

### •General description

The SMD30J Series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

3000W peak pulse capability at 10/1000 $\mu$ s waveform.  
 Glass passivated or planar chip junction in SMC Package.  
 Fast response time, excellent clamping capability.  
 Low incremental surge resistance.  
 Typical failure mode is short for over-specified voltage or current.



### •Applications

TVS devices are ideal for the protection of I/O interfaces,  $V_{CC}$  bus and other vulnerable circuits used in telecom, computer, industrial and consumer electronic applications.

### •Maximum ratings and thermal characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Conditions	Value	Unit
$P_{PP}$	Peak pulse power dissipation	10/1000 $\mu$ s Test waveform, $T_A = 25^\circ\text{C}$	3000	W
$P_D$	Power dissipation on infinite heatsink	$T_L=50^\circ\text{C}$	6.5	W
$I_{FSM}$	Peak forward surge current	8.3ms single half sine wave	300	A
$V_F$	Maximum instantaneous forward voltage	25A for uni-directional only	3.5	V
$R_{th(j-l)}$	Junction to lead		15	$^\circ\text{C}/\text{W}$
$R_{th(j-a)}$	Junction to ambient on printed circuit on recommended pad layout		75	$^\circ\text{C}/\text{W}$
$T_{stg}$	Storage temperature range		-65 to 175	$^\circ\text{C}$
$T_j$	Operating junction temperature range		-65 to 150	$^\circ\text{C}$

**Electrical characteristics, parameter values ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ )**

Part Number		$I_R@V_R$	$V_{BR}@I_T$		$I_T$	$V_C@I_{PP}$	$I_{PP}^{\circ}$
Uni-Polar	Bi-Polar	$\mu\text{A}$	min(V)	max(V)	mA	max(V)	A
SMD30J5.0V	SMD30J5.0B	800	6.4	7	10	9.2	326.1
SMD30J6.0V	SMD30J6.0B	800	6.67	7.37	10	10.3	291
SMD30J6.5V	SMD30J6.5B	500	7.22	7.98	10	11.2	267.9
SMD30J7.0V	SMD30J7.0B	200	7.78	8.6	10	12	250
SMD30J7.5V	SMD30J7.5B	100	8.33	9.21	1	12.9	232.6
SMD30J8.0V	SMD30J8.0B	50	8.89	9.83	1	13.6	220.6
SMD30J8.5V	SMD30J8.5B	20	9.44	10.4	1	14.4	208.3
SMD30J9.0V	SMD30J9.0B	5	10	11.1	1	15.4	194.8
SMD30J10V	SMD30J10B	1	11.1	12.3	1	17	176.5
SMD30J11V	SMD30J11B	1	12.2	13.5	1	18.2	164.8
SMD30J12V	SMD30J12B	1	13.3	14.7	1	19.9	150.8
SMD30J13V	SMD30J13B	1	14.4	15.9	1	21.5	139.5
SMD30J14V	SMD30J14B	1	15.6	17.2	1	23.2	129.3
SMD30J15V	SMD30J15B	1	16.7	18.5	1	24.4	123
SMD30J16V	SMD30J16B	1	17.8	19.7	1	26	115.4
SMD30J17V	SMD30J17B	1	18.9	20.9	1	27.6	108.7
SMD30J18V	SMD30J18B	1	20	22.1	1	29.2	102.7
SMD30J20V	SMD30J20B	1	22.2	24.5	1	32.4	92.6
SMD30J22V	SMD30J22B	1	24.4	26.9	1	35.5	84.5
SMD30J24V	SMD30J24B	1	26.7	29.5	1	38.9	77.1
SMD30J26V	SMD30J26B	1	28.9	31.9	1	42.1	71.3
SMD30J28V	SMD30J28B	1	31.1	34.4	1	45.4	66.1
SMD30J30V	SMD30J30B	1	33.3	36.8	1	48.4	62
SMD30J33V	SMD30J33B	1	36.7	40.6	1	53.3	56.3
SMD30J36V	SMD30J36B	1	40	44.2	1	58.1	51.6
SMD30J40V	SMD30J40B	1	44.4	49.1	1	64.5	46.5
SMD30J43V	SMD30J43B	1	47.8	52.8	1	69.4	43.2
SMD30J45V	SMD30J45B	1	50	55.3	1	72.7	41.3
SMD30J48V	SMD30J48B	1	53.3	58.9	1	77.4	38.8
SMD30J51V	SMD30J51B	1	56.7	62.7	1	82.4	36.4

Part Number		$V_R$	$I_R@V_R$	$V_{BR}@I_T$		$I_T$	$V_C@I_{PP}$	$I_{PP}^{\textcircled{1}}$
Uni-Polar	Bi-Polar	V	$\mu A$	min(V)	max(V)	mA	max(V)	A
SMD30J54V	SMD30J54B	54.0	1	60.0	66.3	1	87.1	34.4
SMD30J58V	SMD30J58B	58.0	1	64.4	71.2	1	93.6	32.1
SMD30J60V	SMD30J60B	60.0	1	66.7	73.7	1	96.8	31
SMD30J64V	SMD30J64B	64.0	1	71.1	78.6	1	103	29.1
SMD30J70V	SMD30J70B	70.0	1	77.8	86.0	1	113	26.5
SMD30J75V	SMD30J75B	75.0	1	83.3	92.1	1	121	24.8
SMD30J78V	SMD30J78B	78.0	1	86.70	95.8	1	126	23.8
SMD30J85V	SMD30J85B	85.0	1	94.4	104.0	1	137	21.9
SMD30J90V	SMD30J90B	90.0	1	100.0	111.0	1	146	20.5
SMD30J100V	SMD30J100B	100.0	1	111.0	123.0	1	162	18.5
SMD30J110V	SMD30J110B	110.0	1	122.0	135.0	1	177	16.9
SMD30J120V	SMD30J120B	120.0	1	133.0	147.0	1	193	15.5
SMD30J130V	SMD30J130B	130.0	1	144.0	159.0	1	209	14.4
SMD30J150V	SMD30J150B	150.0	1	167.0	185.0	1	243	12.3
SMD30J160V	SMD30J160B	160.0	1	178.0	197.0	1	259	11.6
SMD30J170V	SMD30J170B	170.0	1	189.0	209.0	1	275	10.9
SMD30J180V	SMD30J180B	180.0	1	201.0	222.0	1	292	10.3
SMD30J190V	SMD30J20B	190.0	1	211.0	233.0	1	308	9.7
SMD30J200V	SMD30J200B	200.0	1	224.0	247.0	1	324	9.3
SMD30J210V	SMD30J210B	210.0	1	237.0	263.0	1	340	8.8
SMD30J220V	SMD30J220B	220.0	1	246.0	272.0	1	356	8.4
SMD30J250V	SMD30J250B	250.0	1	279.0	309.0	1	405	7.8
SMD30J300V	SMD30J300B	300.0	1	335.0	371.0	1	486	6.5
SMD30J350V	SMD30J350B	350.0	1	391.0	432.0	1	567	5.5
SMD30J400V	SMD30J400B	400.0	1	447.0	494.0	1	648	4.8
SMD30J440V	SMD30J440B	440.0	1	492.0	543.0	1	713	4.4

① Surge waveform: 10/1000 $\mu s$

$V_R$  : Stand-off Voltage -- Maximum voltage that can be applied

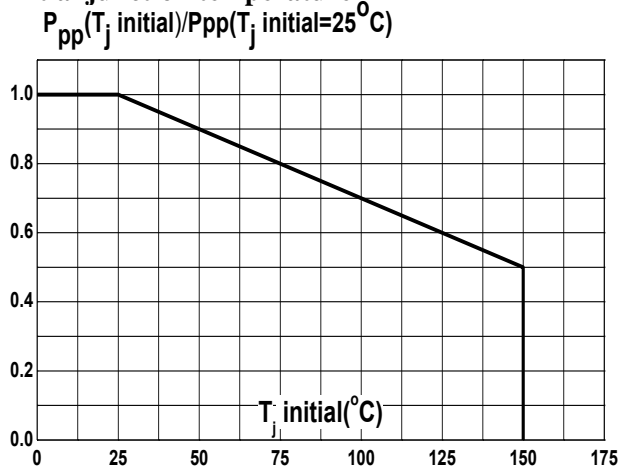
$V_{BR}$ : Breakdown Voltage

$V_C$ : Clamping Voltage -- Peak voltage measured across the suppressor at a specified  $I_{pp}$

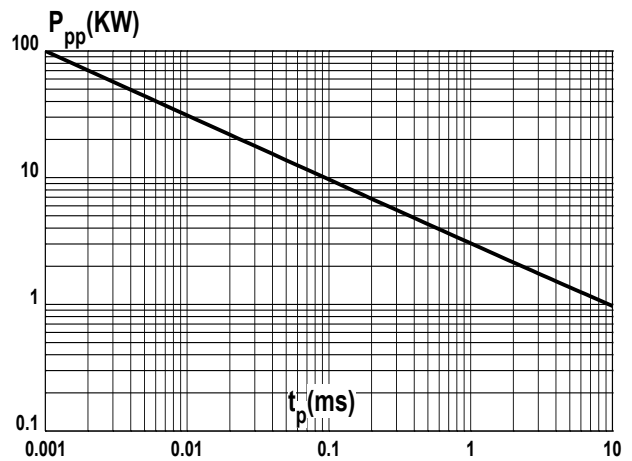
$I_R$ : Reverse Leakage Current

## • Ratings and Characteristic Curves ( $T_A=25\text{ C}$ unless otherwise noted)

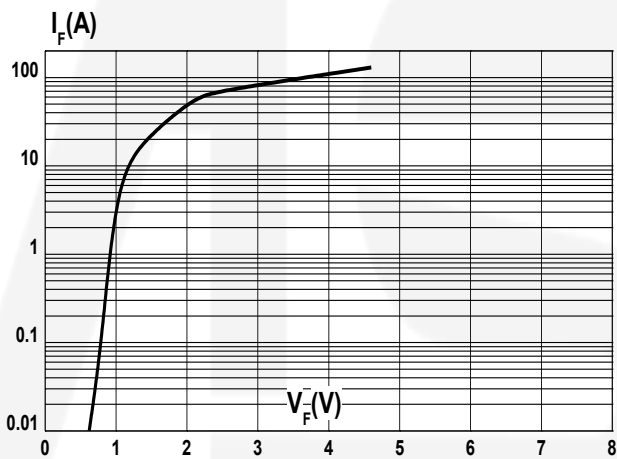
**FIG 1 :Peak power dissipation versus initial junction temperature**



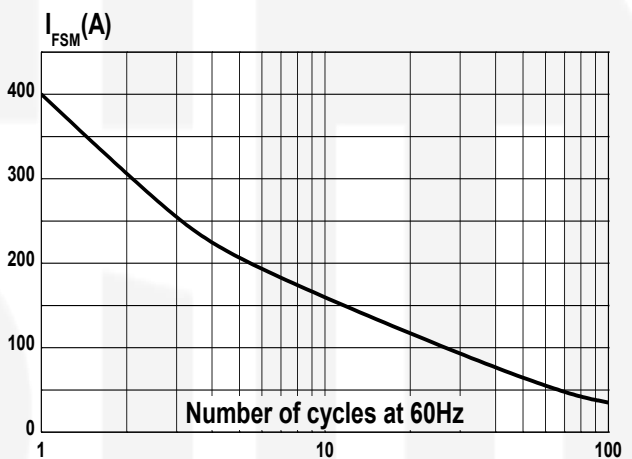
**FIG 2:Peak pulse power versus exponential pulse duration**



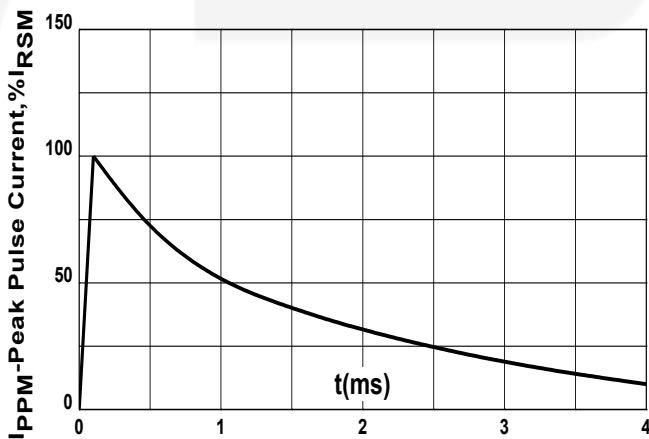
**FIG 3: Peak forward voltage drop versus peak forward current**



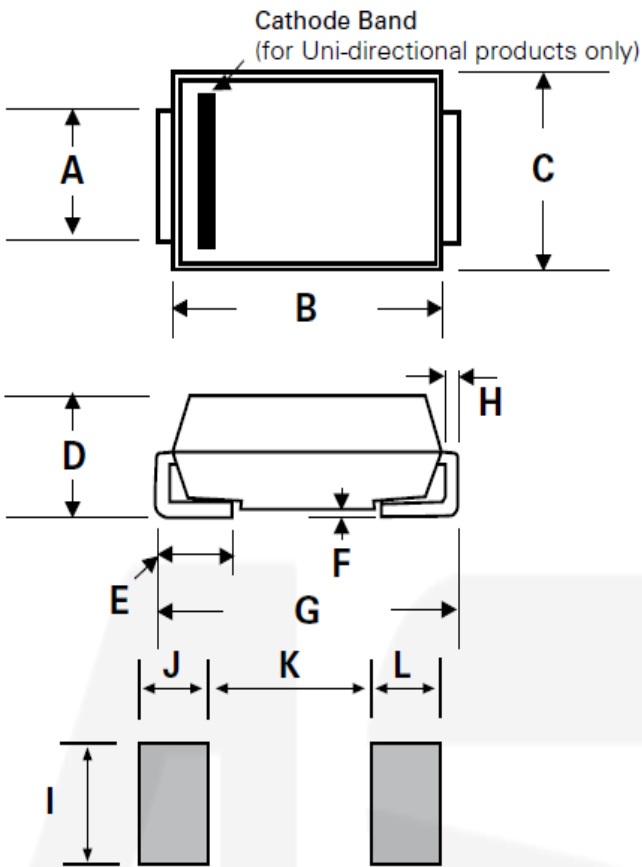
**FIG 4:Maximum non-repetitive forward surge current uni-directional only**



**FIG 5:Pulse waveform**



### • Dimensions



REF.	Inches		Millimeters	
	Min	Max	Min	Max
A	0.114	0.126	2.900	3.200
B	0.260	0.280	6.600	7.110
C	0.220	0.245	5.590	6.220
D	0.079	0.103	2.060	2.620
E	0.030	0.060	0.760	1.520
F	-	0.008	-	0.203
G	0.305	0.320	7.750	8.130
H	0.006	0.012	0.152	0.305
I	0.129	-	3.300	-
J	0.094	-	2.400	-
K	-	0.165	-	4.200
L	0.094	-	2.400	

### • Tape and reel specification

