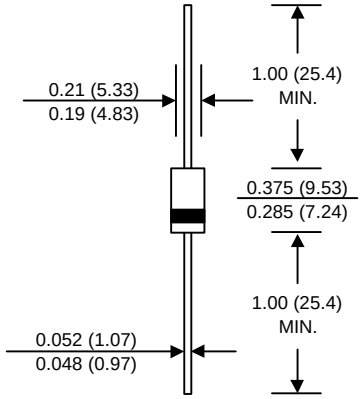
SYNSEMI SEMICONDUCTOR

1N6267A-1N6303CA

TRANSIENT VOLTAGE SUPPRESSOR

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

DO-201



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-201 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 : 0.93 grams

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	W
Steady State Power Dissipation at TL = 75 °C Lead Lengths 0.375", (9.5mm) (Note 2)	P_D	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	I_{FSM}	200	A
Operating and Storage Temperature Range	T_J, T_{STG}	- 65 to + 175	°C

Notes :

(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.

ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

Type No.		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}
Uni-directional	Bi-directional	V_{BR} (V)		It	V_{RWM}	I_R	I_{RSM}	V_{RSM}	of V_{BR}
		Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	(% /°C)
1N6267A	**1N6267CA**	6.45	7.14	10	5.80	1000	143	10.5	0.057
1N6268A	**1N6268CA**	7.13	7.88	10	6.40	500	132	11.3	0.061
1N6269A	**1N6269CA**	7.79	8.61	10	7.02	200	124	12.1	0.065
1N6270A	**1N6270CA**	8.65	9.55	1.0	7.78	50	112	13.4	0.068
1N6271A	**1N6271CA**	9.50	10.5	1.0	8.55	10	103	14.5	0.073
1N6272A	**1N6272CA**	10.5	11.6	1.0	9.40	5.0	96.0	15.6	0.075
1N6273A	**1N6273CA**	11.4	12.6	1.0	10.2	5.0	90.0	16.7	0.078
1N6274A	**1N6274CA**	12.4	13.7	1.0	11.1	5.0	82.0	18.2	0.081
1N6275A	**1N6275CA**	14.3	15.8	1.0	12.8	5.0	71.0	21.2	0.084
1N6276A	**1N6276CA**	15.2	16.8	1.0	13.6	5.0	67.0	22.5	0.086
1N6277A	**1N6277CA**	17.1	18.9	1.0	15.3	5.0	59.5	25.2	0.088
1N6278A	**1N6278CA**	19.0	21.0	1.0	17.1	5.0	54.0	27.7	0.090
1N6279A	**1N6279CA**	20.9	23.1	1.0	18.8	5.0	49.0	30.6	0.092
1N6280A	**1N6280CA**	22.8	25.2	1.0	20.5	5.0	45.0	33.2	0.094
1N6281A	**1N6281CA**	25.7	28.4	1.0	23.1	5.0	40.0	37.5	0.096
1N6282A	**1N6282CA**	28.5	31.5	1.0	25.6	5.0	36.0	41.4	0.097
1N6283A	**1N6283CA**	31.4	34.7	1.0	28.2	5.0	33.0	45.7	0.098
1N6284A	**1N6284CA**	34.2	37.8	1.0	30.8	5.0	30.0	49.9	0.099
1N6285A	**1N6285CA**	37.1	41.0	1.0	33.3	5.0	28.0	53.9	0.100
1N6286A	**1N6286CA**	40.9	45.2	1.0	36.8	5.0	25.3	59.3	0.101
1N6287A	**1N6287CA**	44.7	49.4	1.0	40.2	5.0	23.2	64.8	0.101
1N6288A	**1N6288CA**	48.5	53.6	1.0	43.6	5.0	21.4	70.1	0.102
1N6289A	**1N6289CA**	53.2	58.8	1.0	47.8	5.0	19.5	77.0	0.103
1N6290A	**1N6290CA**	58.9	65.1	1.0	53.0	5.0	17.7	85.0	0.104
1N6291A	**1N6291CA**	64.6	71.4	1.0	58.1	5.0	16.3	92.0	0.104
1N6292A	**1N6292CA**	71.3	78.8	1.0	64.1	5.0	14.6	103	0.105
1N6293A	**1N6293CA**	77.9	86.1	1.0	70.1	5.0	13.3	113	0.105
1N6294A	**1N6294CA**	86.5	95.5	1.0	77.8	5.0	12.0	125	0.106
1N6295A	**1N6295CA**	95.0	105	1.0	85.5	5.0	11.0	137	0.106
1N6296A	**1N6296CA**	105	116	1.0	94.0	5.0	9.9	152	0.107
1N6297A	**1N6297CA**	114	126	1.0	102	5.0	9.1	165	0.107
1N6298A	**1N6298CA**	124	137	1.0	111	5.0	8.4	179	0.107
1N6299A	**1N6299CA**	143	158	1.0	128	5.0	7.2	207	0.108
1N6300A	**1N6300CA**	152	168	1.0	136	5.0	6.8	219	0.108
1N6301A	**1N6301CA**	162	179	1.0	145	5.0	6.4	234	0.108
1N6302A	**1N6302CA**	171	189	1.0	154	5.0	6.1	246	0.108
1N6303A	**1N6303CA**	190	210	1.0	171	5.0	5.5	274	0.108

Notes:

(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 (1N6267A - 1N6303CA)

FIG.1 - PULSE DERATING CURVE

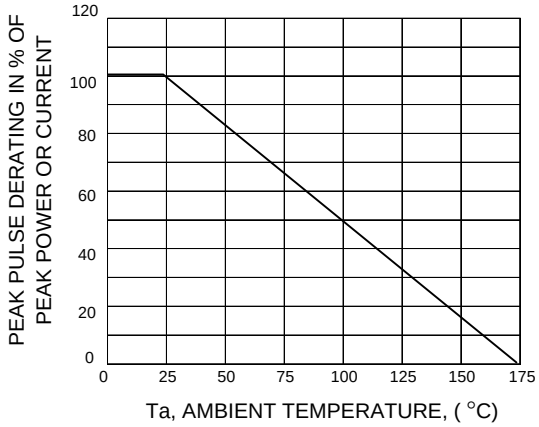


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

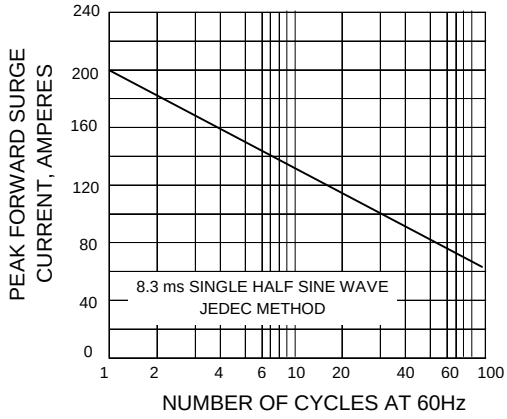


FIG.3 - STEADY STATE POWER DERATING

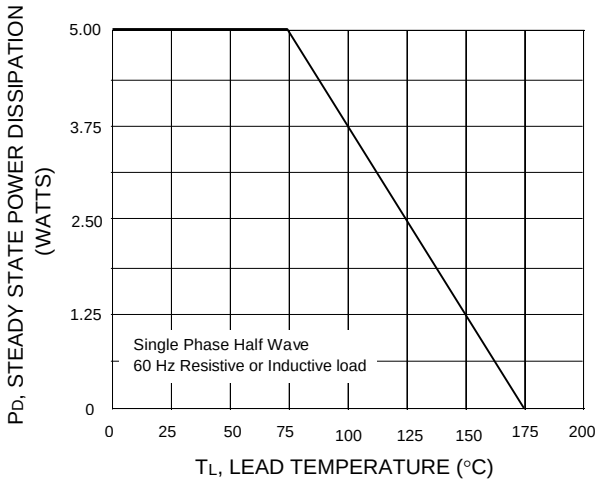


FIG.4 - PULSE RATING CURVE

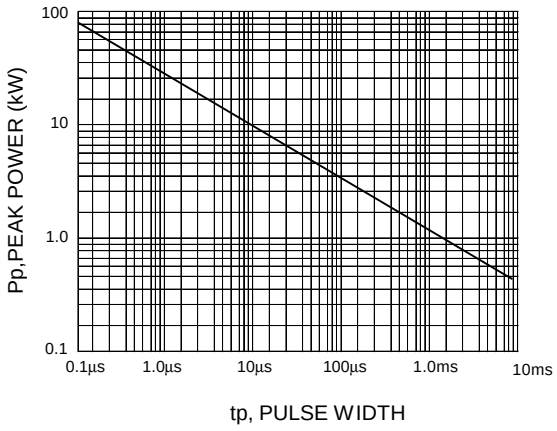


FIG.5 - PULSE WAVEFORM