Transient Voltage Suppression Diodes: 1.5KE Series
Axial Leaded Type 1500 W

■ Features

1. Reliable low cost construction utilizing molded plastic technique
2. Both bi-directional and uni-directional devices are available
3. Fast response time
4. Excellent clamping capacity
5. 1500W peak pulse power capability with a 10/1000μs waveform, repetition rate (duty cycle): 0.01%

■ Recommended Applications

1. Telecommunication
2. Computer
3. Industrial device
4. Consumer electronic device

■ Mechanical Data

1. Package: DO-27(DO-201AE)
2. Terminal: Matte Tin-plated leads, solderable per MIL-STD-750, Method 2026
3. Polarity: The band denotes cathode (Note: no polarity indicator for bi-directional devices)

■ Part Number Code

1	.	5	K	E	6	.	8	C	A
1	2	3	4	5	6	7	8	9	10

Product Series	
1.5KE	THINKING Transient Voltage Suppression Diodes 1.5KE Series

Central of Breakage Voltage(V_{BR})	
6.8	6.8V
75	75V
200	200V

Type Code	
A	Uni-directional, 5% V_{BR} Voltage Tolerance
CA	Bi-directional, 5% V_{BR} Voltage Tolerance

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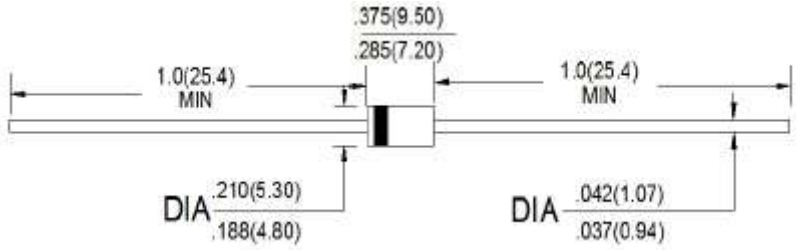
■ Structures and Dimensions

DO-27(DO-201AE)



Unit: inch (millimeter)

■ Maximum Rating (T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation at T_A=25 ℃ by 10/1000μs waveform	P_{PPM}	1500	W
Peak pulse current of on 10/1000us waveform.	IPPM	See Table	A
Peak forward surge current, 8.3ms single half sine wave on rated load	I_{FSM}	200	A
Steady state power dissipation TL=75 ℃	P_D	6.5	W
Operating junction and storage temperature range	T_J, T_{STG}	-55~+150	ºC

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■ Electrical Characteristics (T_A=25℃ unless otherwise noted)

Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage V_{BR} @ IT		Test Current	Maximum Clamping Voltage V_C @ I_{pp}	Maximum Peak Pulse Current	Maximum Reverse Leakage I_R @V_{RWM}
		V_{RWM} (V)	Min(V)	Max(V)	I_T(mA)	V_C(V)	I_{pp}(A)	I_R(μA)
1.5KE6.8A	1.5KE6.8CA	5.8	6. 5	7.1	10	10.5	143.0	1000
1.5KE7.5A	1.5KE7.5CA	6.4	7.1	7.9	10	11.3	133.0	500
1.5KE8.2A	1.5KE8.2CA	7.0	7.8	8.6	10	12.1	124.0	200
1.5KE9.1A	1.5KE9.1CA	7.8	8.6	9.6	1	13.4	112.0	50
1.5KE10A	1.5KE10CA	8.6	9.5	10.5	1	14.5	103.0	10
1.5KE11A	1.5KE11CA	9.4	10.5	11.6	1	15.6	96.2	5
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1	16.7	89.8	5
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1	18.2	82.4	5
1.5KE15A	1.5KE15CA	12.8	14.3	15.8	1	21.2	70.8	5
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1	22.5	66.7	5
1.5KE18A	1.5KE18CA	15.3	17.1	18.9	1	25.2	59.5	5
1.5KE20A	1.5KE20CA	17.1	19.0	21.0	1	27.7	54.2	5
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1	30.6	49.0	5
1.5KE24A	1.5KE24CA	20.5	22.8	25.2	1	33.2	45.2	5
1.5KE27A	1.5KE27CA	23.1	25.7	28.4	1	37.5	40.0	5
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1	41.4	36.2	5
1.5KE33A	1.5KE33CA	28.2	31.4	34.7	1	45.7	32.8	5
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1	49.9	30.1	5
1.5KE39A	1.5KE39CA	33.3	37.1	41.0	1	53.9	27.8	5
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1	59.3	25.3	5
1.5KE47A	1.5KE47CA	40.2	44.7	49.4	1	64.8	23.1	5
1.5KE51A	1.5KE51CA	43.6	48.5	53.6	1	70.1	21.4	5
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1	77.0	19.5	5
1.5KE62A	1.5KE62CA	53.0	58.9	65.1	1	85.0	17.6	5
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1	92.0	16.3	5
1.5KE75A	1.5KE75CA	64.1	71.3	78.8	1	104.0	14.6	5
1.5KE82A	1.5KE82CA	70.1	77.9	86.1	1	113.0	13.3	5
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1	125.0	12.0	5
1.5KE100A	1.5KE100CA	85.5	95.0	105.0	1	137.0	10.9	5

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Part No. (Uni)	Part No. (Bi)	Reverse Stand off Voltage	Breakage Voltage V_{BR} @ IT		Test Current	Maximum Clamping Voltage V_C @ I_{pp}	Maximum Peak Pulse Current	Maximum Reverse Leakage I_R @V_{RWM}
		V_{RWM} (V)	Min(V)	Max(V)	I_T(mA)	V_C(V)	I_{pp}(A)	I_R(μA)
1.5KE110A	1.5KE110CA	94.0	105.0	116.0	1	152.0	9.9	5
1.5KE120A	1.5KE120CA	102.0	114.0	126.0	1	165.0	9.1	5
1.5KE130A	1.5KE130CA	111.0	124.0	137.0	1	179.0	8.4	5
1.5KE150A	1.5KE150CA	128.0	143.0	158.0	1	207.0	7.2	5
1.5KE160A	1.5KE160CA	136.0	152.0	168.0	1	219.0	6.8	5
1.5KE170A	1.5KE170CA	145.0	162.0	179.0	1	234.0	6.4	5
1.5KE180A	1.5KE180CA	154.0	171.0	189.0	1	246.0	6.1	5
1.5KE200A	1.5KE200CA	171.0	190.0	210.0	1	274.0	5.5	5
1.5KE220A	1.5KE220CA	185.0	209.0	231.0	1	328.0	4.6	5
1.5KE250A	1.5KE250CA	214.0	237.0	263.0	1	344.0	4.4	5
1.5KE300A	1.5KE300CA	256.0	285.0	315.0	1	414.0	3.6	5
1.5KE350A	1.5KE350CA	300.0	333.0	368.0	1	482.0	3.1	5
1.5KE400A	1.5KE400CA	342.0	380.0	420.0	1	548.0	2.7	5
1.5KE440A	1.5KE440CA	376.0	418.0	462.0	1	602.0	2.5	5
1.5KE480A	1.5KE480CA	408.0	456.0	504.0	1	658.0	2.28	5

■ Rate and Characteristic Curve (T_A=25℃ unless otherwise noted)

图1：最大脉冲功率曲线
FIG1:Peak Pulse Power Rating Curve

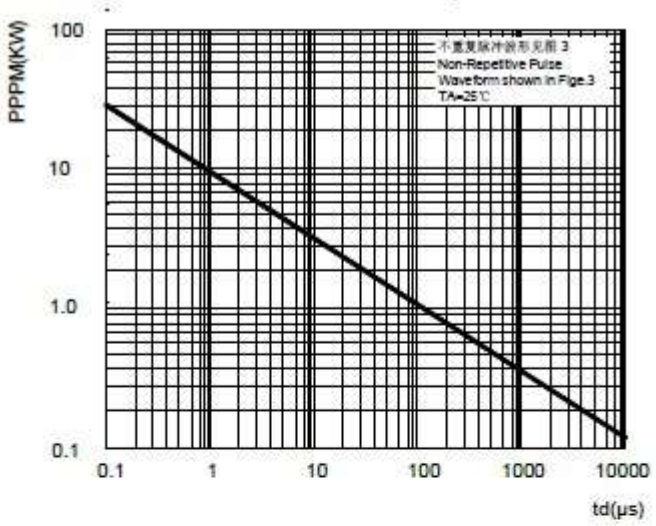


图2：脉冲功率或电流与结温关系
FIG2：Pulse Power or Current vs.Initial Junction Temperature

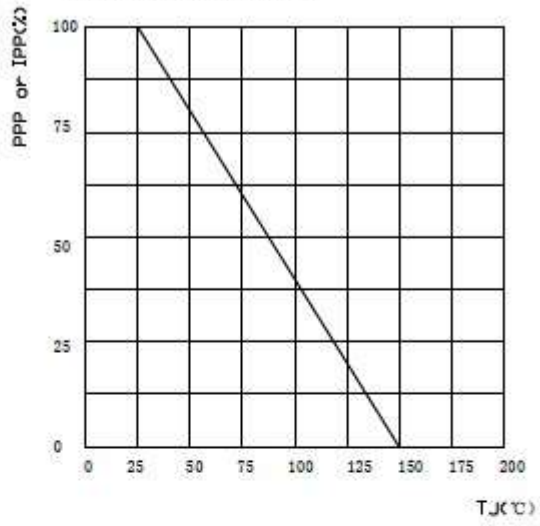


图3：脉冲波形
FIG3: Pulse Waveform

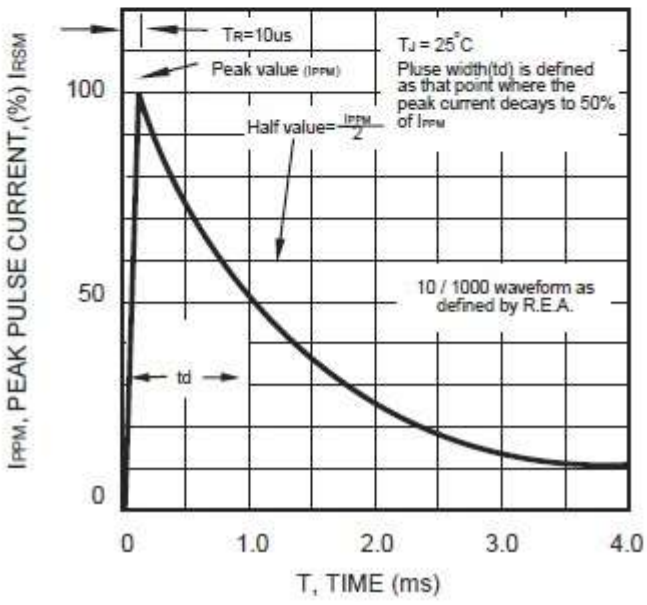
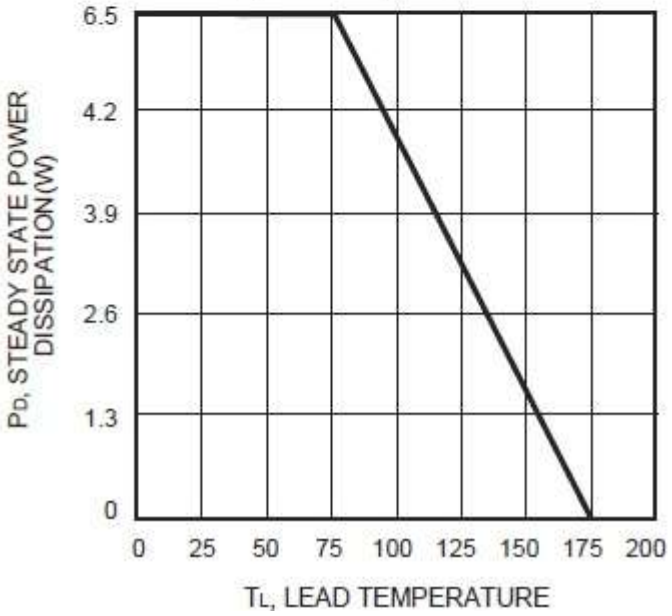
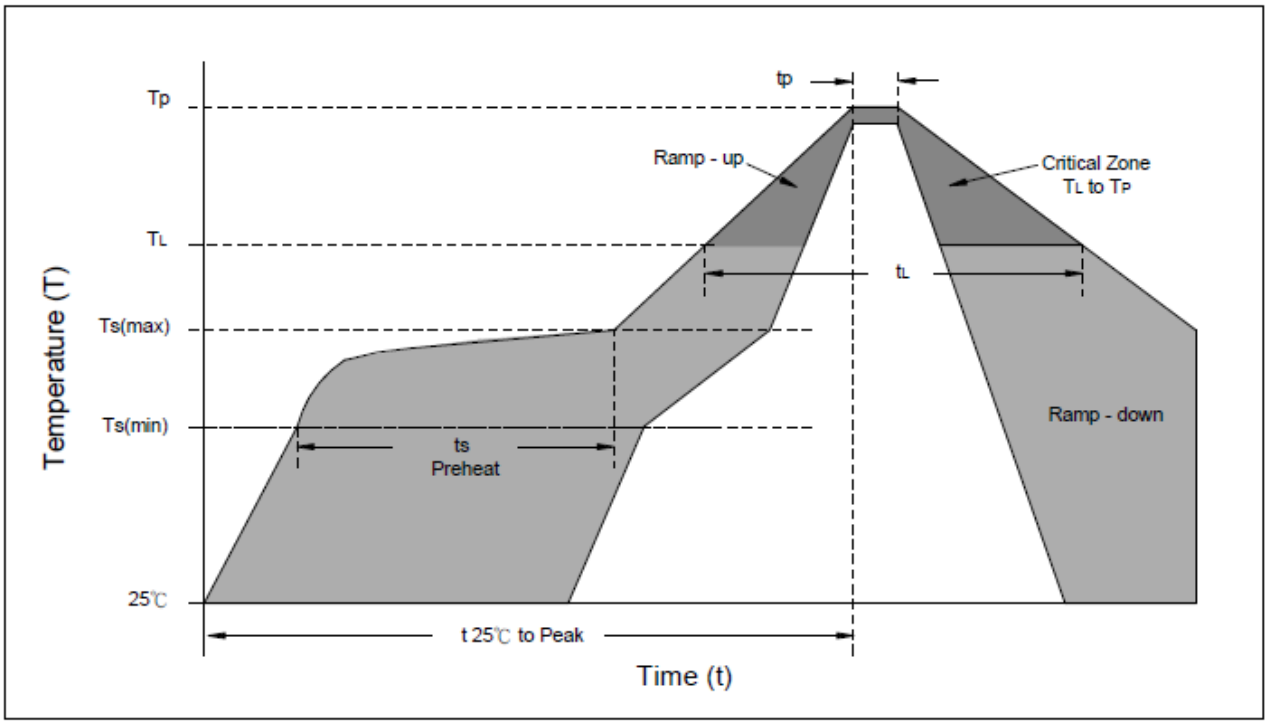


图4：功率降额曲线
FIG4：Power Derating Curve



■ Soldering Recommendation



Reflow Condition	Lead-free assembly
Preheat	
-Temperature Min(Ts min)	150℃
-Temperature Min(Ts max)	200℃
-Time (min to max) (ts)	60 – 180 seconds
Average ramp up rate	
-Temperature Liquidus (TL) to peak	3℃/second max
Ts(max) to TL	
-Ramp-up Rate	3℃/second max.
Reflow	
-Temperature Liquidus (TL)	217℃
-Time (tL)	60 – 150 seconds
Peak Temperature (TP)	260℃
Time within 5℃ of actual peak Temperature(tP)	20 – 40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to peak Temperature(TP)	8 minutes max.
Do not exceed	260℃

■ Quantity

Package Type	Reel Size inch	Reel Kpcs
DO-27	13	1.2

■ Warehouse Storage Conditions of product

● Storage Condition:

1. Storage Temperature: -10℃~+40℃
2. Relative Humidity: ≦75%RH
3. Keep away from corrosive atmosphere and sunlight.

● Period of Storage: 1 year.