

1N6036-1N6072A

TRANSIENT VOLTAGE SUPPRESSOR DIODES

FEATURES

- Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.
- Available as non-RoHS (Sn/Pb plating), standard, and as RoHS by adding "-PBF" suffix.

MAXIMUM RATINGS

Rating	Value
Power dissipation	1500 Watts @ 25°C
T _{clamping} (0 volts to V _(BR) min)	Less than 100 picoseconds
Operating temperature	-65°C to +175°C
Steady state power dissipation	1.0 Watts @ T _L = 25°C, " from body
Repetition rate (duty cycle)	.01%

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Part number	Rated Standoff Voltage	Breakdown Voltage			Maximum Clamping Voltage @ I _{pp} (1 mSEC)	Maximum Reverse Leakage @ V _{RM}	Maximum Peak Pulse Current	Maximum Temperature Coefficient of V _(BR)
	V _{WM}	V _(BR) @ I _T			V _c	I _{RM}	I _{pp}	σV _Z
	Volts	Volts		mA	Volts	μA	Amps	%/°C
		Min	Max					
1N6036	5.5	6.75	8.25	10	11.7	1000	128	0.061
1N6036A	6.0	7.13	7.88	10	11.3	1000	132	0.061
1N6037	6.5	7.38	9.02	10	12.5	500	120	0.065
1N6037A	7.0	7.79	8.61	10	12.1	500	124	0.065
1N6038	7.0	8.19	10.00	10	13.8	200	109	0.068
1N6038A	7.5	8.65	9.55	10	13.4	200	112	0.068
1N6039	8.0	9.0	11.0	1	15.0	50	100	0.073
1N6039A	8.5	9.5	10.5	1	14.5	50	103	0.073
1N6040	8.5	9.9	12.1	1	16.2	10	93	0.075
1N6040A	9.0	10.5	11.6	1	15.6	10	96	0.075
1N6041	9.0	10.8	13.2	1	17.3	5	87	0.078
1N6041A	10.0	11.4	12.6	1	16.7	5	90	0.078
1N6042	10.0	11.7	14.3	1	19.0	5	79	0.081
1N6042A	11.0	12.4	13.7	1	18.2	5	82	0.081
1N6043	11.0	13.5	16.5	1	22.0	5	68	0.084
1N6043A	12.0	14.3	15.8	1	21.2	5	71	0.084
1N6044	12.0	14.4	17.5	1	23.5	5	64	0.086
1N6044A	13.0	15.2	16.8	1	22.5	5	67	0.086
1N6045	14.0	16.2	19.8	1	26.5	5	56.5	0.088
1N6045A	15.0	17.1	18.9	1	25.2	5	59.5	0.088
1N6046	16.0	18.0	22.0	1	29.1	5	51.5	0.090

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	V_{WM}	$V_{(BR)}$ @ I_T			V_C	I_{RM}	I_{pp}	αV_Z
	Volts	Volts		mA	Volts	μA	Amps	%/°C
Min		Max						
1N6046A	17.0	19.0	21.0	1	27.7	5	54	0.090
1N6047	17.0	19.8	24.2	1	31.9	5	47	0.092
1N6047A	18.0	20.9	23.1	1	30.6	5	49	0.092
1N6048	19.0	21.6	26.4	1	34.7	5	43	0.094
1N6048A	20.0	22.8	25.2	1	33.2	5	45	0.094
1N6049	21.0	24.3	29.7	1	39.1	5	38.5	0.095
1N6049A	22.0	25.7	28.4	1	37.5	5	40	0.096
1N6050	24.0	27.0	33.0	1	43.5	5	34.5	0.097
1N6050A	25.0	28.5	31.5	1	41.4	5	36	0.097
1N6051	26.0	29.7	36.3	1	47.7	5	31.5	0.098
1N6051A	28.0	31.4	34.7	1	45.7	5	33	0.098
1N6052	29.0	32.4	39.6	1	52.0	5	29	0.099
1N6052A	30.0	34.2	37.8	1	49.9	5	30	0.099
1N6053	31.0	35.1	42.9	1	56.4	5	26.5	0.100
1N6053A	33.0	37.1	41.0	1	53.9	5	28	0.100
1N6054	34.0	38.7	47.3	1	61.9	5	24	0.101
1N6054A	36.0	40.9	45.2	1	59.3	5	25.3	0.101
1N6055	38.0	42.3	51.7	1	67.8	5	22.2	0.101
1N6055A	40.0	44.7	49.4	1	64.8	5	23.2	0.101
1N6056	41.0	45.9	56.1	1	73.5	5	20.4	0.102
1N6056A	43.0	48.5	53.6	1	70.1	5	21.4	0.102
1N6057	45.0	50.4	61.6	1	80.5	5	18.6	0.103
1N6057A	47.0	53.2	58.8	1	77.0	5	19.5	0.103
1N6058	48.0	55.8	68.2	1	89.0	5	16.0	0.104
1N6058A	55.0	61.2	74.8	1	98.0	5	15.3	0.104
1N6059	55.0	61.2	74.8	1	98.0	5	15.3	0.104
1N6059A	58.0	64.6	71.4	1	92.0	5	16.3	0.104
1N6060	60.0	67.5	82.5	1	108.0	5	13.9	0.105
1N6060A	64.0	71.3	78.8	1	103.0	5	14.6	0.105
1N6061	66.0	73.8	90.2	1	118.0	5	12.7	0.105
1N6061A	70.0	77.9	86.1	1	113.0	5	13.3	0.105
1N6062	73.0	81.9	100.0	1	131.0	5	11.4	0.106

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	V_{WM}	$V_{(BR)} @ I_T$			V_C	I_{RM}	I_{pp}	αV_Z
	Volts	Volts		mA	Volts	μA	Amps	%/°C
Min		Max						
1N6062A	75.0	86.5	95.5	1	125.0	5	12.0	0.106
1N6063	81.0	90.0	110.0	1	144.0	5	10.4	0.106
1N6063A	82.0	95.0	105.0	1	137.0	5	11.0	0.106
1N6064	90.0	99.0	121.0	1	158.0	5	9.5	0.107
1N6064A	94.0	105.0	116.0	1	152.0	5	9.9	0.107
1N6065	95.0	108.0	132.0	1	176.0	5	8.5	0.107
1N6065A	100.0	114.0	126.0	1	168.0	5	8.9	0.107
1N6066	105.0	117.0	143.0	1	191.0	5	7.8	0.107
1N6066A	110.0	124.0	137.0	1	182.0	5	8.2	0.107
1N6067	121.0	135.0	165.0	1	223.0	5	6.7	0.108
1N6067A	128.0	143.0	158.0	1	213.0	5	7.0	0.108
1N6068	137.0	153.0	187.0	1	258.0	5	5.8	0.108
1N6068A	145.0	162.0	179.0	1	245.0	5	6.1	0.108
1N6069	145.0	162.0	198.0	1	274.0	5	5.5	0.108
1N6069A	150.0	171.0	189.0	1	261.0	5	5.7	0.108
1N6070	155.0	171.0	210.0	1	292.0	5	5.1	0.108
1N6070A	160.0	181.0	200.0	1	278.0	5	5.4	0.108
1N6071	165.0	180.0	220	1	308.0	5	4.9	0.108
1N6071A	170.0	190.0	210.0	1	294.0	5	5.1	0.108
1N6072	175.0	198.0	242.0	1	344.0	5	4.3	0.108
1N6072A	185.0	209.0	231.0	1	328.0	5	4.6	0.108

Clamping Factor: 1.33 @ full rated power
1.20 @ 50% rated power

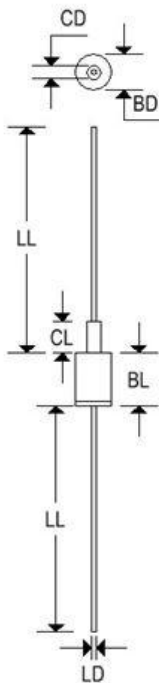
Clamping Factor: The ratio of the actual V_C (Clamping Voltage) to the $V_{(BR)}$ (Breakdown Voltage) as measured on a specific device.

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MECHANICAL CHARACTERISTICS

Case	DO-13
Marking	Alpha-numeric
Polarity	Bipolar no polarity



	DO-13			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	-	0.235	-	5.970
BL	0.315	0.350	8.001	8.890
LD	0.027	0.035	0.686	0.762
LL	1.250	-	31.750	-
CD	-	0.100	-	2.540
CL	-	0.210	-	5.334

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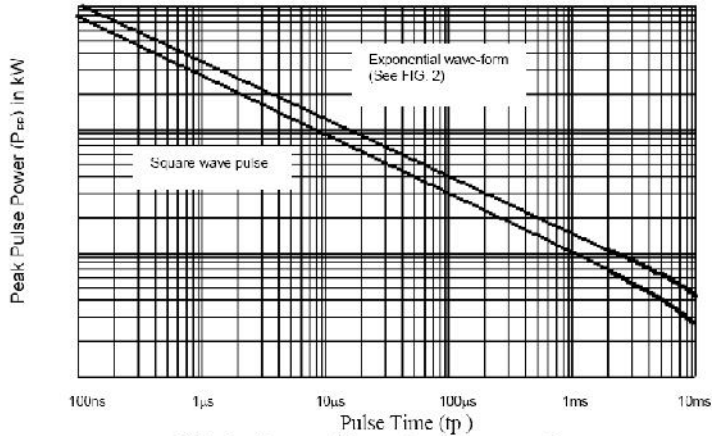


FIG. 1 – Non-repetitive peak pulse power rating curve
NOTE: Peak power defined as peak voltage times peak current

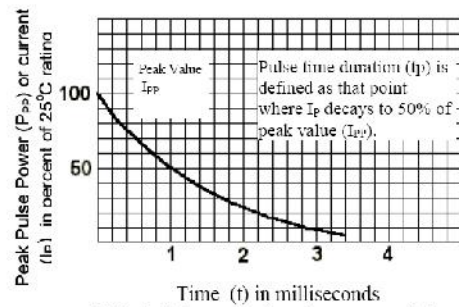


FIG. 2 Pulse wave form for exponential surge

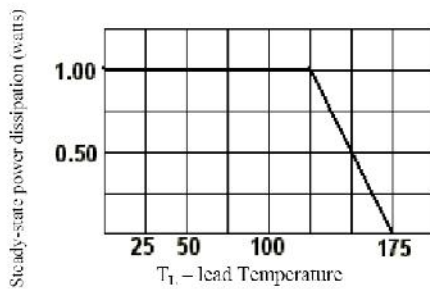


FIG. 3 Steady-state power derating curve

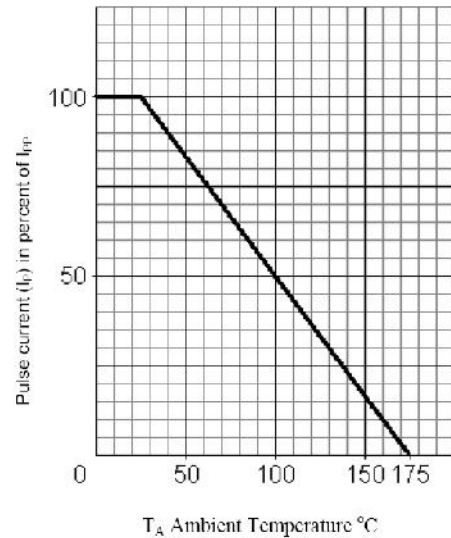


FIG. 4 Derating Curve