

# Surface Mount Transient Voltage Suppressor

## Rectifiers Reverse Voltage 5.0 ~ 440 V

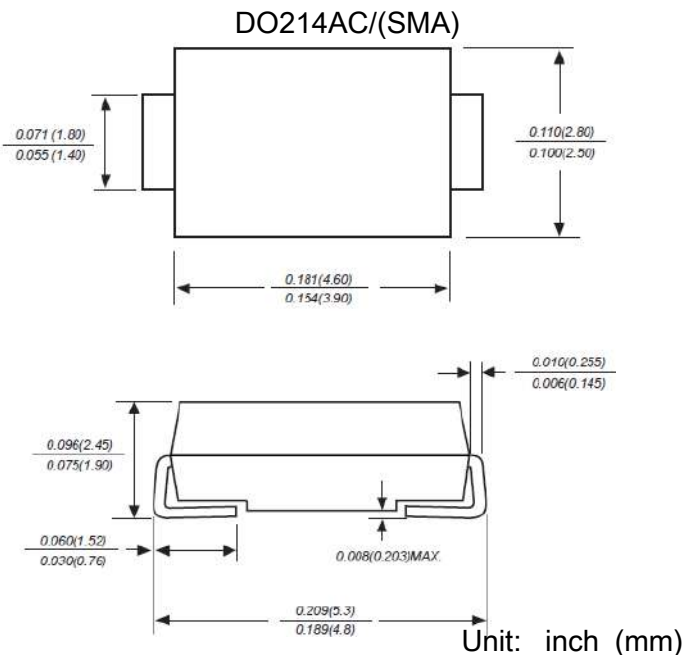
### 600 Watt Peak Pulse Power

#### Features:

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

#### Mechanical Data:

- Case: DO214AC/(SMA) Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform <sup>(1)</sup>	$P_{PP}$	600	W
Peak pulse current with a 10/1000 us waveform <sup>(1)</sup>	$I_{PP}$	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	$P_D$	5.0	W
Peak forward surge current, 8.3 ms single half sine wave unidirectional only <sup>(2)</sup>	$I_{FSM}$	60	A
Maximum instantaneous forward voltage at 25 A for unidirectional only <sup>(3)</sup>	$V_F$	3.5/6.5	V
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	°C

Note:

- 1) Non-repetitive current pulse per Fig.5 and derated above  $T_A = 25^\circ\text{C}$  per Fig.1 ;
- 2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;
- 3)  $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 200\text{V}$  and  $V_F < 6.5\text{V}$  for devices of  $V_{BR} > 201\text{V}$ .



Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ $I_{PP}$	Max. Peak Pulse Current	Max. Reverse Leakage @ $V_{RWM}$
UNI-POLAR	BI-POLAR	UNI	BI	$V_{RWM}(V)$	Min.(V)	Max.(V)	$I_T(mA)$	$V_{C MAX.}(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMA6J5.0A	SMA6J5.0CA	KE	AE	5.0	6.40	7.00	10	9.2	65.3	800
SMA6J6.0A	SMA6J6.0CA	KG	AG	6.0	6.67	7.37	10	10.3	58.3	800
SMA6J6.5A	SMA6J6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	500
SMA6J7.0A	SMA6J7.0CA	KM	AM	7.0	7.78	8.60	10	12.0	50.0	200
SMA6J7.5A	SMA6J7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.6	100
SMA6J8.0A	SMA6J8.0CA	KR	AR	8.0	8.89	9.83	1	13.6	44.2	50
SMA6J8.5A	SMA6J8.5CA	KT	AT	8.5	9.44	10.40	1	14.4	41.7	20
SMA6J9.0A	SMA6J9.0CA	KV	AV	9.0	10.00	11.10	1	15.4	39.0	10
SMA6J10A	SMA6J10CA	KX	AX	10.0	11.10	12.30	1	17.0	35.3	5
SMA6J11A	SMA6J11CA	KZ	AZ	11.0	12.20	13.50	1	18.2	33.0	1
SMA6J12A	SMA6J12CA	LE	BE	12.0	13.30	14.70	1	19.9	30.2	1
SMA6J13A	SMA6J13CA	LG	BG	13.0	14.40	15.90	1	21.5	28.0	1
SMA6J14A	SMA6J14CA	LK	BK	14.0	15.60	17.20	1	23.2	25.9	1
SMA6J15A	SMA6J15CA	LM	BM	15.0	16.70	18.50	1	24.4	24.6	1
SMA6J16A	SMA6J16CA	LP	BP	16.0	17.80	19.70	1	26.0	23.1	1
SMA6J17A	SMA6J17CA	LR	BR	17.0	18.90	20.90	1	27.6	21.8	1
SMA6J18A	SMA6J18CA	LT	BT	18.0	20.00	22.10	1	29.2	20.6	1
SMA6J20A	SMA6J20CA	LV	BV	20.0	22.20	24.50	1	32.4	18.6	1
SMA6J22A	SMA6J22CA	LX	BX	22.0	24.40	26.90	1	35.5	16.9	1
SMA6J24A	SMA6J24CA	LZ	BZ	24.0	26.70	29.50	1	38.9	15.5	1
SMA6J26A	SMA6J26CA	ME	CE	26.0	28.90	31.90	1	42.1	14.3	1
SMA6J28A	SMA6J28CA	MG	CG	28.0	31.10	34.40	1	45.4	13.3	1
SMA6J30A	SMA6J30CA	MK	CK	30.0	33.50	36.80	1	48.4	12.4	1
SMA6J33A	SMA6J33CA	MM	CM	33.0	36.70	40.60	1	53.3	11.3	1
SMA6J36A	SMA6J36CA	MP	CP	36.0	40.00	44.20	1	58.1	10.4	1
SMA6J40A	SMA6J40CA	MR	CR	40.0	44.40	49.10	1	64.5	9.3	1
SMA6J43A	SMA6J43CA	MT	CT	43.0	47.80	52.80	1	69.4	8.7	1
SMA6J45A	SMA6J45CA	MV	CV	45.0	50.00	55.30	1	72.7	8.3	1
SMA6J48A	SMA6J48CA	MX	CX	48.0	53.30	58.90	1	77.4	7.8	1
SMA6J51A	SMA6J51CA	MZ	CZ	51.0	56.70	62.70	1	82.4	7.3	1
SMA6J54A	SMA6J54CA	NE	DE	54.0	60.00	66.30	1	87.1	6.9	1
SMA6J58A	SMA6J58CA	NG	DG	58.0	64.40	71.20	1	93.6	6.5	1
SMA6J60A	SMA6J60CA	NK	DK	60.0	66.70	73.70	1	96.8	6.2	1
SMA6J64A	SMA6J64CA	NM	DM	64.0	71.10	78.60	1	103.0	5.9	1
SMA6J70A	SMA6J70CA	NP	DP	70.0	77.80	86.00	1	113.0	5.3	1
SMA6J75A	SMA6J75CA	NR	DR	75.0	83.30	92.10	1	121.0	5.0	1
SMA6J78A	SMA6J78CA	NT	DT	78.0	86.70	95.80	1	126.0	4.8	1
SMA6J85A	SMA6J85CA	NV	DV	85.0	94.4	104.0	1	137.0	4.4	1
SMA6J90A	SMA6J90CA	NX	DX	90.0	100.0	111.0	1	146.0	4.1	1
SMA6J100A	SMA6J100CA	NZ	DZ	100.0	111.0	123.0	1	162.0	3.7	1
SMA6J110A	SMA6J110CA	PE	EE	110.0	122.0	135.0	1	177.0	3.4	1
SMA6J120A	SMA6J120CA	PG	EG	120.0	133.0	147.0	1	193.0	3.1	1
SMA6J130A	SMA6J130CA	PK	EK	130.0	144.0	159.0	1	209.0	2.9	1
SMA6J150A	SMA6J150CA	PM	EM	150.0	167.0	185.0	1	243.0	2.5	1
SMA6J160A	SMA6J160CA	PP	EP	160.0	178.0	197.0	1	259.0	2.3	1
SMA6J170A	SMA6J170CA	PR	ER	170.0	189.0	209.0	1	275.0	2.2	1
SMA6J180A	SMA6J180CA	PT	ET	180.0	201.0	222.0	1	292.0	2.1	1
SMA6J190A	SMA6J190CA	PA	EC	190.0	209.0	243.0	1	308.0	2.0	1
SMA6J200A	SMA6J200CA	PV	EV	200.0	224.0	247.0	1	324.0	1.9	1
SMA6J210A	SMA6J210CA	PB	ED	210.0	231.0	268.0	1	340.0	1.8	1
SMA6J220A	SMA6J220CA	PX	EX	220.0	246.0	272.0	1	356.0	1.7	1
SMA6J250A		PZ		250.0	279.0	309.0	1	405.0	1.5	1
SMA6J300A		QE		300.0	335.0	371.0	1	486.0	1.3	1
SMA6J350A		QG		350.0	391.0	432.0	1	567.0	1.1	1
SMA6J400A		QK		400.0	447.0	494.0	1	648.0	0.9	1
SMA6J440A		QM		440.0	492.0	543.0	1	713.0	0.9	1

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

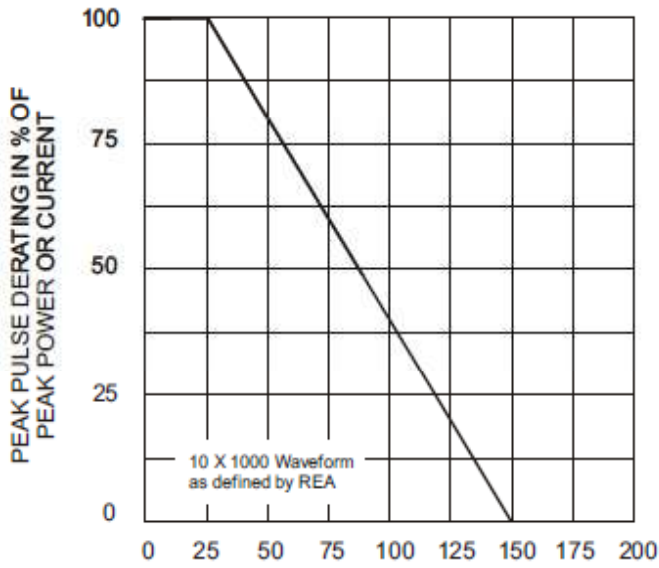


Fig. 1 - Pulse Derating Curve

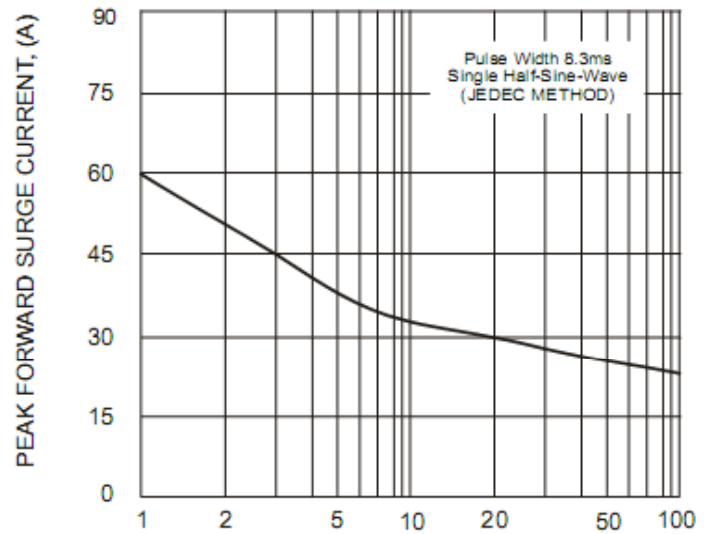


Fig. 2 - Maximum Non-Repetitive Surge Current

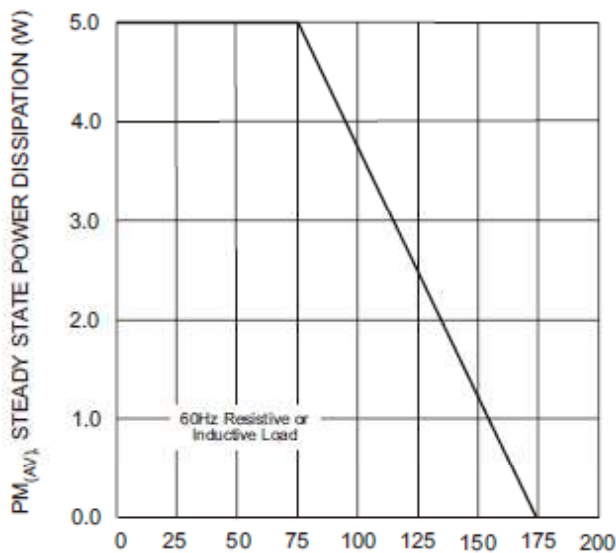


Fig. 3 - Steady State Power Derating Curve

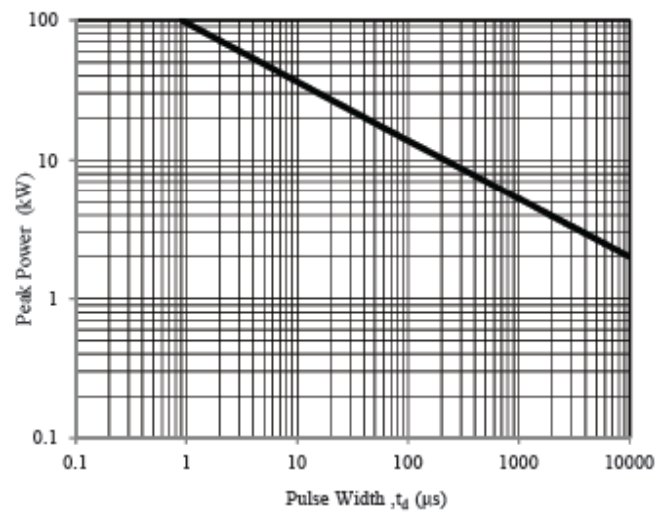


Fig. 4 - Peak Pulse Power Rating Curve

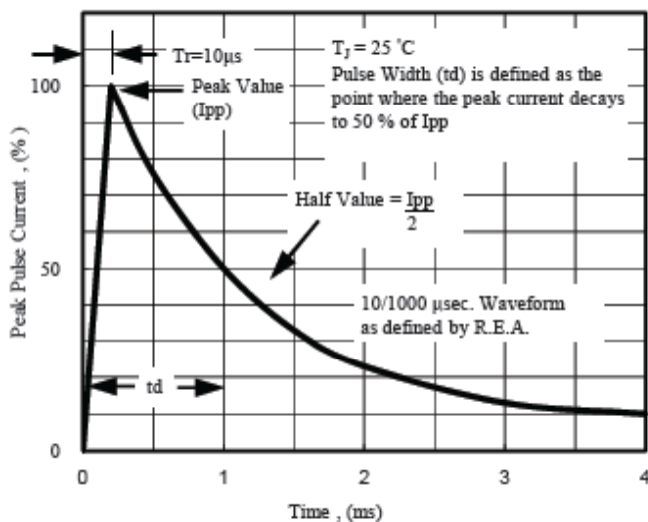


Fig. 5 - Pulse Waveform

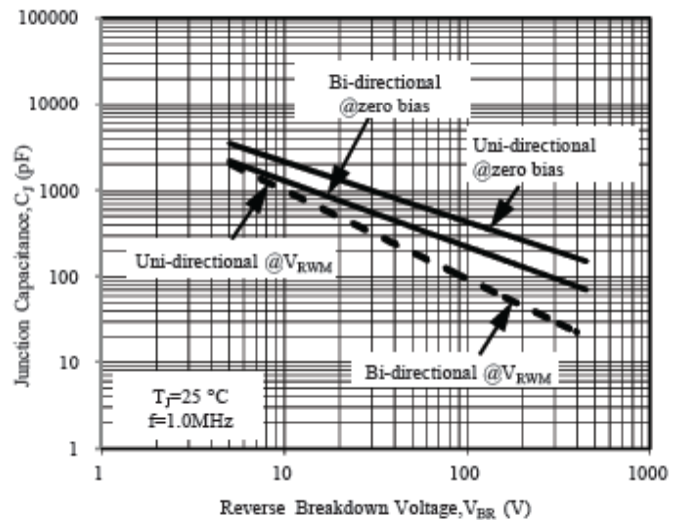


Fig. 6 - Typical Junction Capacitance