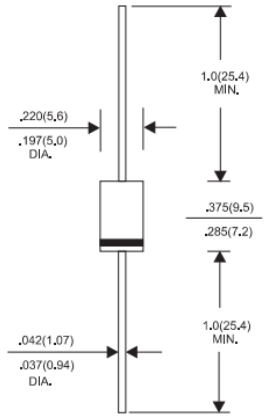
Axial Lead Transient Voltage Suppressors

Primary characteristics		
Parameter	**Value**	**Unit**
Breakdown voltage	6.45 to 462	V
Peak power dissipation	1500	W

Case dimensions



Dimensions in inches and (millimeters)

DO-201AE

Features

- Glass passivated chip
- Low leakage
- Excellent clamping capability
- Very fast response time
- Lead-free parts meet RoHS requirements
- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic
- Lead: Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: any

Maximum ratings (T_A = 25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Peak power dissipation	with 10/1000μs waveformc[1)]	P_{PPM}	1500	W
Peak pulse current	with 10/1000μs waveformc[1)]	I_{PPM}	Tab. Electrical characteristics	A
Steady state power dissipation	at T_L=75°C, lead length 0.375”(9.5mm)	$P_{M(AV)}$	6.5	W
Peak forward surge current	8.3ms single half sine-wave (JEDEC Method) [2)]	I_{FSM}	200	A
Maximum instantaneous forward voltage	at 100A for Uni-directional types only [3)]	V_F	3.5/5.0	V
Operating junction temperature range	-	T_J	-55 to +150	°C
Storage temperature range	-	T_{STG}	-55 to +150	°C

Notes:
[1)] Non-repetitive current pulse per Fig.* and derated above T_A=25°C per Fig.**.
[2)] Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
[3)] V_F <3.5V, for devices of V_{BR} <200V, and V_F <5.0V for devices of V_{BR} >201V.

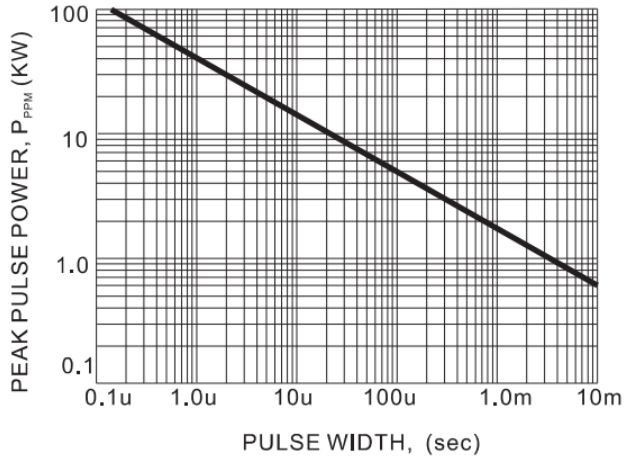
Electrical characteristics (T_A = 25°C unless otherwise noted)

Part number (Uni)	Part numer (Bi)	Reverse stand-off voltage	Breakdown voltage @I_T		Test current	Maximum clamping voltage @I_{PP}		Maximum reverse leakage current
		V_{RWM}	$V_{BR\ Min}$	$V_{BR\ Max}$	I_T	V_C	I_{PP}	I_R@V_{RWM}
		V	V	V	mA	V	A	μA
1.5KE6.8A	1.5KE6.8CA	5.80	6.45	7.14	10	10.5	142.8	1000
1.5KE7.5A	1.5KE7.5CA	6.40	7.13	7.88	10	11.3	132.7	500

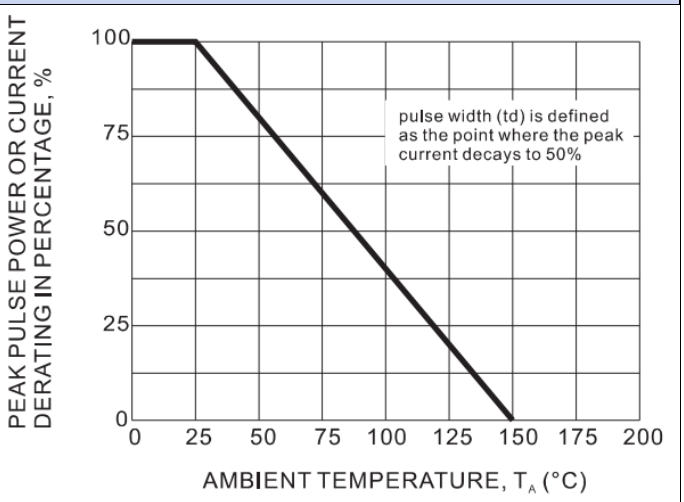
1.5KE8.2A	1.5KE8.2CA	7.02	7.79	8.61	10	12.1	123.9	200
1.5KE9.1A	1.5KE9.1CA	7.78	8.65	9.55	1.0	13.4	111.9	50
1.5KE10A	1.5KE10CA	8.55	9.50	10.5	1.0	14.5	103.4	10
1.5KE11A	1.5KE11CA	9.40	10.5	11.6	1.0	15.6	96.1	5
1.5KE12A	1.5KE12CA	10.2	11.4	12.6	1.0	16.7	89.8	5
1.5KE13A	1.5KE13CA	11.1	12.4	13.7	1.0	18.2	82.4	5
1.5KE15A	1.5KE15CA	12.8	14.3	15.8	1.0	21.2	70.7	5
1.5KE16A	1.5KE16CA	13.6	15.2	16.8	1.0	22.5	67.0	5
1.5KE18A	1.5KE18CA	15.3	17.1	18.9	1.0	25.5	59.5	5
1.5KE20A	1.5KE20CA	17.1	19.0	21.0	1.0	27.7	54.0	5
1.5KE22A	1.5KE22CA	18.8	20.9	23.1	1.0	30.6	49.0	5
1.5KE24A	1.5KE24CA	20.5	22.8	25.2	1.0	33.2	45.0	5
1.5KE27A	1.5KE27CA	23.1	25.7	28.4	1.0	37.5	40.0	5
1.5KE30A	1.5KE30CA	25.6	28.5	31.5	1.0	41.4	36.0	5
1.5KE33A	1.5KE33CA	28.2	31.4	34.7	1.0	45.7	33.0	5
1.5KE36A	1.5KE36CA	30.8	34.2	37.8	1.0	49.9	30.0	5
1.5KE39A	1.5KE39CA	33.3	37.1	41.0	1.0	53.9	28.0	5
1.5KE43A	1.5KE43CA	36.8	40.9	45.2	1.0	59.3	25.3	5
1.5KE47A	1.5KE47CA	40.2	44.7	49.4	1.0	64.8	23.2	5
1.5KE51A	1.5KE51CA	43.6	48.5	53.6	1.0	70.1	21.4	5
1.5KE56A	1.5KE56CA	47.8	53.2	58.8	1.0	77.0	19.5	5
1.5KE62A	1.5KE62CA	53.0	58.9	65.1	1.0	85.0	17.7	5
1.5KE68A	1.5KE68CA	58.1	64.6	71.4	1.0	92.0	16.3	5
1.5KE75A	1.5KE75CA	64.1	71.3	78.8	1.0	103.0	14.6	5
1.5KE82A	1.5KE82CA	70.1	77.9	86.1	1.0	113.0	13.3	5
1.5KE91A	1.5KE91CA	77.8	86.5	95.5	1.0	125.0	12.0	5
1.5KE100A	1.5KE100CA	85.5	95.0	105.0	1.0	137.0	11.0	5
1.5KE110A	1.5KE110CA	94.0	105.0	116.0	1.0	152.0	9.9	5
1.5KE120A	1.5KE120CA	102.0	114.0	126.0	1.0	165.0	9.1	5
1.5KE130A	1.5KE130CA	111.0	124.0	137.0	1.0	179.0	8.4	5
1.5KE150A	1.5KE150CA	128.0	143.0	158.0	1.0	207.0	7.2	5
1.5KE160A	1.5KE160CA	136.0	152.0	168.0	1.0	219.0	6.8	5
1.5KE170A	1.5KE170CA	145.0	162.0	179.0	1.0	234.0	6.4	5
1.5KE180A	1.5KE180CA	154.0	171.0	189.0	1.0	246.0	6.1	5
1.5KE200A	1.5KE200CA	171.0	190.0	210.0	1.0	274.0	5.5	5
1.5KE220A	1.5KE220CA	185.0	209.0	231.0	1.0	328.0	4.6	5
1.5KE250A	1.5KE250CA	214.0	237.0	263.0	1.0	344.0	4.4	5
1.5KE300A	1.5KE300CA	256.0	285.0	315.0	1.0	414.0	3.6	5
1.5KE350A	1.5KE350CA	300.0	332.0	368.0	1.0	482.0	3.1	5
1.5KE400A	1.5KE400CA	342.0	380.0	420.0	1.0	548.0	2.7	5
1.5KE440A	1.5KE440CA	376.0	418.0	462.0	1.0	602.0	2.5	5

Ratings and characteristic curves

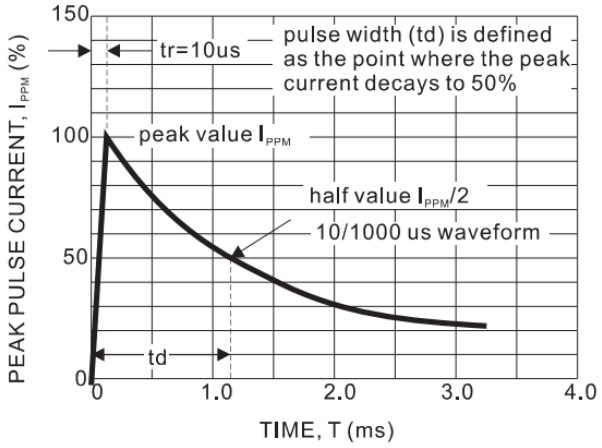
Peak pulse power rating cure



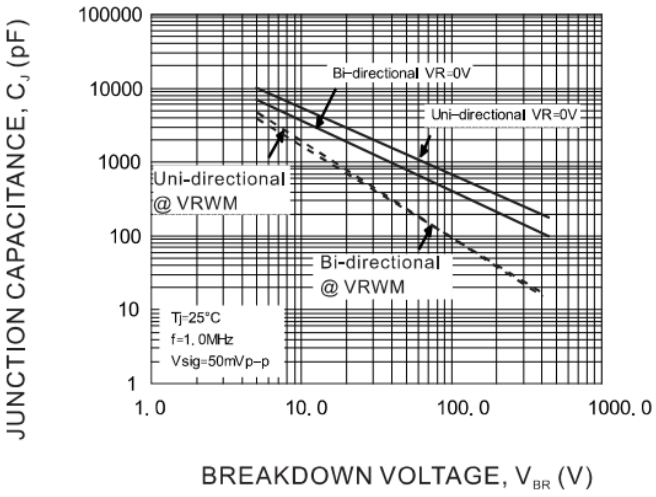
Pulse derating curve



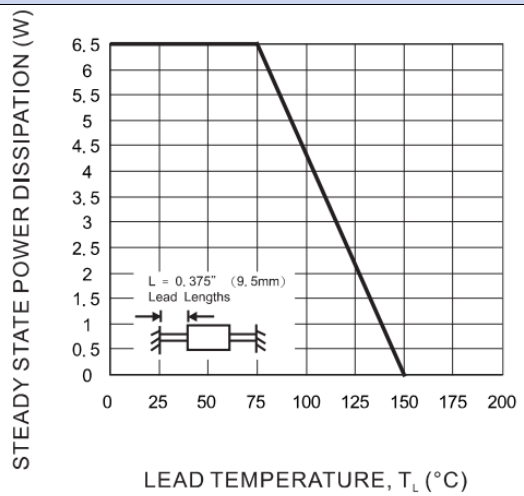
Pulse waveform



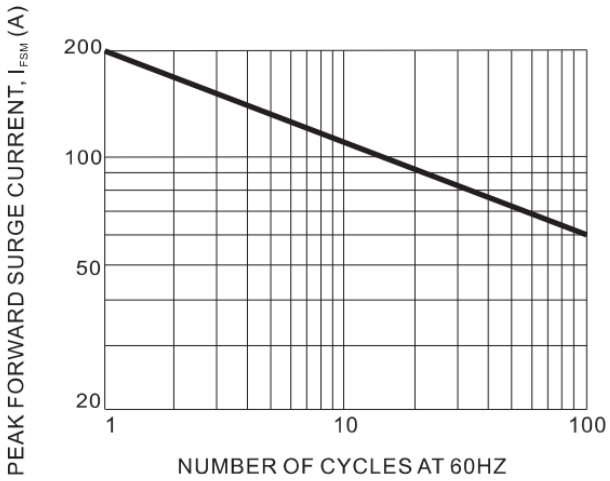
Typical junction capacitance



Steady state power derating curve



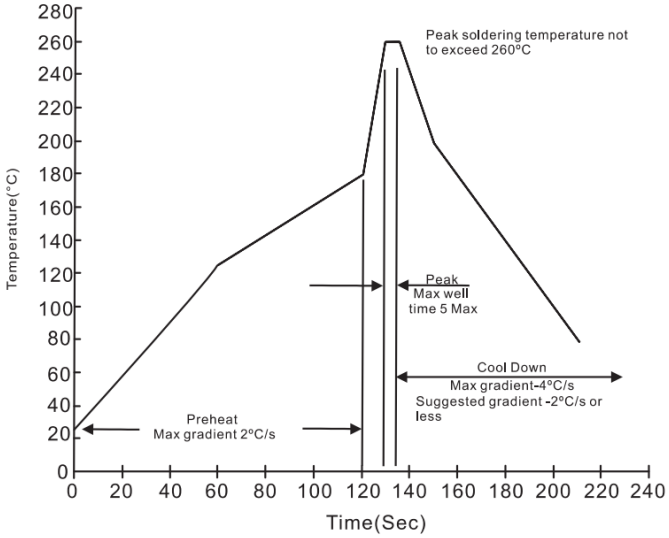
Maximum non-repetitive forward surge current



Pininng information		
Pin	**Simplified outline**	**Symbol**
Uni-directional Pin1 cathode Pin2 anode		
Bi-directional		

Suggested thermal profiles for soldering processes

Lead free temperature profile wave-soldering



Ordering information			
Part number	**Package**	**Shipping quantity**	**Dimensions**
1.5KE6.8A(CA) – 1.5KE440A(CA)	DO-201AE	**1250 pcs / taped – small box**	---

Disclaimer

Akyga semi reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Akyga semi or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on Akyga semi data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Akyga semi does not assume any liability arising out of the application or use of any product or circuit. Akyga semi products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Akyga semi. Customers using or selling Akyga semi components for use in such applications do so at their own risk and shall agree to fully indemnify Akyga semi and its subsidiaries harmless against all claims, damages and expenditures.