLY (NOTE 2)	I_{FSM}	100	A
MAXIMUM INSTANTANEOUS FORWARD VOLTAGE AT 25.0A FOR UNIDIRECTIONAL ONLY (NOTE 3 & 4)	V_F	SEE NOTE 5	V
OPERATING AND STORAGE TEMPERATURE RANGE	T_J,T_{STG}	- 55 TO + 150	℃

Part Nnmber		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		Vc @ Ipp	I_{PP}
			Min	Max		UNI	BI		
UNI	BI	V	V	V	m A	μA	μA	V	A
P6SMBJ5.0	P6SMBJ5.0C	5.0	6.40	7.82	10.0	800.0	1600.0	9.6	62.5
P6SMBJ5.0A	P6SMBJ5.0CA	5.0	6.40	7.07	10.0	800.0	1600.0	9.2	65.2
P6SMBJ6.0	P6SMBJ6.0C	6.0	6.67	8.15	10.0	800.0	1600.0	11.4	52.6
P6SMBJ6.0A	P6SMBJ6.0 CA	6.0	6.67	7.37	10.0	800.0	1600.0	10.3	58.3
P6SMBJ6.5	P6SMBJ6.5C	6.5	7.22	8.82	10.0	500.0	1000.0	12.3	48.8
P6SMBJ6.5A	P6SMBJ6.5CA	6.5	7.22	7.98	10.0	500.0	1000.0	11.2	53.6
P6SMBJ7.0	P6SMBJ7.0C	7.0	7.78	9.51	10.0	200.0	400.0	13.3	45.4
P6SMBJ7.0A	P6SMBJ7.0CA	7.0	7.78	8.60	10.0	200.0	400.0	12.0	50.0
P6SMBJ7.5	P6SMBJ7.5C	7.5	8.33	10.20	1.0	100.0	200.0	14.3	42.0
P6SMBJ7.5A	P6SMBJ7.5CA	7.5	8.33	9.21	1.0	100.0	200.0	12.9	46.5
P6SMBJ8.0	P6SMBJ8.0C	8.0	8.89	10.90	1.0	50.0	100.0	15.0	40.0
P6SMBJ8.0A	P6SMBJ8.0CA	8.0	8.89	9.83	1.0	50.0	100.0	13.6	44.1
P6SMBJ8.5	P6SMBJ8.5C	8.5	9.44	11.50	1.0	10.0	40.0	15.9	37.7
P6SMBJ8.5A	P6SMBJ8.5CA	8.5	9.44	10.40	1.0	10.0	40.0	14.4	41.7
P6SMBJ9.0	P6SMBJ9.0C	9.0	10.00	12.20	1.0	5.0	20.0	16.9	35.5
P6SMBJ9.0A	P6SMBJ9.0CA	9.0	10.00	11.10	1.0	5.0	20.0	15.4	39.0
P6SMBJ10	P6SMBJ10C	10.0	11.10	13.60	1.0	5.0	10.0	18.8	31.9
P6SMBJ10A	P6SMBJ10CA	10.0	11.10	12.30	1.0	5.0	10.0	17.0	35.3
P6SMBJ11	P6SMBJ11C	11.0	12.20	14.90	1.0	5.0	5.0	20.1	29.9
P6SMBJ11A	P6SMBJ11CA	11.0	12.20	13.50	1.0	5.0	5.0	18.2	33.0
P6SMBJ12	P6SMBJ12C	12.0	13.30	16.30	1.0	5.0	5.0	22.0	27.3
P6SMBJ12A	P6SMBJ12CA	12.0	13.30	14.70	1.0	5.0	5.0	19.9	30.2
P6SMBJ13	P6SMBJ13C	13.0	14.40	17.60	1.0	5.0	5.0	23.8	25.2
P6SMBJ13A	P6SMBJ13CA	13.0	14.40	15.90	1.0	5.0	5.0	21.5	27.9
P6SMBJ14	P6SMBJ14C	14.0	15.60	19.10	1.0	5.0	5.0	25.8	23.3
P6SMBJ14A	P6SMBJ14CA	14.0	15.60	17.20	1.0	5.0	5.0	23.2	25.9
P6SMBJ15	P6SMBJ15C	15.0	16.70	20.40	1.0	5.0	5.0	26.9	22.3
P6SMBJ15A	P6SMBJ15CA	15.0	16.70	18.50	1.0	5.0	5.0	24.4	24.6
P6SMBJ16	P6SMBJ16C	16.0	17.80	21.80	1.0	5.0	5.0	28.8	20.8
P6SMBJ16A	P6SMBJ16CA	16.0	17.80	19.70	1.0	5.0	5.0	26.0	23.1
P6SMBJ17	P6SMBJ17C	17.0	18.90	23.10	1.0	5.0	5.0	30.5	19.7
P6SMBJ17A	P6SMBJ17CA	17.0	18.90	20.90	1.0	5.0	5.0	27.6	21.7
P6SMBJ18	P6SMBJ18C	18.0	20.00	24.40	1.0	5.0	5.0	32.2	18.6
P6SMBJ18A	P6SMBJ18CA	18.0	20.00	22.10	1.0	5.0	5.0	29.2	20.5
P6SMBJ20	P6SMBJ20C	20.0	22.20	27.10	1.0	5.0	5.0	35.8	16.8
P6SMBJ20A	P6SMBJ20CA	20.0	22.20	24.50	1.0	5.0	5.0	32.4	18.5
P6SMBJ22	P6SMBJ22C	22.0	24.40	29.80	1.0	5.0	5.0	39.4	15.2
P6SMBJ22A	P6SMBJ22CA	22.0	24.40	26.90	1.0	5.0	5.0	35.5	16.9
P6SMBJ24	P6SMBJ24C	24.0	26.70	32.60	1.0	5.0	5.0	43.0	14.0
P6SMBJ24A	P6SMBJ24CA	24.0	26.70	29.50	1.0	5.0	5.0	38.9	15.4
P6SMBJ26	P6SMBJ26C	26.0	28.90	35.30	1.0	5.0	5.0	46.6	12.9
P6SMBJ26A	P6SMBJ26CA	26.0	28.90	31.90	1.0	5.0	5.0	42.1	14.3

Part Nnmber		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		Vc @ Ipp	I_{PP}
			Min	Max		UNI	BI		
UNI	BI	V	V	V	m A	μA	μA	V	A
P6SMBJ28	P6SMBJ28C	28.0	31.10	38.00	1.0	5.0	5.0	50.0	12.0
P6SMBJ28A	P6SMBJ28CA	28.0	31.10	34.40	1.0	5.0	5.0	45.4	13.2
P6SMBJ30	P6SMBJ30C	30.0	33.30	40.70	1.0	5.0	5.0	53.5	11.2
P6SMBJ30A	P6SMBJ30CA	30.0	33.30	36.80	1.0	5.0	5.0	48.4	12.4
P6SMBJ33	P6SMBJ33C	33.0	36.70	44.90	1.0	5.0	5.0	59.0	10.2
P6SMBJ33A	P6SMBJ33CA	33.0	36.70	40.60	1.0	5.0	5.0	53.3	11.3
P6SMBJ36	P6SMBJ36C	36.0	40.00	48.90	1.0	5.0	5.0	64.3	9.3
P6SMBJ36A	P6SMBJ36CA	36.0	40.00	44.20	1.0	5.0	5.0	58.1	10.3
P6SMBJ40	P6SMBJ40C	40.0	44.40	54.30	1.0	5.0	5.0	71.4	8.4
P6SMBJ40A	P6SMBJ40CA	40.0	44.40	49.10	1.0	5.0	5.0	64.5	9.3
P6SMBJ43	P6SMBJ43C	43.0	47.80	58.40	1.0	5.0	5.0	76.7	7.8
P6SMBJ43A	P6SMBJ43CA	43.0	47.80	52.80	1.0	5.0	5.0	69.4	8.6
P6SMBJ45	P6SMBJ45C	45.0	50.00	61.10	1.0	5.0	5.0	80.3	7.5
P6SMBJ45A	P6SMBJ45CA	45.0	50.00	55.30	1.0	5.0	5.0	72.7	8.3
P6SMBJ48	P6SMBJ48C	48.0	53.30	65.10	1.0	5.0	5.0	85.5	7.0
P6SMBJ48A	P6SMBJ48CA	48.0	53.30	58.90	1.0	5.0	5.0	77.4	7.8
P6SMBJ51	P6SMBJ51C	51.0	56.70	69.30	1.0	5.0	5.0	91.1	6.6
P6SMBJ51A	P6SMBJ51CA	51.0	56.70	62.70	1.0	5.0	5.0	82.4	7.3
P6SMBJ54	P6SMBJ54C	54.0	60.00	73.30	1.0	5.0	5.0	96.3	6.2
P6SMBJ54A	P6SMBJ54CA	54.0	60.00	66.30	1.0	5.0	5.0	87.1	6.9
P6SMBJ58	P6SMBJ58C	58.0	64.40	78.70	1.0	5.0	5.0	103.0	5.8
P6SMBJB58A	P6SMBJ58CA	58.0	64.40	71.20	1.0	5.0	5.0	93.6	6.4
P6SMBJ60	P6SMBJ60C	60.0	66.70	81.50	1.0	5.0	5.0	107.0	5.6
P6SMBJ60A	P6SMBJ60CA	60.0	66.70	73.70	1.0	5.0	5.0	96.8	6.2
P6SMBJ64	P6SMBJ64C	64.0	71.10	86.90	1.0	5.0	5.0	114.0	5.3
P6SMBJ64A	P6SMBJ64CA	64.0	71.10	78.60	1.0	5.0	5.0	103.0	5.8
P6SMBJ70	P6SMBJ70C	70.0	77.80	95.10	1.0	5.0	5.0	125.0	4.8
P6SMBJ70A	P6SMBJ70CA	70.0	77.80	86.00	1.0	5.0	5.0	113.0	5.3
P6SMBJ75	P6SMBJ75C	75.0	83.30	102.00	1.0	5.0	5.0	134.0	4.5
P6SMBJ75A	P6SMBJ75CA	75.0	83.30	92.10	1.0	5.0	5.0	121.0	5.0
P6SMBJ78	P6SMBJ78C	78.0	86.70	106.00	1.0	5.0	5.0	139.0	4.3
P6SMBJ78A	P6SMBJ78CA	78.0	86.70	95.80	1.0	5.0	5.0	126.0	4.8
P6SMBJ85	P6SMBJ85C	85.0	94.40	115.00	1.0	5.0	5.0	151.0	4.0
P6SMBJ85A	P6SMBJ85CA	85.0	94.40	104.00	1.0	5.0	5.0	137.0	4.4
P6SMBJ90	P6SMBJ90C	90.0	100.00	122.00	1.0	5.0	5.0	160.0	3.8
P6SMBJ90A	P6SMBJ90CA	90.0	100.00	111.00	1.0	5.0	5.0	146.0	4.1
P6SMBJ100	P6SMBJ100C	100.0	111.00	136.00	1.0	5.0	5.0	179.0	3.4
P6SMBJ100A	P6SMBJ100CA	100.0	111.00	123.00	1.0	5.0	5.0	162.0	3.7

Part Nnmber		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage	Peak Pulse Current
		V_{RWM}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		Vc @ Ipp	I_{PP}
			Min	Max		UNI	BI		
UNI	BI	V	V	V	m A	μA	μA	V	A
P6SMBJ110	P6SMBJ110C	110.0	122.00	149.00	1.0	5.0	5.0	196.0	3.1
P6SMBJ110A	P6SMBJ110CA	110.0	122.00	135.00	1.0	5.0	5.0	177.0	3.4
P6SMBJ120	P6SMBJ120C	120.0	133.00	163.00	1.0	5.0	5.0	214.0	2.8
P6SMBJ120A	P6SMBJ120CA	120.0	133.00	147.00	1.0	5.0	5.0	193.0	3.1
P6SMBJ130	P6SMBJ130C	130.0	144.00	176.00	1.0	5.0	5.0	231.0	2.6
P6SMBJ130A	P6SMBJ130CA	130.0	144.00	159.00	1.0	5.0	5.0	209.0	2.9
P6SMBJ150	P6SMBJ150C	150.0	167.00	204.00	1.0	5.0	5.0	268.0	2.2
P6SMBJ150A	P6SMBJ150CA	150.0	167.00	185.00	1.0	5.0	5.0	243.0	2.5
P6SMBJ160	P6SMBJ160C	160.0	178.00	218.00	1.0	5.0	5.0	287.0	2.1
P6SMBJ160A	P6SMBJ160CA	160.0	178.00	197.00	1.0	5.0	5.0	259.0	2.3
P6SMBJ170	P6SMBJ170C	170.0	189.00	231.00	1.0	5.0	5.0	304.0	2.0
P6SMBJ170A	P6SMBJ170CA	170.0	189.00	209.00	1.0	5.0	5.0	275.0	2.2
P6SMBJ180	P6SMBJ180C	180.0	200	245	1.0	5.0	5.0	322	1.24
P6SMBJ180A	P6SMBJ180CA	180.0	200	220	1.0	5.0	5.0	292	1.37
P6SMBJ190	P6SMBJ190C	190.0	211	258	1.0	5.0	5.0	340	1.18
P6SMBJ190A	P6SMBJ190CA	190.0	211	232	1.0	5.0	5.0	308	1.30
P6SMBJ200A	P6SMBJ200CA	200.0	224	247	1.0	5.0	5.0	324	1.23
P6SMBJ220A	P6SMBJ220CA	220.0	246	272	1.0	5.0	5.0	356	1.12
P6SMBJ250A	P6SMBJ250CA	250.0	279	309	1.0	5.0	5.0	405	0.99
P6SMBJ300A	P6SMBJ300CA	300.0	335	371	1.0	5.0	5.0	486	0.82
P6SMBJ350A	P6SMBJ350CA	350.0	391	432	1.0	5.0	5.0	567	0.71
P6SMBJ400A	P6SMBJ400CA	400.0	447	494	1.0	5.0	5.0	648	0.62
P6SMBJ440A	P6SMBJ440CA	440.0	492	543	1.0	5.0	5.0	713	0.56

NOTE：1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .

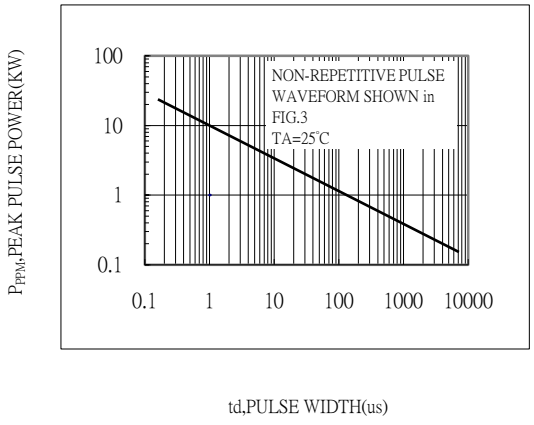


Fig.1-PEAK PULSE POWER RATING CURVE

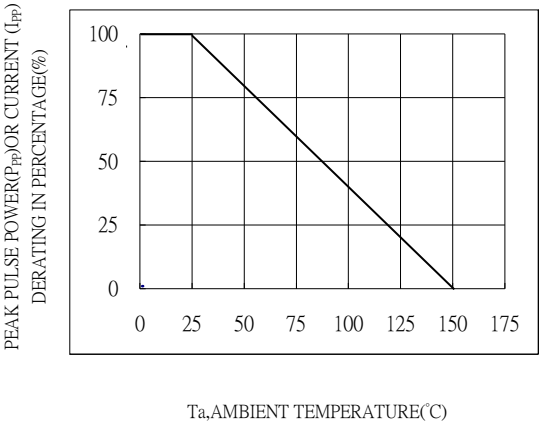


Fig.2-PULSE DERATING CURVE

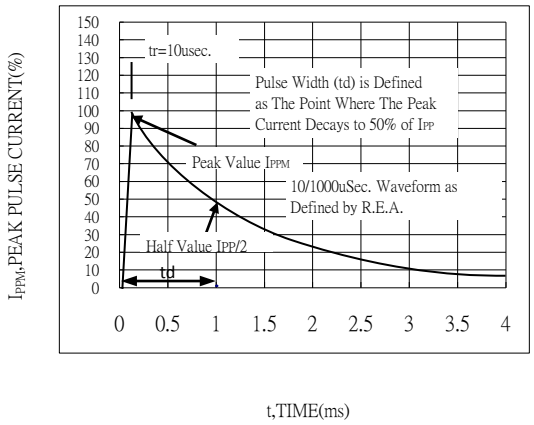


Fig.3-PULSE WAVEFORM

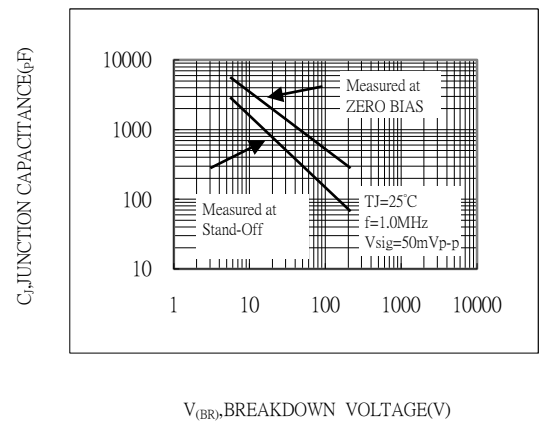


Fig.4-TYPICAL JUNCTION CAPACITANCE UNIDRECTIONAL

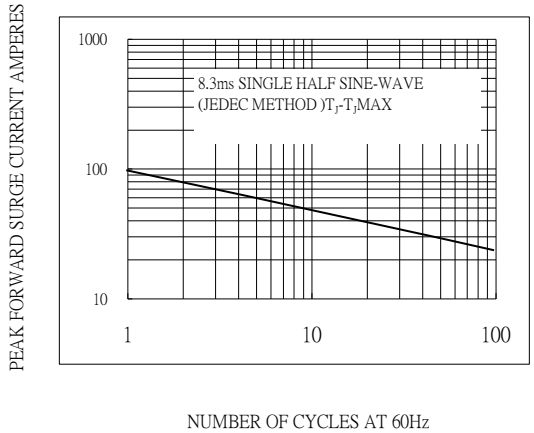


Fig.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

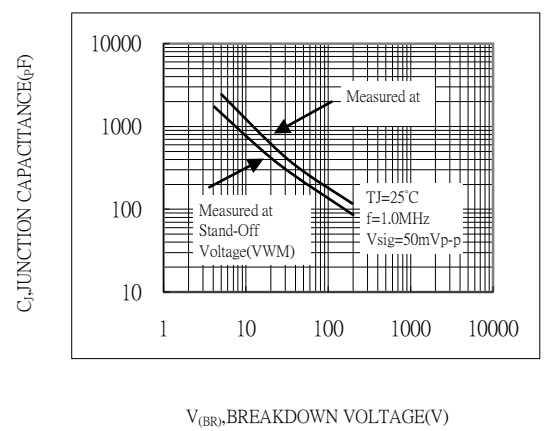


Fig.6-TYPICAL JUNCTION CAPACITANCE BIDIRECTIONAL