飞仕龙达 FEISHILONGDA

TVS 瞬变电压抑制二极管 Transient Voltage Suppressor [SMDJ Series]

特性/机械性能： FEATURES/MECHANICAL DATE

SMD/DO-214AB

- ◆ 3000W 峰值脉冲功率 3000W peak pulse power capability
- ◆ 优良的箝制能力 Excellent clamping capability
- ◆ 较小的箝位因子 Smaller clamping factor
- ◆ 快速响应时间：从: 0 v到 VBR，单向型小于1.0ps，双向型小于5.0ns
  Fast response time: typically less than 1.0ps from 0v to VBR for unidirectional and 5.0ns for bidirectional types.
- ◆ 耐焊接热：250℃/10S，引出端1.5mm处Resistance to soldering heat:250 ℃ /10S,terminal1.5mm.
- ◆ 封　装: 模塑封装　Case: Molded plastic
- ◆ 塑封材料: 用UL94V-0认可的阻燃环氧料 Epoxy: UL94V-0 rate flame retardant
- ◆ 端　子: 镀锡,无铅 Terminals：Pure tin plated，lead free
- ◆ 极　性: 色带表示阴极， Polarity: Color band denotes cathode except Bipolar
- ◆ 安装位置: 任意　Mounting position: Any

最大额定值及电气特性： MAXIMUM RATINGS AND CHARACTERISTICS

测量环境温度为25℃，除非另有规定。
Rating at 25℃ ambient temperature unless otherwise specified.

参 数 名 称　Papt Number	符号Symbol	额 定 值 Value	单位Unit
最大峰值脉冲功率　Peak power dissipation	Pppm	最小（Min） 3000	W
最大峰值反向脉冲电流 (注释1) Peak pulse reverse current (Note1)	Ippm	见表（See Table）	A
稳态功率 (注释2) Steady state power dissipation (Note2)	Pm(AV)	6.5	W
最大峰值正向浪涌电流(注释3) 仅对单向型 Maximum Peak Forward surge Current (Note3)For unidirectional only	IFSM	300.0	A
工作及储存温度 Operating and Storage Temperature Range	TJ,TSTG	-55～+150	℃

注 释: NOTES：

1. 脉冲电流时间10 / 1000μs。10 / 1000μs waveform non-repetitive current pulse
2. 在引线末端安装面积为5.0mm2, 厚0.013mm的散热铜片,Ta=75℃.
   Mounted on copper pad area of (5×5×0.013㎜) ,Ta=75℃.
3. 使用单相正弦半波，时间10ms；或使用等效的方波，4周波/分。
   Measured on 10ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

双向型器件应用说明:DEVICES FOR BIDIRECTIONAL APPLICATIONS :

1.在型号名称后注有C 或CA ，表示双向型。For bidirectional use C or CA suffix for types

2.电气特性适用于两个方向。 Electrical characteristics apply in both directions.

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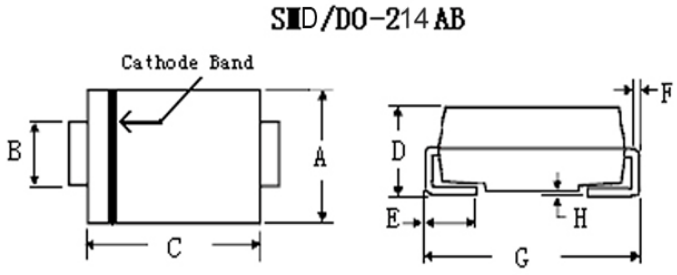
产品外形尺寸： PRODUCT APPEARANCE SIZE



DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.220	0.236	5.6	6.0
B	0.112	0.124	2.85	3.15
C	0.258	0.27	6.55	6.85
D	0.083	0.098	2.1	2.5
E	0.031	0.055	0.8	1.4
F	0.006	0.013	0.18	0.32
G	0.309	0.321	7.85	8.15
H		0.008		0.203

电特性： ELECTRICAL CHARACTERISTICS

型 号 Device Type	击穿电压 Breakdown Voltage(Note1)		测试电流 Test Current	变位电压 Stand-off Volage	最大反向漏电流 @V_{WM} MaximumReverse leadage @V_{WM}	最大峰值脉冲浪涌电流 Maximum Peak Pulse Reverse Current	最大箝位电压 @Ippm Maximum Clamping Voltage @I ppm
	$V_{(BR)}$(V) MIN	$V_{(BR)}$(V) MAX	I_T(mA)	V_{WM}(V)	I_D(μA) (Note2)	I ppm (A)	V_C (V)
SMDJ5.0	6.40	7.30	10.0	5.0	800	312.5	9.60
SMDJ5.0A	6.40	7.00	10.0	5.0	800	326.1	9.20
SMDJ6.0	6.67	8.15	10.0	6.0	800	263.2	11.4
SMDJ6.0A	6.67	7.37	10.0	6.0	800	291.3	10.3
SMDJ6.5	7.22	8.82	10.0	6.5	500	243.9	12.3
SMDJ6.5A	7.22	7.98	10.0	6.5	500	267.9	11.2
SMDJ7.0	7.78	9.51	10.0	7.0	200	225.6	13.3
SMDJ7.0A	7.78	8.60	10.0	7.0	200	250.0	12.0
SMDJ7.5	8.33	10.3	1.0	7.5	100	209.8	14.3
SMDJ7.5A	8.33	9.21	1.0	7.5	100	232.6	12.9
SMDJ8.0	8.89	10.9	1.0	8.0	50	200.0	15.0
SMDJ8.0A	8.89	9.83	1.0	8.0	50	220.6	13.6
SMDJ8.5	9.44	11.5	1.0	8.5	20	188.7	15.9
SMDJ8.5A	9.44	10.4	1.0	8.5	20	208.3	14.4
SMDJ9.0	10.0	12.2	1.0	9.0	10	177.5	16.9
SMDJ9.0A	10.0	11.1	1.0	9.0	10	194.8	15.4
SMDJ10	11.1	13.6	1.0	10.0	5	159.6	18.8
SMDJ10A	11.1	12.3	1.0	10.0	5	176.5	17.0
SMDJ11	12.2	14.9	1.0	11.0	5	149.3	20.1
SMDJ11A	12.2	13.5	1.0	11.0	5	164.8	18.2
SMDJ12	13.3	16.3	1.0	12.0	5	136.4	22.0
SMDJ12A	13.3	14.7	1.0	12.0	5	150.8	19.9
SMDJ13	14.4	17.6	1.0	13.0	5	126.1	23.8
SMDJ13A	14.4	15.9	1.0	13.0	5	139.5	21.5
SMDJ14	15.6	19.1	1.0	14.0	5	116.3	25.8
SMDJ14A	15.6	17.2	1.0	14.0	5	129.3	23.2
SMDJ15	16.7	20.4	1.0	15.0	5	111.5	26.9
SMDJ15A	16.7	18.5	1.0	15.0	5	123.0	24.4

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	$V_{(BR)}$(V) MIN	$V_{(BR)}$(V) MAX	I_T(mA)	V_{WM}(V)	I_D(μA) (Note2)	I ppm (A)	V_C (V)
SMDJ16	17.8	21.8	1.0	16.0	5	104.2	28.8
SMDJ16A	17.8	19.7	1.0	16.0	5	115.4	26.0
SMDJ17	18.9	23.1	1.0	17.0	5	98.4	30.5
SMDJ17A	18.9	20.9	1.0	17.0	5	108.7	27.6
SMDJ18	20.0	24.4	1.0	18.0	5	93.2	32.2
SMDJ18A	20.0	22.1	1.0	18.0	5	102.7	29.2
SMDJ20	22.2	27.1	1.0	20.0	5	83.8	35.8
SMDJ20A	22.2	24.5	1.0	20.0	5	92.6	32.4
SMDJ22	24.4	29.8	1.0	22.0	5	76.1	39.4
SMDJ22A	24.4	26.9	1.0	22.0	5	84.5	35.5
SMDJ24	26.7	32.6	1.0	24.0	5	69.8	43.0
SMDJ24A	26.7	29.5	1.0	24.0	5	77.1	38.9
SMDJ26	28.9	35.3	1.0	26.0	5	64.4	46.6
SMDJ26A	28.9	31.9	1.0	26.0	5	71.3	42.1
SMDJ28	31.1	38.0	1.0	28.0	5	60.0	50.0
SMDJ28A	31.1	34.4	1.0	28.0	5	66.1	45.4
SMDJ30	33.3	40.7	1.0	30.0	5	56.1	53.5
SMDJ33	36.7	44.9	1.0	33.0	5	50.8	59.0
SMDJ33A	36.7	40.6	1.0	33.0	5	56.3	53.3
SMDJ36	40.0	48.9	1.0	36.0	5	46.7	64.3
SMDJ36A	40.0	44.2	1.0	36.0	5	51.6	58.1
SMDJ40	44.4	54.3	1.0	40.0	5	42.0	71.4
SMDJ40A	44.4	49.1	1.0	40.0	5	46.5	64.5
SMDJ43	47.8	58.4	1.0	43.0	5	39.1	76.7
SMDJ43A	47.8	52.8	1.0	43.0	5	43.2	69.4
SMDJ45	50.0	61.1	1.0	45.0	5	37.4	80.3
SMDJ45A	50.0	55.3	1.0	45.0	5	41.3	72.7
SMDJ48	53.3	65.1	1.0	48.0	5	35.1	85.5
SMDJ48A	53.3	58.9	1.0	48.0	5	38.8	77.4
SMDJ51	56.7	69.3	1.0	51.0	5	32.9	91.1
SMDJ51A	56.7	62.7	1.0	51.0	5	36.4	82.4
SMDJ54	60.0	73.3	1.0	54.0	5	31.2	96.3
SMDJ54A	60.0	66.3	1.0	54.0	5	34.4	87.1
SMDJ58	64.4	78.7	1.0	58.0	5	29.1	103
SMDJ58A	64.4	71.2	1.0	58.0	5	32.1	93.6
SMDJ60	66.7	81.5	1.0	60.0	5	28.0	107
SMDJ60A	66.7	73.7	1.0	60.0	5	31.0	96.8
SMDJ64	71.1	86.9	1.0	64.0	5	26.3	114

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	$V_{(BR)}$(V) MIN	$V_{(BR)}$(V) MAX	I_T(mA)	V_{WM}(V)	I_D(μA) (Note2)	I ppm (A)	V_C (V)
SMDJ64A	71.1	78.6	1.0	64.0	5	29.1	103
SMDJ70	77.8	95.1	1.0	70.0	5	24.0	125
SMDJ70A	77.8	86.0	1.0	70.0	5	26.5	113
SMDJ75	83.3	102	1.0	75.0	5	22.4	134
SMDJ75A	83.3	92.1	1.0	75.0	5	24.8	121
SMDJ78	86.7	106	1.0	78.0	5	21.6	139
SMDJ78A	86.7	95.8	1.0	78.0	5	23.8	126
SMDJ85	94.4	115	1.0	85.0	5	19.9	151
SMDJ85A	94.4	104	1.0	85.0	5	21.9	137
SMDJ90	100	122	1.0	90.0	5	18.8	160
SMDJ90A	100	111	1.0	90.0	5	20.5	146
SMDJ100	111	136	1.0	100	5	16.8	179
SMDJ100A	111	123	1.0	100	5	18.5	162
SMDJ110	122	149	1.0	110	5	15.3	196
SMDJ110A	122	135	1.0	110	5	16.9	177
SMDJ120	133	163	1.0	120	5	14.0	214
SMDJ120A	133	147	1.0	120	5	15.5	193
SMDJ130	144	176	1.0	130	5	13.0	231
SMDJ130A	144	159	1.0	130	5	14.4	209
SMDJ150	167	204	1.0	150	5	11.2	268
SMDJ150A	167	185	1.0	150	5	12.3	243
SMDJ160	178	218	1.0	160	5	10.5	287
SMDJ160A	178	197	1.0	160	5	11.6	259
SMDJ170	189	231	1.0	170	5	9.9	304
SMDJ170A	189	209	1.0	170	5	10.9	275

注 释：

1. V（BR）值在施加IT 300μs后测量, IT 为方波或等效的脉冲波形。
2. 对于双向型，V_{RWM}在10V及10V以下，ID值加倍。

NOTES :

1. V（BR）measured after IT applide for 300μs, IT = suquare pulse or equivalent.
2. For bidirectional types having V_{RWM} of 10 volts and less, the ID limit is doubled.

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特性曲线图： RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - PEAK PULSE POWER RATING CURVE

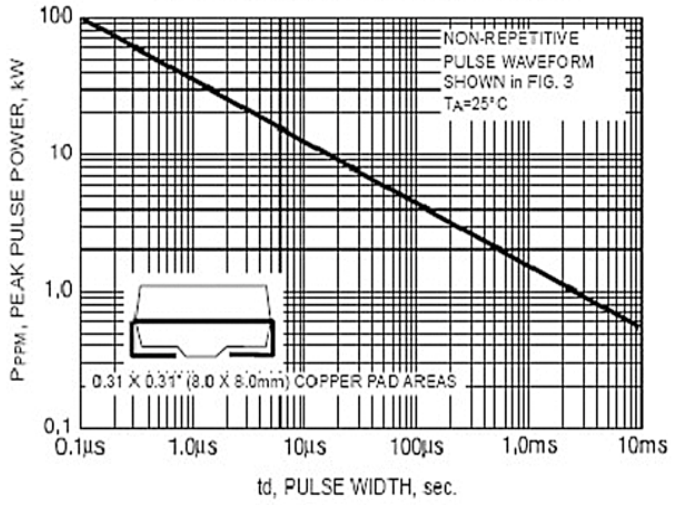


FIG. 2 - PULSE DERATING CURVE

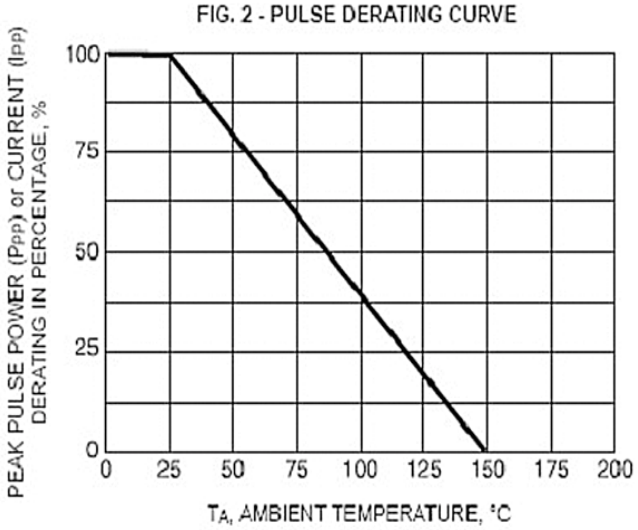


FIG. 3 - PULSE WAVEFORM

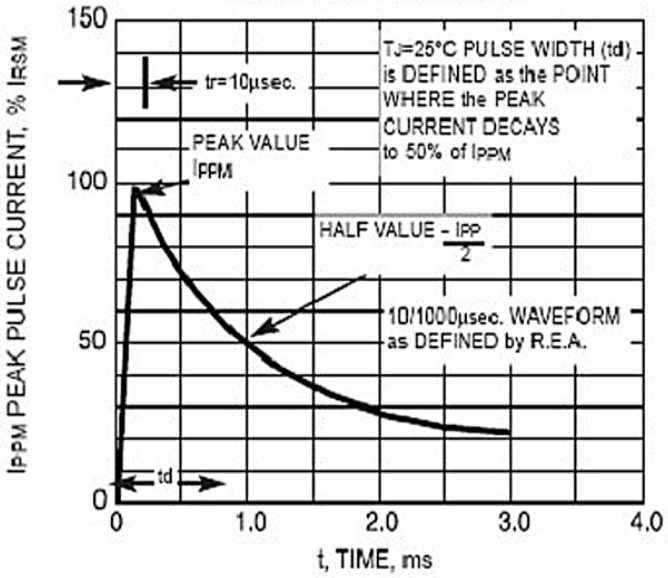
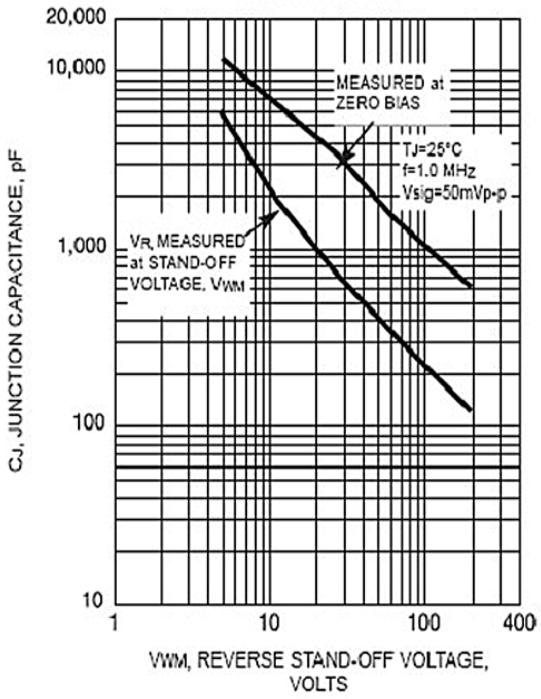


FIG. 4 - TYPICAL JUNCTION CAPACITANCE
UNI-DIRECTIONAL



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特性曲线图： RATINGS AND CHARACTERISTIC CURVES

FIG. 5 - TYPICAL JUNCTION CAPACITANCE
BI-DIRECTIONAL

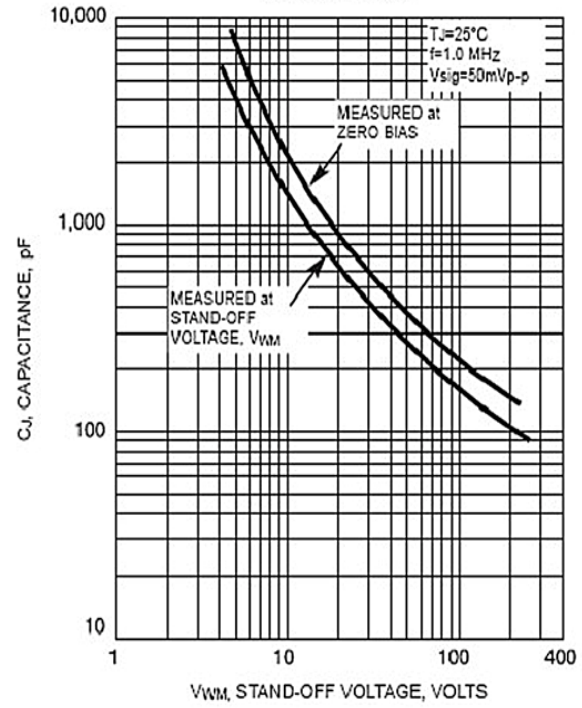

FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD
SURGE CURRENT