

1500W, 6.45V - 462V Transient Voltage Suppressor

FEATURES

- Glass passivated chip junction
- 1500W peak pulse power capability at 1.0ms
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time: Typically < 1.0ps from 0 V to BV for uni-directional, 5.0 ns for bidirectional
- Typical I_R less than $1\mu A$ above 10V
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
V_{RWM}	5.8 - 376	V
V_{BR} (uni - directional)	6.45 - 462	V
V_{BR} (bi - directional)	6.45 - 462	V
P_{PK}	1500	W
T_{JMAX}	175	°C
Package	DO-201	

APPLICATIONS

- Protect sensitive circuit from damage by high voltage transients
- Lighting, ESD transient voltage protection of IC, system
- Inductive switching load protection of IC, system
- Electrical Fast Transient Immunity protection of IC, system



DO-201

MECHANICAL DATA

- Case: DO-201
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.090g (approximately)

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak pulse power dissipation, $T_p = 1ms^{(1)}$	P_{PPM}	1500	W
Power dissipation .375 inch lead length at $T_A = 75^\circ C$	P_D	5	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load for Uni-directional only	I_{FSM}	200	A
Junction temperature	T_J	- 55 to +175	°C
Storage temperature	T_{STG}	- 55 to +175	°C

ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

JEDEC type number	Uni-directional Bi-directional (C) Device	Breakdown voltage V _{BR} @I _T (V)		Test current I _T (mA)	Reverse stand-Off voltage V _{RWM} (V)	Reverse leakage current at V _{RWM} I _R (uA) ⁽¹⁾	Peak pulse current I _{PPM} (A)	Clamping voltage at I _{PPM} V _C (V)
		Min	Max					
1N6267	1V5KE6V8(C)A	6.45	7.14	10	5.80	1000	143	10.5
1N6268	1V5KE7V5(C)A	7.13	7.88	10	6.40	500	133	11.3
1N6269	1V5KE8V2(C)A	7.79	8.61	10	7.02	200	124	12.1
1N6270	1V5KE9V1(C)A	8.65	9.55	1	7.78	50	112	13.4
1N6271	1V5KE10(C)A	9.5	10.5	1	8.55	10	103	14.5
1N6272	1V5KE11(C)A	10.5	11.6	1	9.40	5	96.2	15.6
1N6273	1V5KE12(C)A	11.4	12.6	1	10.2	5	90.0	16.7
1N6274	1V5KE13(C)A	12.4	13.7	1	11.1	5	82.0	18.2
1N6275	1V5KE15(C)A	14.3	15.8	1	12.8	5	71.0	21.2
1N6276	1V5KE16(C)A	15.2	16.8	1	13.6	5	67.0	22.5
1N6277	1V5KE18(C)A	17.1	18.9	1	15.3	5	59.5	26.2
1N6278	1V5KE20(C)A	19.0	21.0	1	17.1	5	54.2	27.7
1N6279	1V5KE22(C)A	20.9	23.1	1	18.8	5	49.0	30.6
1N6280	1V5KE24(C)A	22.8	25.2	1	20.5	5	45.2	33.2
1N6281	1V5KE27(C)A	25.7	28.4	1	23.1	5	40.0	37.5
1N6282	1V5KE30(C)A	28.5	31.5	1	25.6	5	36.2	41.4
1N6283	1V5KE33(C)A	31.4	34.7	1	28.2	5	33.0	45.7
1N6284	1V5KE36(C)A	34.2	37.8	1	30.8	5	30.1	49.9
1N6285	1V5KE39(C)A	37.1	41	1	33.3	5	28.0	53.9
1N6286	1V5KE43(C)A	40.9	45.2	1	36.8	5	25.3	59.3
1N6287	1V5KE47(C)A	44.7	49.4	1	40.2	5	23.2	64.8
1N6288	1V5KE51(C)A	48.5	53.6	1	43.6	5	21.4	70.1
1N6289	1V5KE56(C)A	53.2	58.8	1	47.8	5	19.5	77.0
1N6290	1V5KE62(C)A	58.9	65.1	1	53.0	5	17.7	85.0
1N6291	1V5KE68(C)A	64.6	71.4	1	58.1	5	16.3	92.0
1N6292	1V5KE75(C)A	71.3	78.8	1	64.1	5	14.6	104
1N6293	1V5KE82(C)A	77.9	86.1	1	70.1	5	13.3	113
1N6294	1V5KE91(C)A	86.5	95.5	1	77.8	5	12.0	125
1N6295	1V5KE100(C)A	95	105	1	85.5	5	11.0	137
1N6296	1V5KE110(C)A	106	116	1	94.0	5	9.9	152
1N6297	1V5KE120(C)A	114	126	1	102	5	9.1	165
1N6298	1V5KE130(C)A	124	137	1	111	5	8.4	179
1N6299	1V5KE150(C)A	143	158	1	128	5	7.2	207
1N6300	1V5KE160(C)A	152	168	1	136	5	6.8	219
1N6301	1V5KE170(C)A	162	179	1	145	5	6.4	234
1N6302	1V5KE180(C)A	171	189	1	154	5	6.1	246
1N6303	1V5KE200(C)A	190	210	1	171	5	5.5	274
	1V5KE220(C)A	209	231	1	185	5	4.6	328
	1V5KE250(C)A	237	263	1	214	5	4.5	344
	1V5KE300(C)A	285	315	1	256	5	3.8	414
	1V5KE350(C)A	333	368	1	300	5	3.2	482
	1V5KE400(C)A	380	420	1	342	5	2.8	548
	1V5KE440(C)A	418	462	1	376	5	2.6	602

Notes:

- For bipolar types having V_{WM} of 10 volts and under, the I_D limit is doubled.

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	PACKAGE	PACKING
1V5KE x	DO-201	1,250 / Tape & Reel
1V5KE x A0G	DO-201	500 / Ammo box

Notes:

- "x" defines voltage from 6.8V(1V5KE6V8A) to 440V(1V5KE440A)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig1. Peak Pulse Power Rating Curve

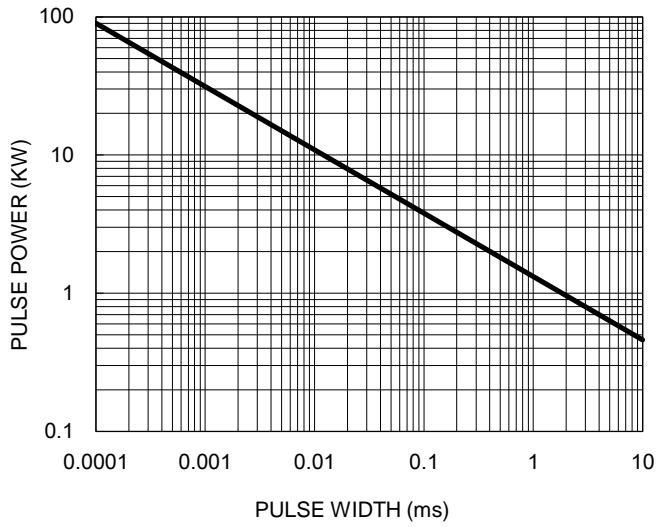


Fig2. Pulse Derating Curve

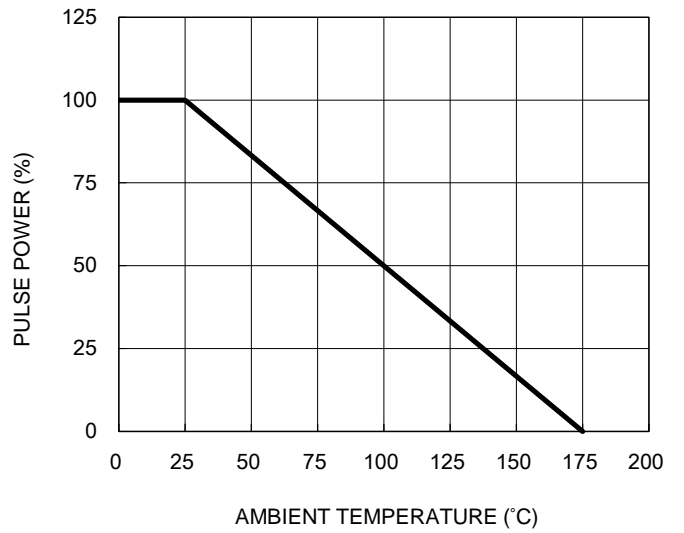


Fig3. Pulse Waveform

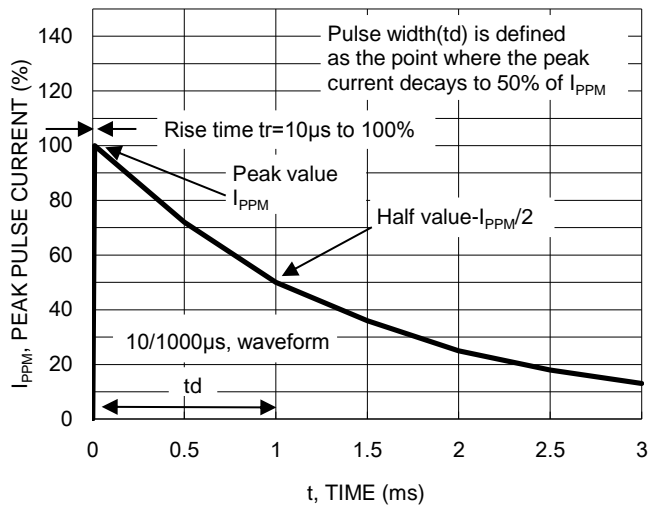
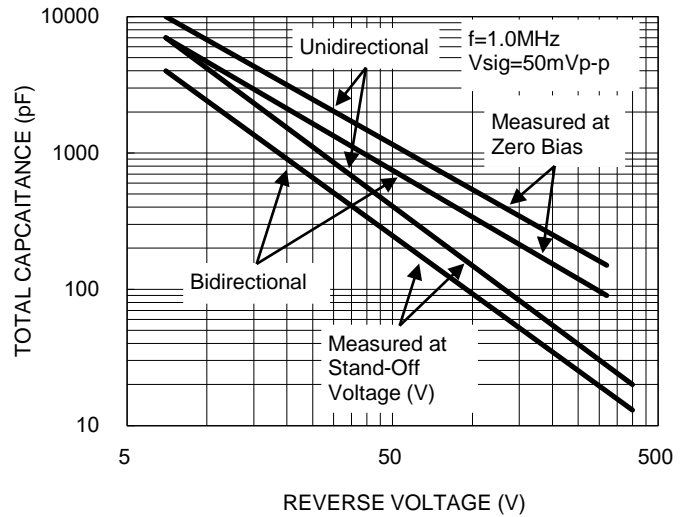


Fig4. Total Capacitance



CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Steady State Power Derating Curve

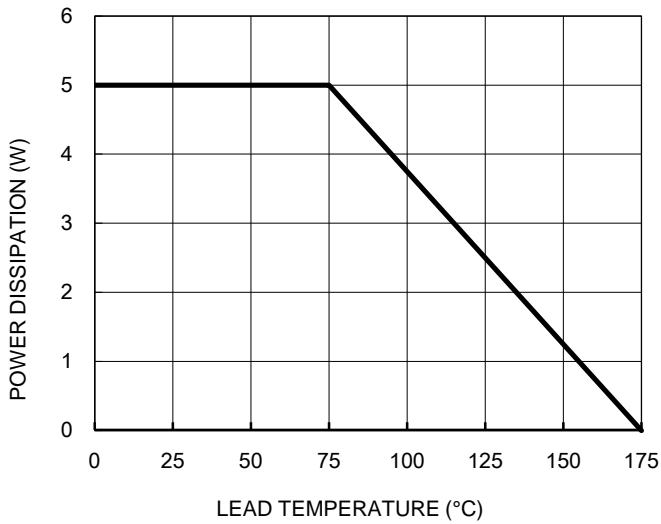
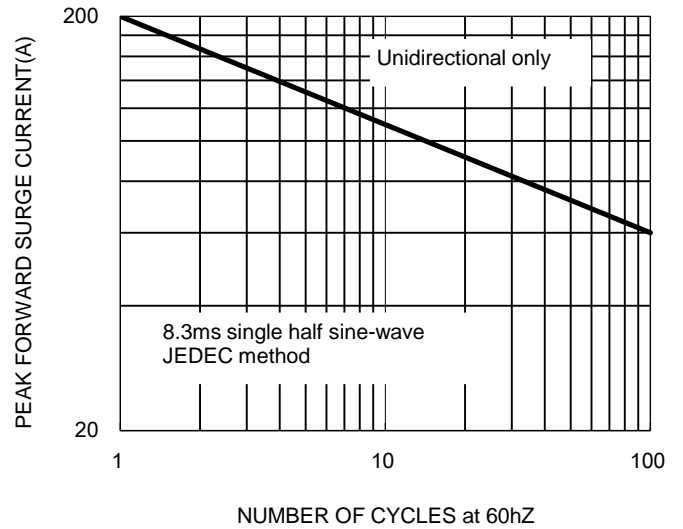
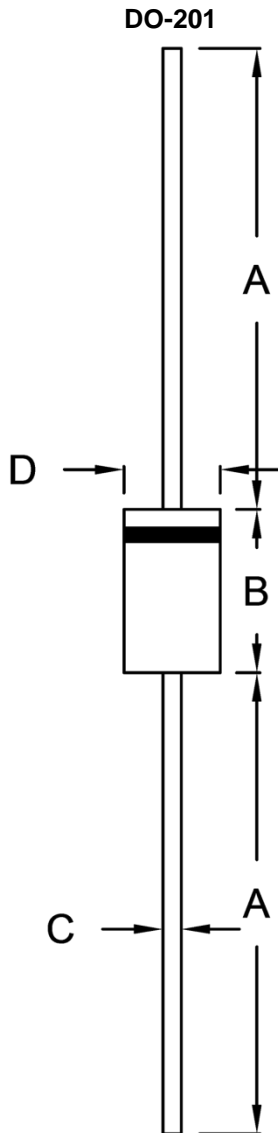


Fig.6 Non-Repetitive Surge Current



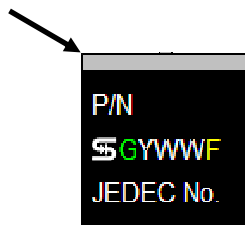
PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	25.40	-	1.000	-
B	8.50	9.50	0.335	0.374
C	0.96	1.06	0.038	0.042
D	5.00	5.60	0.197	0.220

MARKING DIAGRAM

Cathode band for uni-directional products only



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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