

# 1N6103A - 1N6137A

# BIDIRECTIONAL TRANSIENT SUPPRESSOR

**V<sub>WM</sub> : 5.7 - 152 Volts**

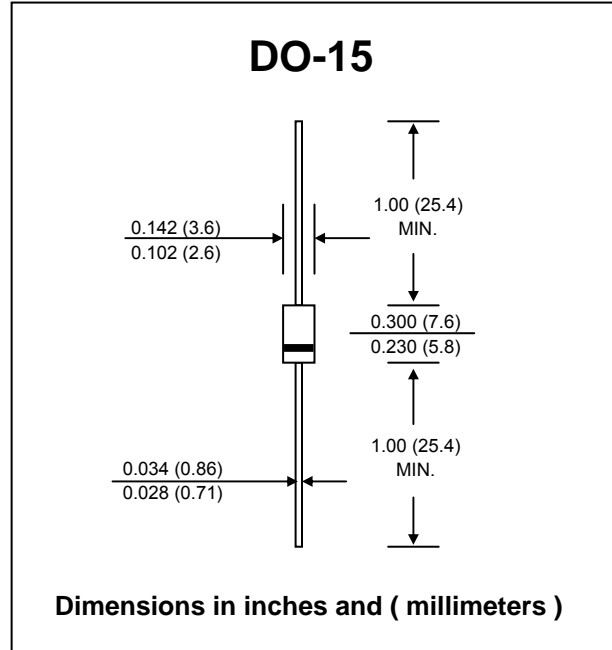
**P<sub>PP</sub> : 500 Watts**

### FEATURES :

- \* Glass passivated junction chip
- \* Bidirectional transient voltage suppressor
- \* Peak pulse power: 500W at 10/1000  $\mu$ s
- \* Extensive range in Working Peak "Standoff" Voltage (V<sub>WM</sub>) from 5.7 to 152 V
- \* High surge current
- \* Excellent robust construction
- \* **Pb / RoHS Free**

### MECHANICAL DATA

- \* Case : DO-15 Molded plastic
- \* Epoxy : UL94V-0 rate flame retardant
- \* Lead : Axial lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.4 gram



### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power at Ta = 25 °C, 10/1000 $\mu$ s	P <sub>PP</sub>	500	W
Steady State Power at T <sub>L</sub> = 75 °C, 3/8" lead length from body	P <sub>D</sub>	3.0	W
Steady State Power at Ta = 25 °C,	P <sub>D</sub>	2.0	W
Thermal Resistance at 3/8" lead length	R <sub>θJL</sub>	33.5	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 175	°C

## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

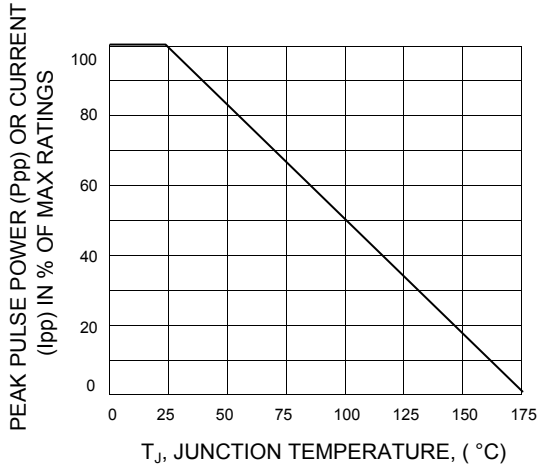
Type No. <sup>(1)</sup>	Minimum Breakdown Voltage at $I_{(BR)}$		Rated Standoff Voltage	Maximum Standby Current @ $V_{WM}$	Maximum Clamping Voltage @ $I_{PP}$	Maximum Peak Pulse Current	Maximum Temperature Co-efficient of $V_{(BR)}$
	$V_{(BR)}$	$I_{(BR)}$	$V_{WM}$	$I_D$	$V_C$	$I_{PP}$	of $V_{(BR)}$ (% / °C)
	Min.	(mA)	(V)	( $\mu$ A)	(V)	(A)	
1N6103A	7.13	175	5.7	50	11.2	44.6	0.060
1N6104A	7.79	150	6.2	20	12.1	41.3	0.060
1N6105A	8.65	150	6.9	20	13.4	37.3	0.060
1N6106A	9.50	125	7.6	20	14.5	34.5	0.070
1N6107A	10.45	125	8.4	20	15.6	32.0	0.070
1N6108A	11.40	100	9.1	20	16.9	29.6	0.070
1N6109A	12.35	100	9.9	20	18.2	27.5	0.080
1N6110A	14.25	75	11.4	20	21	23.8	0.080
1N6111A	15.2	75	12.2	20	22.3	22.4	0.080
1N6112A	17.1	65	13.7	1	25.1	19.9	0.085
1N6113A	19.0	65	15.2	1	27.7	18.0	0.085
1N6114A	20.9	50	16.7	1	30.5	16.4	0.085
1N6115A	22.8	50	18.2	1	33.3	15.0	0.090
1N6116A	25.7	50	20.6	1	37.4	13.4	0.090
1N6117A	28.5	40	22.8	1	41.6	12.0	0.095
1N6118A	31.4	40	25.1	1	45.7	10.9	0.095
1N6119A	34.2	30	27.4	1	49.9	10.0	0.095
1N6120A	37.1	30	29.7	1	53.6	9.3	0.095
1N6121A	40.9	30	32.7	1	59.1	8.5	0.095
1N6122A	44.7	25	35.8	1	64.6	7.7	0.095
1N6123A	48.5	25	38.8	1	70.1	7.1	0.095
1N6124A	53.2	20	42.6	1	77.0	6.5	0.095
1N6125A	58.9	20	47.1	1	85.3	5.9	0.100
1N6126A	64.6	20	51.7	1	97.1	5.1	0.100
1N6127A	71.3	20	56.0	1	103.1	4.8	0.100
1N6128A	77.9	15	62.2	1	112.8	4.4	0.100
1N6129A	86.5	15	69.2	1	125.1	4.0	0.100
1N6130A	95.0	12	76.0	1	137.6	3.6	0.100
1N6131A	104.5	12	86.6	1	151.3	3.3	0.100
1N6132A	114.0	10	91.2	1	165.1	3.0	0.100
1N6133A	123.5	10	98.8	1	178.8	2.8	0.105
1N6134A	142.5	8	114.0	1	206.3	2.4	0.105
1N6135A	152.0	8	121.6	1	218.4	2.3	0.105
1N6136A	171.0	5	136.8	1	245.7	2.0	0.110
1N6137A	190.0	5	152.0	1	273.0	1.8	0.110

**Note:**

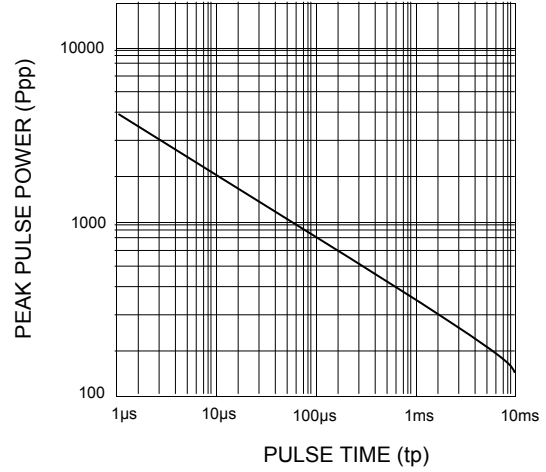
(1) Part number without the A suffix has 5 % higher  $V_C$ , 5% lower minimum  $V_{(BR)}$ , and 5% lower  $I_{PP}$ .

**RATING AND CHARACTERISTIC CURVES ( 1N6103A - 1N6137A )**

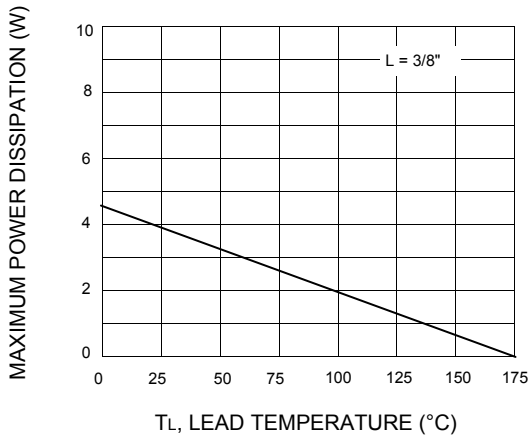
**FIG.1 - PEAK PULSE POWER VS.  $T_J$**



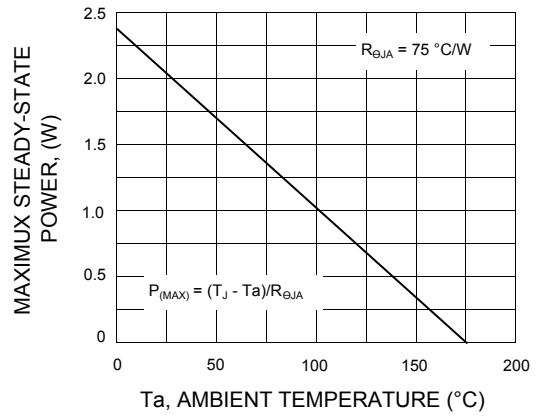
**FIG.2 - PEAK PULSE POWER VS. PULSE TIME**



**FIG.3 - MAXIMUM POWER VS. LEAD TEMPERATURE**



**FIG.4 - STEADY-STATE DERATING CURVE FOR FREE-AIR MOUNTING**



**FIG.5 - PULSE WAVEFORM**

