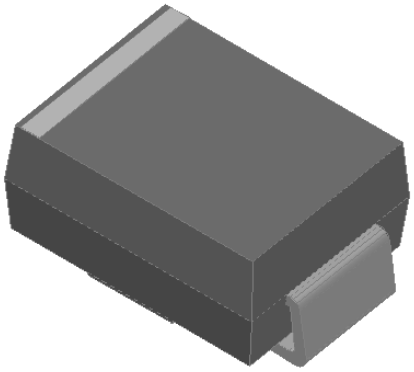
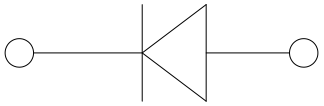
Surface Mount Transient Voltage Suppressors





Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junction
- Available in Unidirectional and Bidirectional
- 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Solder Dip 260 °C, 10 seconds
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

Mechanical Data

- **Package**: DO-214AA (SMB)
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** Color band denotes cathode end

■Maximum Ratings (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform (1) (2) (Fig.1)	P_{PPM}	W	600
Peak pulse current, with a 10/1000us waveform(1)	I_{PPM}	A	See Next Table
Power dissipation, on infinite heat sink at TL=75℃	P_D	W	5.0
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (2)	I_{FSM}	A	100
Operating junction and storage temperature range	T_J,T_{STG}	℃	-55 to +150

■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	VALUE
Maximum instantaneous forward voltage @ at 50A for unidirectional only (3)	VF	V	3.5/5.0

Characteristics at Ta = 25°C

Table 1

Type		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Reverse Leakage	Max. Clamp Voltage V_C @ I_{PP}	Peak Pulse Current	Package SMB Device Marking Ccode	
		V_{RMW}	Min	Max	I_T			I_{PP}		
UNI	BI	V	V	V	mA	μA	V	A	UNI	BI
600W Transient Voltage Suppresso										
SMBJ5.0A	SMBJ5.0CA	5	6.4	7	10	800	9.2	65.3	KE	AE
SMBJ6.0A	SMBJ6.0CA	6	6.67	7.37	10	800	10.3	58.3	KG	AG
SMBJ6.5A	SMBJ6.5CA	6.5	7.22	7.98	10	500	11.2	53.6	KK	AK
SMBJ7.0A	SMBJ7.0CA	7	7.78	8.6	10	200	12.0	50.0	KM	AM
SMBJ7.5A	SMBJ7.5CA	7.5	8.33	9.21	1	100	12.9	46.6	KP	AP
SMBJ8.0A	SMBJ8.0CA	8	8.89	9.83	1	50	13.6	44.2	KR	AR
SMBJ8.5A	SMBJ8.5CA	8.5	9.44	10.4	1	20	14.4	41.7	KT	AT
SMBJ9.0A	SMBJ9.0CA	9	10	11.1	1	10	15.4	39.0	KV	AV
SMBJ10A	SMBJ10CA	10	11.1	12.3	1	5	17.0	35.3	KX	AX
SMBJ11A	SMBJ11CA	11	12.2	13.5	1	1	18.2	33.0	KZ	AZ
SMBJ12A	SMBJ12CA	12	13.3	14.7	1	1	19.9	30.2	LE	BE
SMBJ13A	SMBJ13CA	13	14.4	15.9	1	1	21.5	28.0	LG	BG
SMBJ14A	SMBJ14CA	14	15.6	17.2	1	1	23.2	25.9	LK	BK
SMBJ15A	SMBJ15CA	15	16.7	18.5	1	1	24.4	24.6	LM	BM
SMBJ16A	SMBJ16CA	16	17.8	19.7	1	1	26.0	23.1	LP	BP
SMBJ17A	SMBJ17CA	17	18.9	20.9	1	1	27.6	21.8	LR	BR
SMBJ18A	SMBJ18CA	18	20	22.1	1	1	29.2	20.6	LT	BT
SMBJ20A	SMBJ20CA	20	22.2	24.5	1	1	32.4	18.6	LV	BV
SMBJ22A	SMBJ22CA	22	24.4	26.9	1	1	35.5	16.9	LX	BX
SMBJ24A	SMBJ24CA	24	26.7	29.5	1	1	38.9	15.5	LZ	BZ
SMBJ26A	SMBJ26CA	26	28.9	31.9	1	1	42.1	14.3	ME	CE
SMBJ28A	SMBJ28CA	28	31.1	34.4	1	1	45.4	13.3	MG	CG
SMBJ30A	SMBJ30CA	30	33.3	36.8	1	1	48.4	12.4	MK	CK
SMBJ33A	SMBJ33CA	33	36.7	40.6	1	1	53.3	11.3	MM	CM
SMBJ36A	SMBJ36CA	36	40	44.2	1	1	58.1	10.4	MP	CP
SMBJ40A	SMBJ40CA	40	44.4	49.1	1	1	64.5	9.3	MR	CR
SMBJ43A	SMBJ43CA	43	47.8	52.8	1	1	69.4	8.7	MT	CT
SMBJ45A	SMBJ45CA	45	50	55.3	1	1	72.7	8.3	MV	CV
SMBJ48A	SMBJ48CA	48	53.3	58.9	1	1	77.4	7.8	MX	CX
SMBJ51A	SMBJ51CA	51	56.7	62.7	1	1	82.4	7.3	MZ	CZ
SMBJ54A	SMBJ54CA	54	60	66.3	1	1	87.1	6.9	NE	DE
SMBJ58A	SMBJ58CA	58	64.4	71.2	1	1	93.6	6.5	NG	DG
SMBJ60A	SMBJ60CA	60	66.7	73.7	1	1	96.8	6.2	NK	DK
SMBJ64A	SMBJ64CA	64	71.1	78.6	1	1	103.0	5.9	NM	DM
SMBJ70A	SMBJ70CA	70	77.8	86	1	1	113.0	5.3	NP	DP
SMBJ75A	SMBJ75CA	75	83.3	92.1	1	1	121.0	5.0	NR	DR
SMBJ78A	SMBJ78CA	78	86.7	95.8	1	1	126.0	4.8	NT	DT
SMBJ85A	SMBJ85CA	85	94.4	104	1	1	137.0	4.4	NV	DV
SMBJ90A	SMBJ90CA	90	100	111	1	1	146.0	4.1	NX	DX
SMBJ100A	SMBJ100CA	100	111	123	1	1	162.0	3.7	NZ	DZ
SMBJ110A	SMBJ110CA	110	122	135	1	1	177.0	3.4	PE	EE
SMBJ120A	SMBJ120CA	120	133	147	1	1	193.0	3.1	PG	EG
SMBJ130A	SMBJ130CA	130	144	159	1	1	209.0	2.9	PK	EK
SMBJ150A	SMBJ150CA	150	167	185	1	1	243.0	2.5	PM	EM
SMBJ160A	SMBJ160CA	160	178	197	1	1	259.0	2.3	PP	EP
SMBJ170A	SMBJ170CA	170	189	209	1	1	275.0	2.2	PR	ER
SMBJ180A	SMBJ180CA	180	201	222	1	1	292.0	2.1	PT	ET
SMBJ188A	SMBJ188CA	188	209	231	1	1	304.0	2.0	PB	EB
SMBJ200A	SMBJ200CA	200	224	247	1	1	324.0	1.9	PV	EV
SMBJ220A	SMBJ220CA	220	246	272	1	1	356.0	1.7	PX	EX
SMBJ250A	SMBJ250CA	250	279	309	1	1	405.0	1.5	PZ	EZ
SMBJ300A*	SMBJ300CA*	300	335	371	1	1	486.0	1.3	QE	FE
SMBJ350A*	SMBJ350CA*	350	391	432	1	1	567.0	1.1	QG	FG
SMBJ400A*	SMBJ400CA*	400	447	494	1	1	648.0	0.9	QK	FK
SMBJ440A*	SMBJ440CA*	440	492	543	1	1	713.0	0.9	QM	FM

■ Characteristics (Typical)

FIG1:Peak Pulse Power Rating Curve

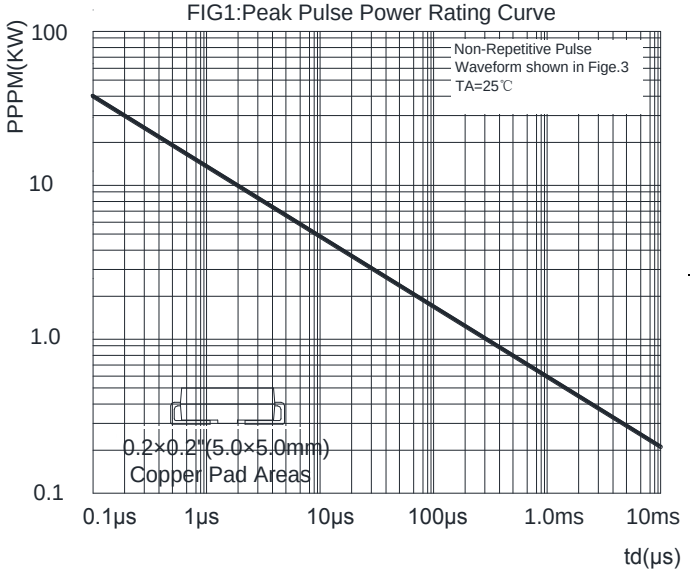


FIG2: Pulse Power or Current vs. Initial Junction Temperature

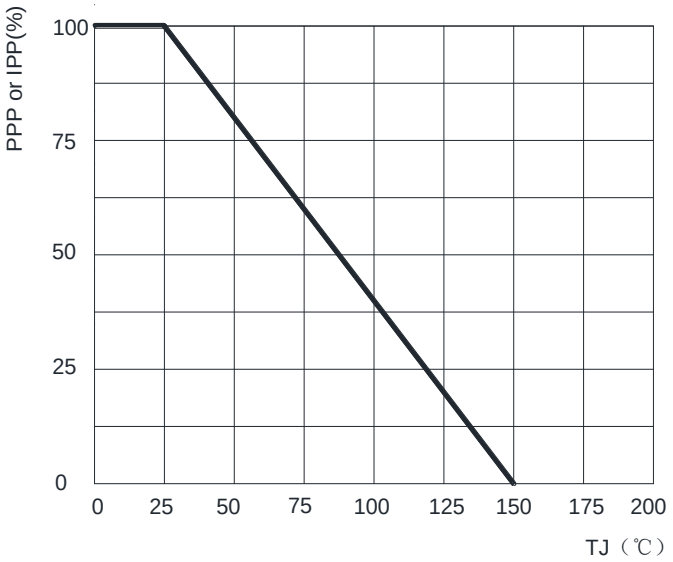


FIG3: Pulse Waveform

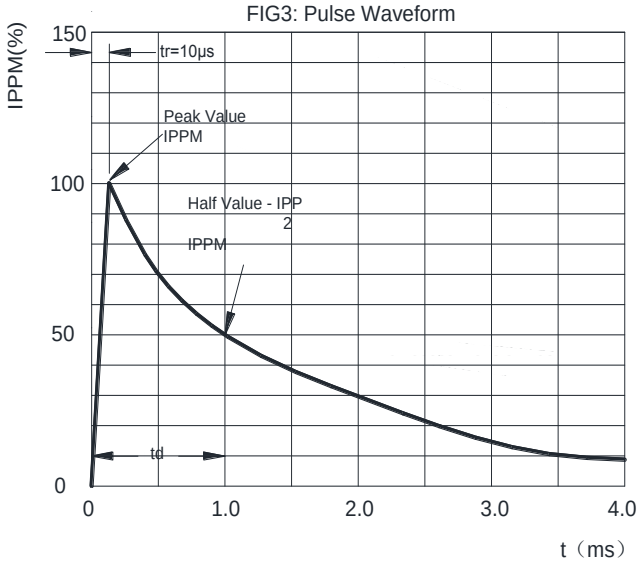


FIG4:Typical Transient Thermal Impedance

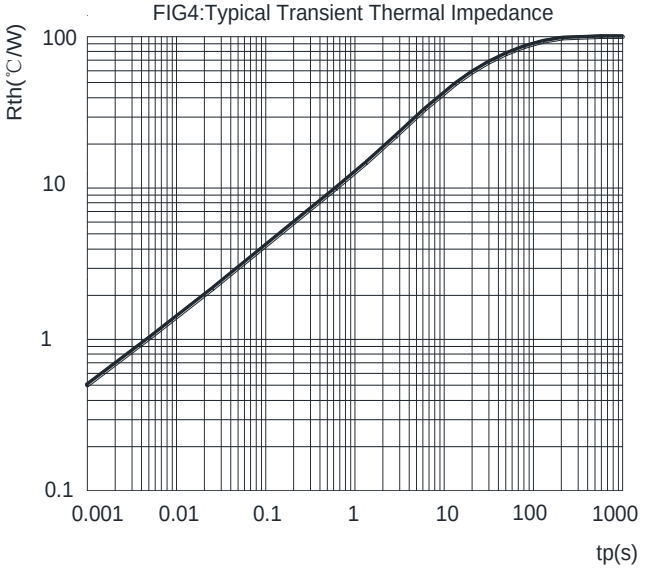


FIG5: Maximum Non-Repetitive Surge Current

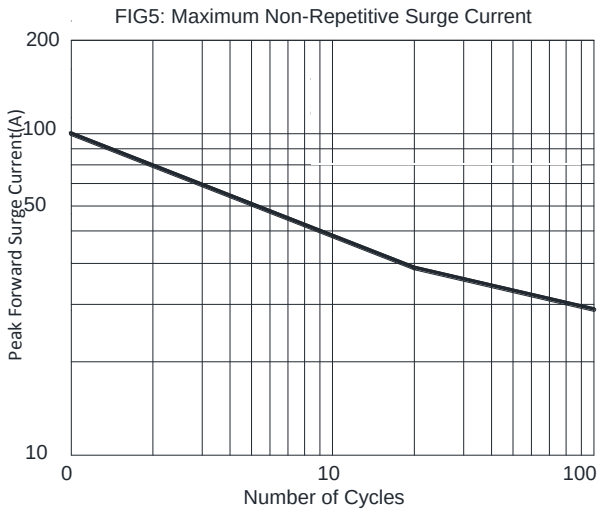
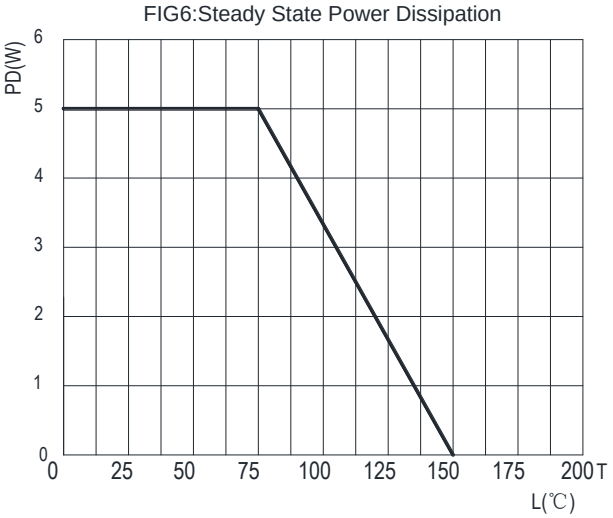


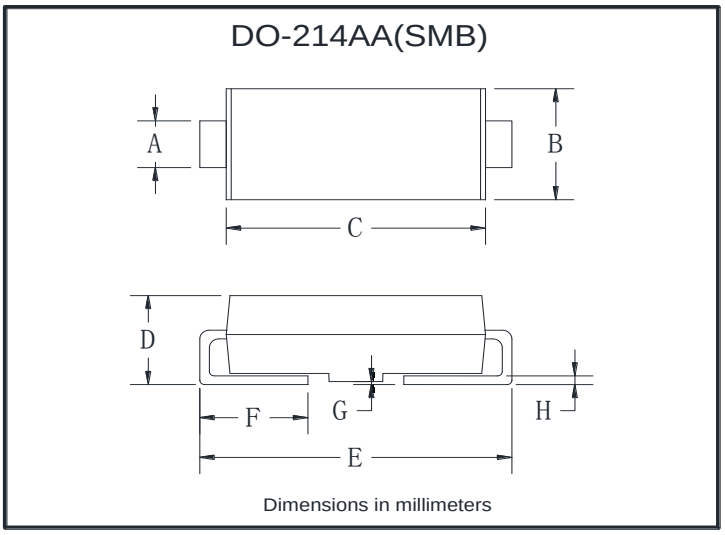
FIG6:Steady State Power Dissipation



■Ordering Information (Example)

P/N	PKG	QTY
SMBJXXXA(CA)	SMB(DO-214AA)	3000

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.25	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.10	0.20
H	0.15	0.31