FAGOR

1N6267..... 1N6303A / 1.5KE6V8..... 1.5KE440A
1N6267C....1N6303CA / 1.5KE6V8C....1.5KE520C

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

DO-201AE

Voltage
6.8 V to 440 V (Uni)
6.8 V to 520 V (Bid)

Power
1500 W /ms

HYPERECTIFIER®

FEATURES

- Glass passivated chip junction
- Hyperectifier structure for high reliability
- Cavity-free glass-passivated junction
- 1500 W peak pulse power capability with a 10/1000 µs waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Available in uni-directional and bi-directional
- Solder dip 260°C, 10s
- AEC-Q101 qualified
- Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260° C

AUTOMOTIVE GRADE Available

Pb

e3

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** DO-201AE. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** For unidirectional types color band denotes cathode end. No marking on bidirectional types.
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. Consumer grade, meets JESD 201 class 1A whisker test. HE3 suffix for high reliability grade, meets JESD 201 class 2 whisker test.

TYPICAL APPLICATIONS

Used in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, automotive and telecommunication.

Maximun Ratings and Electrical Characteristics at 25°C

P_{pp}	Peak pulse power with 10/1000 µs exponential pulse	1500 W
I_{FSM}	Non repetitive surge peak forward current (t = 8.3 ms) (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 = 10mm)	5 W

Electrical Characteristics at Tamb = 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

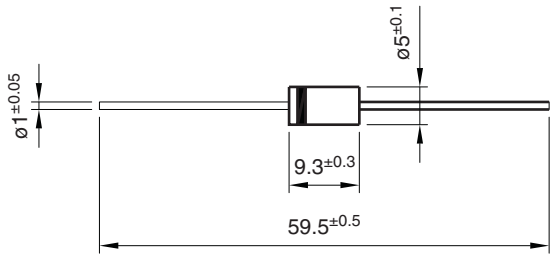
Note 1: Valid only for Unidirectional.

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
1.5KE16A TR	TR	14" diameter tape and reel	1,500	0.968
1.5KE16A AMP	AMP	AMMO BOX	1,500	0.968
1.5KE16A HE3 TR	TR	14" diameter tape and reel	1,500	0.968
1.5KE16A HE3 AMP	AMP	AMMO BOX	1,500	0.968
1.5KE16CA TR	TR	14" diameter tape and reel	1,500	0.968
1.5KE16CA AMP	AMP	AMMO BOX	1,500	0.968
1.5KE16CA HE3 TR	TR	14" diameter tape and reel	1,500	0.968
1.5KE16CA HE3 AMP	AMP	AMMO BOX	1,500	0.968

Package Outline Dimensions: (mm) DO-201AE



1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

Type		Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at I_R (V)				Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
Unidirectional		(µA)	(V)	Min.	Nom	Max	(mA)	(V)	(A)
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: tp ≤ 50 ms; δ < 2%

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

Type		Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at I_R (V)				Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
Unidirectional		(µA)	(V)	Min.	Nom	Max	(mA)	(V)	(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: tp ≤ 50 ms; δ < 2%

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

Type	Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} (V) at I_R				Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
Bidirectional	(µA)	(V)	Min.	Nom	Max	(mA)	(V)	(A)
1N6267C 1.5KE6V8C	1000	5.50	6.12	6.8	7.48	10	10.8	139
1N6267CA1.5KE6V8CA	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

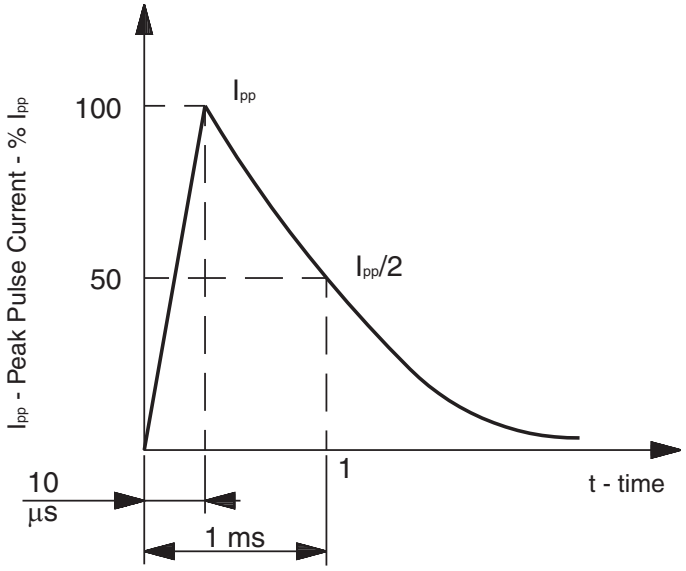
(1) Tested with pulses.
Pulse test: tp ≤ 50 ms; δ < 2%

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

Type	Maximum Reverse Leakage Current I_{RM} at V_{RM}		(1) Breakdown Voltage V_{BR} at I_R (V)				Max. Clamping Voltage V_{CL} at I_{pp} max. 1ms. Expo.	
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 1.5KE68C	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
1N6295CA1.5KE100CA	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	1	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
1.5KE520C	5	423	480	520	570	1	746	2.01

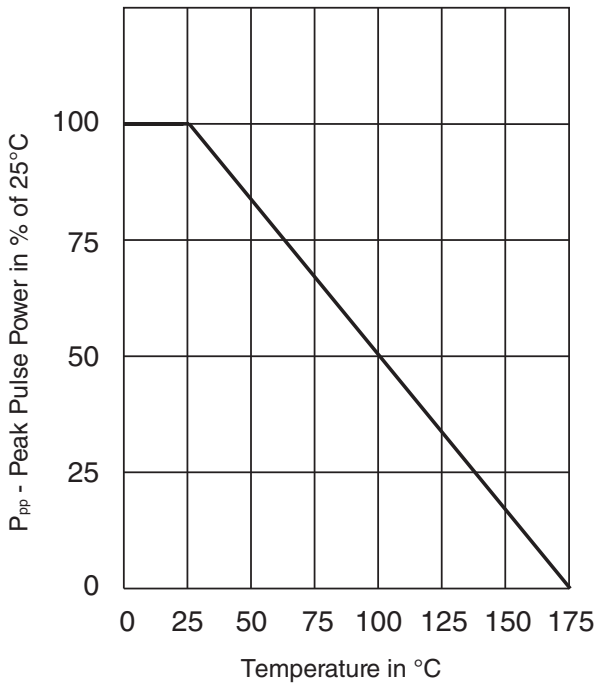
(1) Tested with pulses.
Pulse test: tp ≤ 50 ms; δ < 2%

1500 W Unidirectional and Bidirectional Transient Voltage Suppressor Diodes

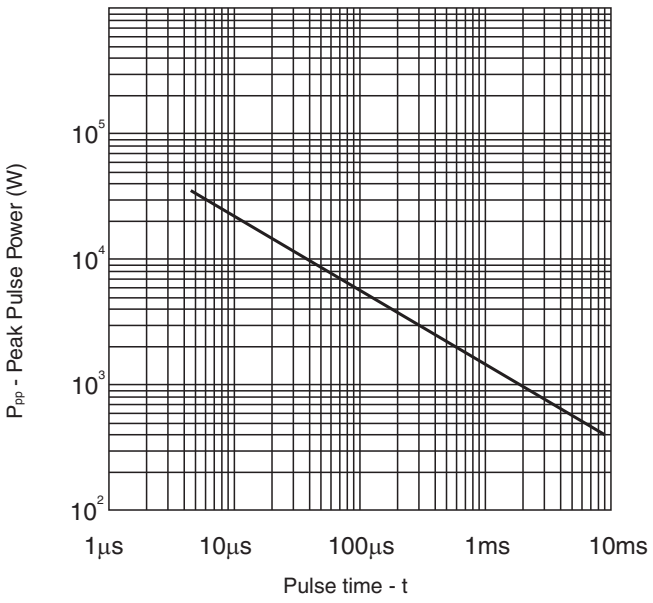


Pulse wave form 10/1000

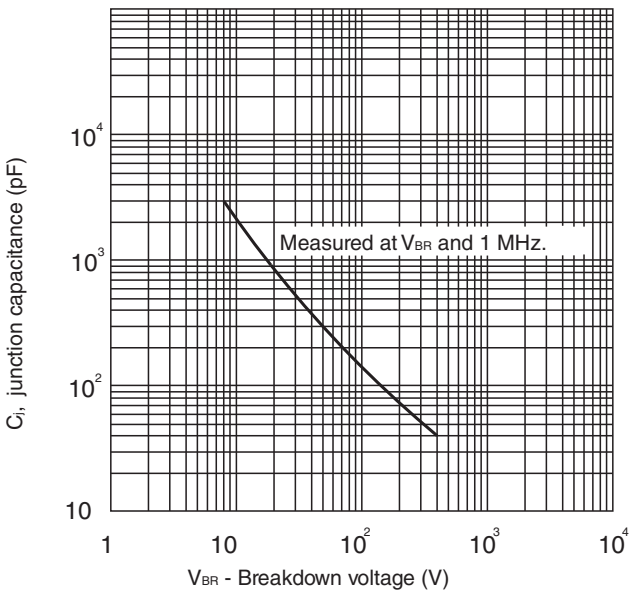
DERATING CURVE



PEAK PULSE POWER RATING CURVE



TYPICAL JUNCTION CAPACITANCE



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