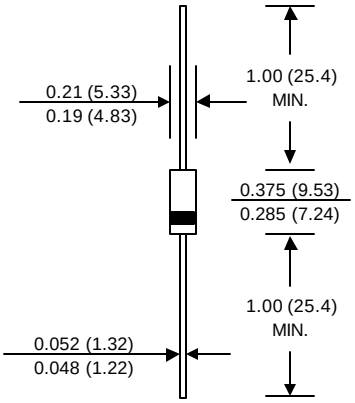
1N6267 - 1N6303A

TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 6.8 - 200 Volts
P_{PK} : 1500 Watts

DO-201AD



Dimensions in inches and (millimeters)

FEATURES :

* 1500W surge capability at 1ms
* Excellent clamping capability
* Low zener impedance
* Fast response time : typically less then 1.0 ps from 0 volt to $V_{BR(min.)}$
* Typical I_R less then 1µA above 10V

MECHANICAL DATA

* Case : DO-201AD Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Axial lead solderable per MIL-STD-202, method 208 guaranteed
* Polarity : Color band denotes cathode end except Bipolar.
* Mounting position : Any
* Weight : 1.21 grams

DEVICES FOR BIPOLAR APPLICATIONS

For bi-directional use C or CA Suffix
Electrical characteristics apply in both directions

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	P_{PK}	1500	Watts
Steady State Power Dissipation at T_L = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	I_{FSM}	200	Amps.
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175	°C

Note :

(1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1
(2) Mounted on Copper Lead area of 1.57 in^2 (40mm^2).
(3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.

UPDATE : APRIL 25, 1998

ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
Unidirectional	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
Axial Lead	Min.	Max.	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
1N6267	6.12	7.48	10	5.50	1000	139	10.8	0.057
1N6267A	6.45	7.14	10	5.80	1000	143	10.5	0.057
1N6268	6.75	8.25	10	6.05	500	128	11.7	0.061
1N6268A	7.13	7.88	10	6.40	500	132	11.3	0.061
1N6269	7.38	9.02	10	6.63	200	120	12.5	0.065
1N6269A	7.79	8.61	10	7.02	200	124	12.1	0.065
1N6270	8.19	10.0	1.0	7.37	50	109	13.8	0.068
1N6270A	8.65	9.55	1.0	7.78	50	112	13.4	0.068
1N6271	9.00	11.0	1.0	8.10	10	100	15.0	0.073
1N6271A	9.50	10.5	1.0	8.55	10	103	14.5	0.073
1N6272	9.90	12.1	1.0	8.92	5.0	93.0	16.2	0.075
1N6272A	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1N6273	10.8	13.2	1.0	9.72	5.0	87.0	17.3	0.078
1N6273A	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1N6274	11.7	14.3	1.0	10.5	5.0	79.0	19.0	0.081
1N6274A	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1N6275	13.5	16.5	1.0	12.1	5.0	68.0	22.0	0.084
1N6275A	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1N6276	14.4	17.6	1.0	12.9	5.0	64.0	23.5	0.086
1N6276A	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1N6277	16.2	19.8	1.0	14.5	5.0	56.5	26.5	0.088
1N6277A	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088
1N6278	18.0	22.0	1.0	16.2	5.0	51.5	29.1	0.090
1N6278A	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1N6279	19.8	24.2	1.0	17.8	5.0	47.0	31.9	0.092
1N6279A	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1N6280	21.6	26.4	1.0	19.4	5.0	43.0	34.7	0.094
1N6280A	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1N6281	24.3	29.7	1.0	21.8	5.0	38.5	39.1	0.096
1N6281A	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1N6282	27.0	33.0	1.0	24.3	5.0	34.5	43.5	0.097
1N6282A	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1N6283	29.7	36.3	1.0	26.8	5.0	31.5	47.7	0.098
1N6283A	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1N6284	32.4	39.6	1.0	29.1	5.0	29.0	52.0	0.099
1N6284A	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1N6285	35.1	42.9	1.0	31.6	5.0	26.5	56.4	0.100
1N6285A	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1N6286	38.7	47.3	1.0	34.8	5.0	24.0	61.9	0.101
1N6286A	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1N6287	42.3	51.7	1.0	38.1	5.0	22.2	67.8	0.101
1N6287A	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101
1N6288	45.9	56.1	1.0	41.3	5.0	20.4	73.5	0.102
1N6288A	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1N6289	50.4	61.6	1.0	45.4	5.0	18.6	80.5	0.103
1N6289A	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103
1N6290	55.8	68.2	1.0	50.2	5.0	16.9	89.0	0.104

ELECTRICAL CHARACTERISTICS

Rating at = 25 °C ambient temperature unless otherwise specified

TYPE	Breakdown Voltage @ It (Note 1)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}
	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(µA)	(A)	(V)	(% / °C)
1N6290A	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1N6291	61.2	74.8	1.0	55.1	5.0	15.3	98.0	0.104
1N6291A	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1N6292	67.5	82.5	1.0	60.7	5.0	13.9	108	0.105
1N6292A	71.3	78.8	1.0	64.1	5.0	14.6	103	0.105
1N6293	73.8	90.2	1.0	66.4	5.0	12.7	118	0.105
1N6293A	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
1N6294	81.9	100	1.0	73.7	5.0	11.4	131	0.106
1N6294A	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
1N6295	90.0	110	1.0	81.0	5.0	10.4	144	0.106
1N6295A	95.0	105	1.0	85.5	5.0	11.0	137	0.106
1N6296	99.0	121	1.0	89.2	5.0	9.5	158	0.107
1N6296A	105	116	1.0	94.0	5.0	9.9	152	0.107
1N6297	108	132	1.0	97.2	5.0	8.7	173	0.107
1N6297A	114	126	1.0	102	5.0	9.1	165	0.107
1N6298	117	143	1.0	105	5.0	8.0	187	0.107
1N6298A	124	137	1.0	111	5.0	8.4	179	0.107
1N6299	135	165	1.0	121	5.0	7.0	215	0.108
1N6299A	143	158	1.0	128	5.0	7.2	207	0.108
1N6300	144	176	1.0	130	5.0	6.5	230	0.108
1N6300A	152	168	1.0	136	5.0	6.8	219	0.108
1N6301	153	187	1.0	138	5.0	6.2	244	0.108
1N6301A	162	179	1.0	145	5.0	6.4	234	0.108
1N6302	162	198	1.0	146	5.0	5.8	258	0.108
1N6302A	171	189	1.0	154	5.0	6.1	246	0.108
1N6303	180	220	1.0	162	5.0	5.2	287	0.108
1N6303A	190	210	1.0	171	5.0	5.5	274	0.108

Note:

(1) V_{BR} measured after It applied for 300 µs.. It = square wave pulse or equivalent.

(2) V_F = 3.5 Vmax.. I_F = 100 Amps. (6.8 Volts thru 91 Volts)

V_F = 5.0 Vmax., I_F = 100 Amps. (100 Volts thru 200 Volts) per 1/2 square or equivalent sine wave.

PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.

RATING AND CHARACTERISTIC CURVES (1N6267 - 1N6303A)

FIG.1 - PULSE DERATING CURVE

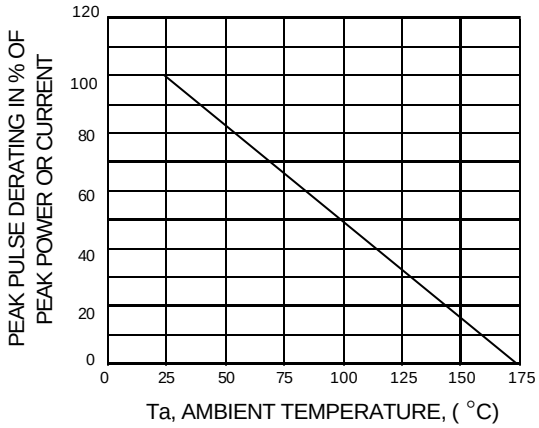


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

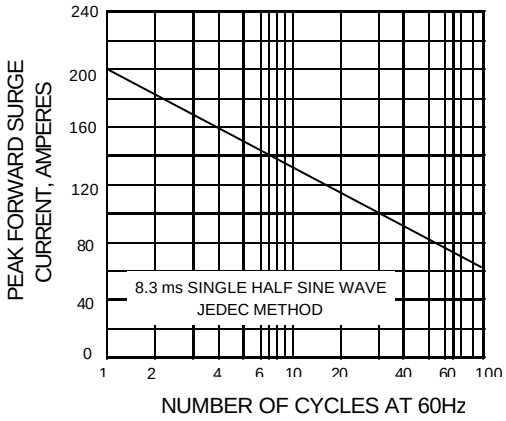


FIG.3 - STEADY STATE POWER DERATING

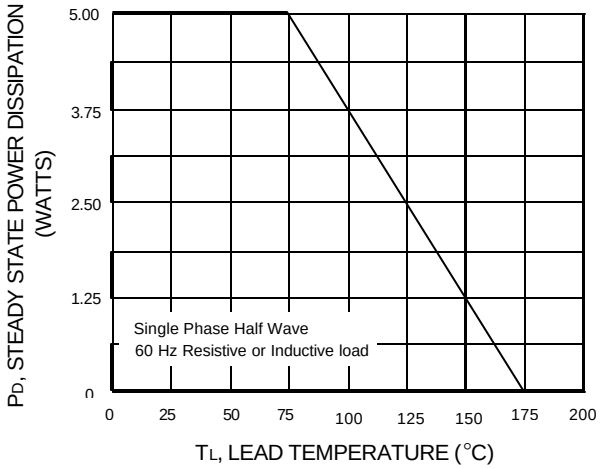


FIG.4 - PULSE RATING CURVE

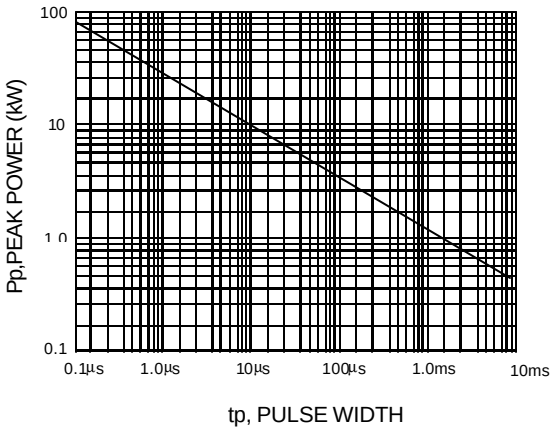


FIG.5 - PULSE WAVEFORM

