

1500W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

<p>Dimensions in mm.</p> <p style="text-align: right;">DO201AE (Plastic)</p>	<p>Peak Pulse Power Rating At 1 ms. Exp. 1500 W</p> <p>Reverse stand-off Voltage 5.5 ÷ 376 V</p> <p style="text-align: center;">HYPERECTIFIER®</p>
<p>Mounting instructions</p> <ol style="list-style-type: none"> 1. Min. distance from body to soldering point, 4 mm. 2. Max. solder temperature, 300 °C. 3. Max. soldering time, 3.5 sec. 4. Do not bend lead at a point closer than 3 mm. to the body. 	<ul style="list-style-type: none"> • Glass passivated junction • Low Capacitance AC signal protection • Response time typically < 1 ns. • Molded case • The plastic material carries U/L recognition 94 V-0 • Terminals: Axial leads

Maximum Ratings, according to IEC publication No. 134

P_{PP}	Peak pulse power with 10/1000 μ s exponential pulse	1500 W
I_{FSM}	Non repetitive surge peak forward current ($t = 8.3$ msec.) (Jedec Method) (Note 1)	200 A
T_j	Operating temperature range	- 65 to + 175 °C
T_{stg}	Storage temperature range	- 65 to + 175 °C
$P_{M(AV)}$	Steady state Power Dissipation ($l = 10$ mm)	5 W

Electrical Characteristics at $T_{amb} = 25$ °C

V_F	Max. forward voltage drop at $I_F = 100$ A (Note 1)	$V_{BR} \leq 220$ V 3.5 V $V_{BR} > 220$ V 5.0 V
R_{thj-l}	Max. thermal resistance ($l = 10$ mm.)	20 °C/W

Note 1: Valid only for Unidirectional.



Type	Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at I_R (V)			I_R (mA)	Max. Clamping Voltage V_{CL} at I_{PP} max. 1ms. Expo.	
	(μA)	(V)	Min.	Nom.	Max.		(V)	(A)
Unidirectional								
1N6267 1.5KE6V8	1000	5.50	6.12	6.8	7.48	10	10.8	139
1N6267A 1.5KE6V8A	1000	5.80	6.45	6.8	7.14	10	10.5	143
1N6268 1.5KE7V5	500	6.05	6.75	7.5	8.25	10	11.7	128
1N6268A 1.5KE7V5A	500	6.40	7.13	7.5	7.88	10	11.3	132
1N6269 1.5KE8V2	200	6.63	7.38	8.2	9.02	10	12.5	120
1N6269A 1.5KE8V2A	200	7.02	7.79	8.2	8.61	10	12.1	124
1N6270 1.5KE9V1	50	7.37	8.19	9.1	10.0	1	13.8	109
1N6270A 1.5KE9V1A	50	7.78	8.65	9.1	9.55	1	13.4	112
1N6271 1.5KE10	10	8.10	9.00	10	11.0	1	15.0	100
1N6271A 1.5KE10A	10	8.55	9.50	10	10.5	1	14.5	103
1N6272 1.5KE11	5	8.92	9.90	11	12.1	1	16.2	93
1N6272A 1.5KE11A	5	9.40	10.5	11	11.6	1	15.6	96
1N6273 1.5KE12	5	9.72	10.8	12	13.2	1	17.3	87
1N6273A 1.5KE12A	5	10.2	11.4	12	12.6	1	16.7	90
1N6274 1.5KE13	5	10.5	11.7	13	14.3	1	19.0	79
1N6274A 1.5KE13A	5	11.1	12.4	13	13.7	1	18.2	82
1N6275 1.5KE15	5	12.1	13.5	15	16.5	1	22.0	68
1N6275A 1.5KE15A	5	12.8	14.3	15	15.8	1	21.2	71
1N6276 1.5KE16	5	12.9	14.4	16	17.6	1	23.5	64
1N6276A 1.5KE16A	5	13.6	15.2	16	16.8	1	22.5	67
1N6277 1.5KE18	5	14.5	16.2	18	19.8	1	26.5	56.5
1N6277A 1.5KE18A	5	15.3	17.1	18	18.9	1	25.5	59.5
1N6278 1.5KE20	5	16.2	18.0	20	22.0	1	29.1	51.5
1N6278A 1.5KE20A	5	17.1	19.0	20	21.0	1	27.7	54
1N6279 1.5KE22	5	17.8	19.8	22	24.2	1	31.9	47
1N6279A 1.5KE22A	5	18.8	20.9	22	23.1	1	30.6	49
1N6280 1.5KE24	5	19.4	21.6	24	26.4	1	34.7	43
1N6280A 1.5KE24A	5	20.5	22.8	24	25.2	1	33.2	45
1N6281 1.5KE27	5	21.8	24.3	27	29.7	1	39.1	38.5
1N6281A 1.5KE27A	5	23.1	25.7	27	28.4	1	37.5	40
1N6282 1.5KE30	5	24.3	27.0	30	33.0	1	43.5	34.5
1N6282A 1.5KE30A	5	25.6	28.5	30	31.5	1	41.4	36
1N6283 1.5KE33	5	26.8	29.7	33	36.3	1	47.7	31.5
1N6283A 1.5KE33A	5	28.2	31.4	33	34.7	1	45.7	33
1N6284 1.5KE36	5	29.1	32.4	36	39.6	1	52.0	29
1N6284A 1.5KE36A	5	30.8	34.2	36	37.8	1	49.9	30
1N6285 1.5KE39	5	31.6	35.1	39	42.9	1	56.4	26.5
1N6285A 1.5KE39A	5	33.3	37.1	39	41.0	1	53.9	28
1N6286 1.5KE43	5	34.8	38.7	43	47.3	1	61.9	24
1N6286A 1.5KE43A	5	36.8	40.9	43	45.2	1	59.3	25.3
1N6287 1.5KE47	5	38.1	42.3	47	51.7	1	67.8	22.2
1N6287A 1.5KE47A	5	40.2	44.7	47	49.4	1	64.8	23.2
1N6288 1.5KE51	5	41.3	45.9	51	56.1	1	73.5	20.4
1N6288A 1.5KE51A	5	43.6	48.5	51	53.6	1	70.1	21.4

(1) Tested with pulses.
Pulse test: $t_p = 50 \text{ ms}$; $< 2\%$



Type	Maximum Reverse Leakage Current		(1) Breakdown Voltage			I_R (mA)	Max. Clamping Voltage		
	I_{RM} (μA)	at V_{RM} (V)	Min.	Nom.	Max.		V_{CL} (V)	at I_{PP} max. 1ms. Expo. (A)	
1N6289	1.5KE56	5	45.4	50.4	56	61.6	1	80.5	18.6
1N6289A	1.5KE56A	5	47.8	53.2	56	58.8	1	77.0	19.5
1N6290	1.5KE62	5	50.2	55.8	62	68.2	1	89.0	16.9
1N6290A	1.5KE62A	5	53.0	58.9	62	65.1	1	85.0	17.7
1N6291	1.5KE68	5	55.1	61.2	68	74.8	1	98.0	15.3
1N6291A	1.5KE68A	5	58.1	64.6	68	71.4	1	92.0	16.3
1N6292	1.5KE75	5	60.7	67.5	75	82.5	1	108	13.9
1N6292A	1.5KE75A	5	64.1	71.3	75	78.8	1	103	14.6
1N6293	1.5KE82	5	66.4	73.8	82	90.2	1	118	12.7
1N6293A	1.5KE82A	5	70.1	77.9	82	86.1	1	113	13.3
1N6294	1.5KE91	5	73.7	81.9	91	100	1	131	11.4
1N6294A	1.5KE91A	5	77.8	86.5	91	95.5	1	125	12
1N6295	1.5KE100	5	81.0	90.0	100	110	1	144	10.4
1N6295A	1.5KE100A	5	85.5	95.0	100	105	1	137	11
1N6296	1.5KE110	5	89.2	99.0	110	121	1	158	9.5
1N6296A	1.5KE110A	5	94.0	105	110	116	1	152	9.9
1N6297	1.5KE120	5	97.2	108	120	132	1	173	8.7
1N6297A	1.5KE120A	5	102	114	120	126	1	165	9.1
1N6298	1.5KE130	5	105	117	130	143	1	187	8
1N6298A	1.5KE130A	5	111	124	130	137	1	179	8.4
1N6299	1.5KE150	5	121	135	150	165	1	215	7
1N6299A	1.5KE150A	5	128	143	150	158	1	207	7.2
1N6300	1.5KE160	5	130	144	160	176	1	230	6.5
1N6300A	1.5KE160A	5	136	152	160	168	1	219	6.8
1N6301	1.5KE170	5	138	153	170	187	1	244	6.2
1N6301A	1.5KE170A	5	145	162	170	179	1	234	6.4
1N6302	1.5KE180	5	146	162	180	198	1	258	5.8
1N6302A	1.5KE180A	5	154	171	180	189	1	246	6.1
1N6303	1.5KE200	5	162	180	200	220	1	287	5.2
1N6303A	1.5KE200A	5	171	190	200	210	1	274	5.5
	1.5KE220	5	175	198	220	242	1	344	4.3
	1.5KE220A	5	185	209	220	231	1	328	4.6
	1.5KE250	5	202	225	250	275	1	360	5
	1.5KE250A	5	214	237	250	263	1	344	5
	1.5KE300	5	243	270	300	330	1	430	5
	1.5KE300A	5	256	285	300	315	1	414	5
	1.5KE320	5	259	288	320	352	1	457	4.50
	1.5KE320A	5	273	304	320	336	1	438	4.50
	1.5KE350	5	284	315	350	385	1	504	4
	1.5KE350A	5	300	332	350	368	1	482	4
	1.5KE400	5	324	360	400	440	1	574	4
	1.5KE400A	5	342	380	400	420	1	548	4
	1.5KE440	5	356	396	440	484	1	631	2.38
	1.5KE440A	5	376	418	440	462	1	602	2.5

(1) Tested with pulses.
Pulse test: t_p 50 ms; $< 2\%$



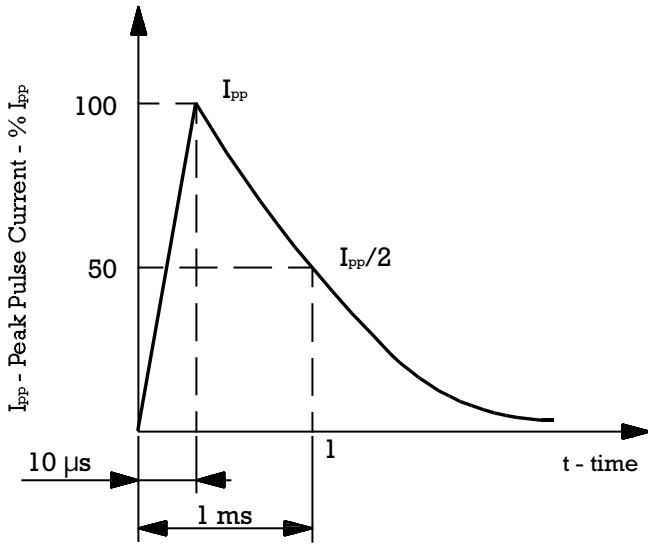
Type	Maximum Reverse Leakage Current		(1) Breakdown Voltage				Max. Clamping Voltage	
	I_{RM} at V_{RM}		V_{BR} at I_R			V_{CL} at I_{PP}	max. lms. Expo.	
	(μ A)	(V)	Min.	Nom.	Max.	(mA)	(V)	(A)
Bidirectional								
1N6267C 1.5KE6V8C	1000	5.50	6.12	6.8	7.48	10	10.8	139
1N6267C 1.5KE6V8CA	1000	5.80	6.45	6.8	7.14	10	10.5	143
1N6268C 1.5KE7V5C	500	6.05	6.75	7.5	8.25	10	11.7	128
1N6268CA 1.5KE7V5CA	500	6.40	7.13	7.5	7.88	10	11.3	132
1N6269C 1.5KE8V2C	200	6.63	7.38	8.2	9.02	10	12.5	120
1N6269CA 1.5KE8V2CA	200	7.02	7.79	8.2	8.61	10	12.1	124
1N6270C 1.5KE9V1C	50	7.37	8.19	9.1	10.0	1	13.8	109
1N6270CA 1.5KE9V1CA	50	7.78	8.65	9.1	9.55	1	13.4	112
1N6271C 1.5KE10C	10	8.10	9.00	10	11.0	1	15.0	100
1N6271CA 1.5KE10CA	10	8.55	9.50	10	10.5	1	14.5	103
1N6272C 1.5KE11C	5	8.92	9.90	11	12.1	1	16.2	93
1N6272CA 1.5KE11CA	5	9.40	10.5	11	11.6	1	15.6	96
1N6273C 1.5KE12C	5	9.72	10.8	12	13.2	1	17.3	87
1N6273CA 1.5KE12CA	5	10.2	11.4	12	12.6	1	16.7	90
1N6274C 1.5KE13C	5	10.5	11.7	13	14.3	1	19.0	79
1N6274CA 1.5KE13CA	5	11.1	12.4	13	13.7	1	18.2	82
1N6275C 1.5KE15C	5	12.1	13.5	15	16.5	1	22.0	68
1N6275CA 1.5KE15CA	5	12.8	14.3	15	15.8	1	21.2	71
1N6276C 1.5KE16C	5	12.9	14.4	16	17.6	1	23.5	64
1N6276CA 1.5KE16CA	5	13.6	15.2	16	16.8	1	22.5	67
1N6277C 1.5KE18C	5	14.5	16.2	18	19.8	1	26.5	56.5
1N6277CA 1.5KE18CA	5	15.3	17.1	18	18.9	1	25.5	59.5
1N6278C 1.5KE20C	5	16.2	18.0	20	22.0	1	29.1	51.5
1N6278CA 1.5KE20CA	5	17.1	19.0	20	21.0	1	27.7	54
1N6279C 1.5KE22C	5	17.8	19.8	22	24.2	1	31.9	47
1N6279CA 1.5KE22CA	5	18.8	20.9	22	23.1	1	30.6	49
1N6280C 1.5KE24C	5	19.4	21.6	24	26.4	1	34.7	43
1N6280CA 1.5KE24CA	5	20.5	22.8	24	25.2	1	33.2	45
1N6281C 1.5KE27C	5	21.8	24.3	27	29.7	1	39.1	38.5
1N6281CA 1.5KE27CA	5	23.1	25.7	27	28.4	1	37.5	40
1N6282C 1.5KE30C	5	24.3	27.0	30	33.0	1	43.5	34.5
1N6282CA 1.5KE30CA	5	25.6	28.5	30	31.5	1	41.4	36
1N6283C 1.5KE33C	5	26.8	29.7	33	36.3	1	47.7	31.5
1N6283CA 1.5KE33CA	5	28.2	31.4	33	34.7	1	45.7	33
1N6284C 1.5KE36C	5	29.1	32.4	36	39.6	1	52.0	29
1N6284CA 1.5KE36CA	5	30.8	34.2	36	37.8	1	49.9	30
1N6285C 1.5KE39C	5	31.6	35.1	39	42.9	1	56.4	26.5
1N6285CA 1.5KE39CA	5	33.3	37.1	39	41.0	1	53.9	28
1N6286C 1.5KE43C	5	34.8	38.7	43	47.3	1	61.9	24
1N6286CA 1.5KE43CA	5	36.8	40.9	43	45.2	1	59.3	25.3
1N6287C 1.5KE47C	5	38.1	42.3	47	51.7	1	67.8	22.2
1N6287CA 1.5KE47CA	5	40.2	44.7	47	49.4	1	64.8	23.2
1N6288C 1.5KE51C	5	41.3	45.9	51	56.1	1	73.5	20.4
1N6288CA 1.5KE51CA	5	43.6	48.5	51	53.6	1	70.1	21.4

(1) Tested with pulses.
Pulse test: $t_p = 50 \text{ ms}$; $< 2\%$



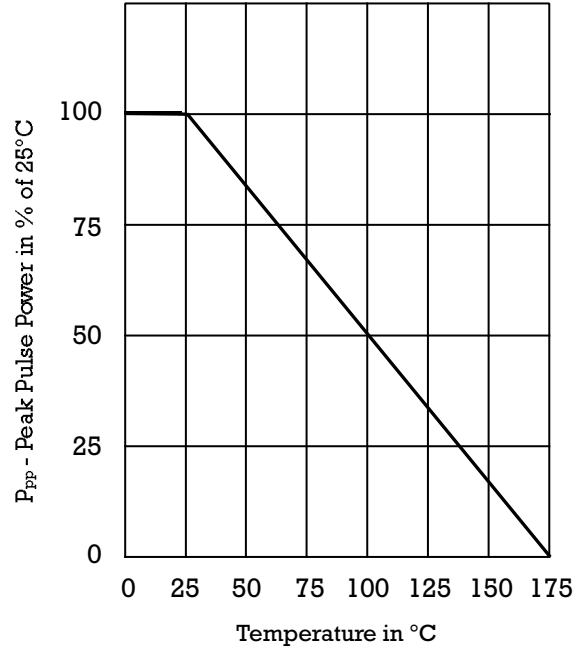
Type	Maximum Reverse Leakage Current		(1) Breakdown Voltage				Max. Clamping Voltage	
	I_{RM} at V_{RM}	V_{RM}	V_{BR} at I_R			I_R	V_{CL} at I_{PP}	I_{PP}
Bidirectional	(μA)	(V)	Min.	Nom.	Max.	(mA)	(V)	(A)
1N6289C 1.5KE56C	5	45.4	50.4	56	61.6	1	80.5	18.6
1N6289CA 1.5KE56CA	5	47.8	53.2	56	58.8	1	77.0	19.5
1N6290C 1.5KE62C	5	50.2	55.8	62	68.2	1	89.0	16.9
1N6290CA 1.5KE62CA	5	53.0	58.9	62	65.1	1	85.0	17.7
1N6291C 1.5KE68C	5	55.1	61.2	68	74.8	1	98.0	15.3
1N6291CA 1.5KE68CA	5	58.1	64.6	68	71.4	1	92.0	16.3
1N6292C 1.5KE75C	5	60.7	67.5	75	82.5	1	108	13.9
1N6292CA 1.5KE75CA	5	64.1	71.3	75	78.8	1	103	14.6
1N6293C 1.5KE82C	5	66.4	73.8	82	90.2	1	118	12.7
1N6293CA 1.5KE82CA	5	70.1	77.9	82	86.1	1	113	13.3
1N6294C 1.5KE91C	5	73.7	81.9	91	100	1	131	11.4
1N6294CA 1.5KE91CA	5	77.8	86.5	91	95.5	1	125	12
1N6295C 1.5KE100C	5	81.0	90.0	100	110	1	144	10.4
1N6295CA 1.5KE100CA	5	85.5	95.0	100	105	1	137	11
1N6296C 1.5KE110C	5	89.2	99.0	110	121	1	158	9.5
1N6296CA 1.5KE110CA	5	94.0	105	110	116	1	152	9.9
1N6297C 1.5KE120C	5	97.2	108	120	132	1	173	8.7
1N6297CA 1.5KE120CA	5	102	114	120	126	1	165	9.1
1N6298C 1.5KE130C	5	105	117	130	143	1	187	8
1N6298CA 1.5KE130CA	5	111	124	130	137	1	179	8.4
1N6299C 1.5KE150C	5	121	135	150	165	1	215	7
1N6299CA 1.5KE150CA	5	128	143	150	158	1	207	7.2
1N6300C 1.5KE160C	5	130	144	160	176	1	230	6.5
1N6300CA 1.5KE160CA	5	136	152	160	168	1	219	6.8
1N6301C 1.5KE170C	5	138	153	170	187	1	244	6.2
1N6301CA 1.5KE170CA	5	145	162	170	179	1	234	6.4
1N6302C 1.5KE180C	5	146	162	180	198	1	258	5.8
1N6302CA 1.5KE180CA	5	154	171	180	189	1	246	6.1
1N6303C 1.5KE200C	5	162	180	200	220	1	287	5.2
1N6303CA 1.5KE200CA	5	171	190	200	210	1	274	5.5
1.5KE220C	5	175	198	220	242	1	344	4.3
1.5KE220CA	5	185	209	220	231	1	328	4.6
1.5KE250C	5	202	225	250	275	1	360	5
1.5KE250CA	5	214	237	250	263	1	344	5
1.5KE300C	5	243	270	300	330	1	430	5
1.5KE300CA	5	256	285	300	315	1	414	5
1.5KE320C	5	259	288	320	352	1	457	4.50
1.5KE320CA	5	273	304	320	336	1	438	4.50
1.5KE350C	5	284	315	350	385	1	504	4
1.5KE350CA	5	300	332	350	368	1	482	4
1.5KE400C	5	324	360	400	440	1	574	4
1.5KE400CA	5	342	380	400	420	1	548	4
1.5KE440C	5	356	396	440	484	1	631	2.38
1.5KE440CA	5	376	418	440	462	1	602	2.5

(1) Tested with pulses.
Pulse test: $t_p = 50 \text{ ms}$; $< 2\%$

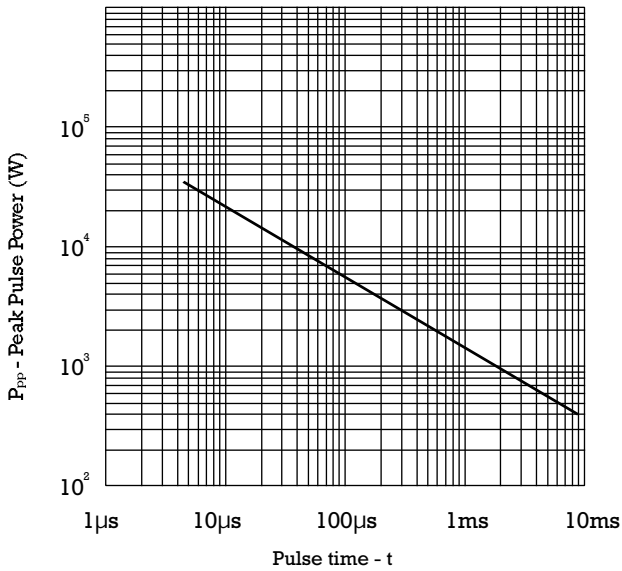


Pulse wave form 10/1000

DERATING CURVE



PEAK PULSE POWER RATING CURVE



TYPICAL JUNCTION CAPACITANCE

