500 WATT TRANSIENT VOLTAGE
IN 6102A-SERIES SUPPRESSOR BI-DIRECTION DIODES
G2A CASE

FEATURES:

- Voidless Subminiature Glass Package
- Metallurgically Bonded Dice Construction
- 500 Watt Peak Power 1 mSEC
- High Temperature Operation
- Low Bi-Directional Clamping Voltage
- Fast Response (5 x 10^{-9} sec)

DESCRIPTION

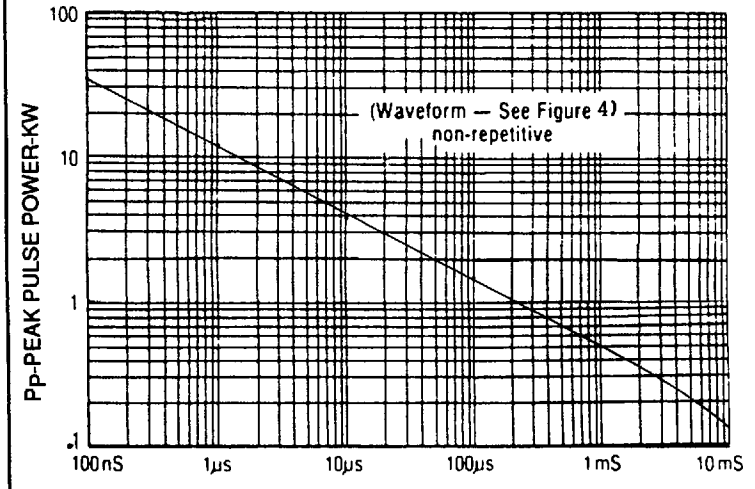
... a high quality voidless glass suppressor for use in military and commercial applications where large voltage transients can permanently damage voltage sensitive components. This series has a peak pulse power rating of 500 watts for one millisecond.
The response time of the clamping action of these devices is (5 x 10^{-9} sec); therefore, they are designed to protect integrated Circuits. MOS devices, Hybrids, and other voltage-sensitive semiconductors and components. This series of devices can also be used in series or parallel to increase the peak power ratings.

MAXIMUM RATINGS: (See Notes)

Maximum Temperatures		
Ambient Storage and Operating Range	Tstg T_A	-65°C to+175°C
Lead Temperature (For soldering 1/16 inch from case for 10 sec.)		230°C
Maximum Power		
Peak Power Dissipation (1.0 msec pulse width, T_A=25°C, Fig. 4)	P_P	500 Watts
DC Power Dissipation (T_L @ 3/8" from body = 75°C)	P_M	3 Watts (Note 3)
Maximum Currents		
Maximum Pulse Current	I_{PP}	See Table (Note 2)

Notes:
(1) Exceeding these ratings may impair operation of the semiconductor device.
(2) The applied current pulse is as shown in the "Pulse Current vs. Time" plot. Maximum Rate of Applications is 2 pulses per minute.
(3) $P(max) = \frac{T_J - T_L}{R_{\theta JL}}$ (T_J=175°C)

FIG 1



PEAK PULSE POWER VS PULSE TIME

FIG 2

TEMPERATURE RATING CURVE

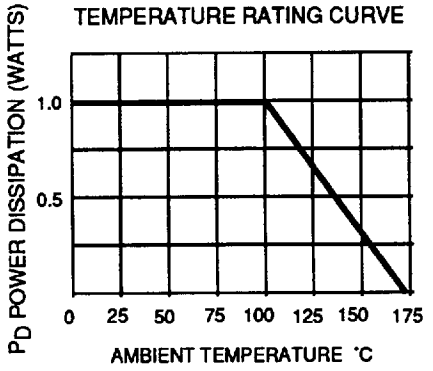


FIG 3

MAXIMUM ALLOWABLE PEAK PULSE CURRENT & POWER VS AMBIENT TEMPERATURE

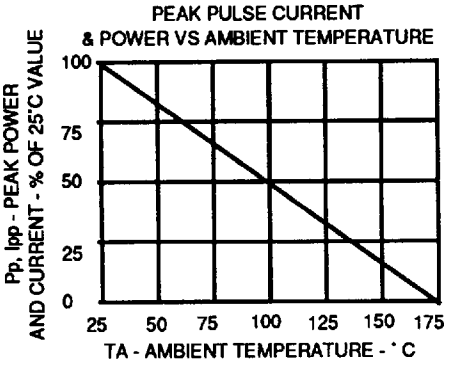
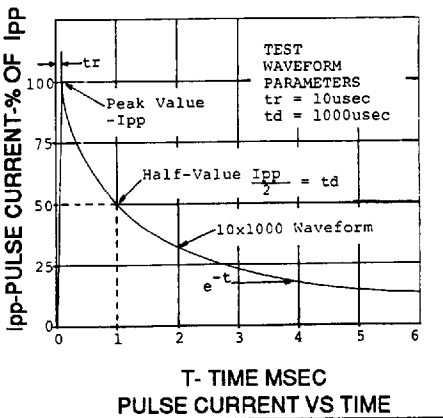


FIG 4



PULSE CURRENT VS TIME

BI- DIRECTIONAL TRANSIENT SUPPRESSORS*
SURGE ARRESTORS

6.8 to 200 VOLTS
500 WATT (1 msec.)

1N6102A - 1N6137A

SERIES TYPE	BREAKDOWN VOLTAGE BV MIN	TEST CURRENT I_T	WORKING PEAK VOLTAGE V_{WP}	MAX LEAKAGE CURRENT I_R	MAXIMUM CLAMPING VOLTAGE V_C (max)	MAXIMUM PEAK PULSE CURRENT Ip
500W	Vdc	mAdc	Vdc	uAdc	V(pk)	A(pk)
1N6102A	6.46	175	5.2	100	10.5	47.6
1N6103A	7.13	175	5.7	50	11.2	44.6
1N6104A	7.79	150	6.2	20	12.1	41.2
1N6105A	8.65	150	6.9	20	13.4	37.3
1N6106A	9.50	125	7.6	20	14.5	34.5
1N6107A	10.45	125	8.4	20	15.6	32.0
1N6108A	11.40	100	9.1	20	16.0	29.6
1N6109A	12.35	100	9.9	20	18.2	27.5
1N6110A	14.25	75	11.4	20	21.0	23.9
1N6111A	15.20	75	12.2	20	22.3	22.4
1N6112A	17.1	65	13.7	1	25.1	19.9
1N6113A	19.0	65	15.2	1	27.7	18.0
1N6114A	20.9	50	16.7	1	30.5	16.4
1N6115A	22.8	50	18.2	1	33.3	15.0
1N6116A	25.7	50	20.6	1	37.4	13.4
1N6117A	28.5	40	22.8	1	41.6	12.0
1N6118A	31.4	40	25.1	1	45.7	10.9
1N6119A	34.2	30	27.4	1	49.9	10.0
1N6120A	37.1	30	29.7	1	53.6	9.3
1N6121A	40.9	30	32.7	1	59.1	8.5
1N6122A	44.7	25	35.8	1	64.6	7.7
1N6123A	48.5	25	38.8	1	70.1	7.1
1N6124A	53.2	20	42.6	1	77.0	6.5
1N6125A	58.6	20	47.1	1	85.3	5.9
1N6126A	64.6	20	51.7	1	97.1	5.1
1N6127A	71.3	20	56.0	1	103.1	4.8
1N6128A	77.9	15	62.2	1	112.8	4.4
1N6129A	86.5	15	69.2	1	125.1	4.0
1N6130A	95.0	12	76.0	1	137.6	3.6
1N6131A	104.5	12	96.6	1	151.3	3.3
1N6132A	114.0	10	91.2	1	165.1	3.0
1N6133A	123.5	10	98.8	1	178.8	2.8
1N6134A	142.5	8	114.0	1	206.3	2.4
1N6135A	152.0	8	121.6	1	218.4	2.3
1N6136A	171.0	5	136.8	1	245.7	2.0
1N6137A	190.0	5	152.0	1	273.0	1.8

* Available as JAN, JAN TX and JAN TXV to MIL-S-19500/516B (ER)

1. Non-A Part has 5% higher max. surge voltage, 5% lower V_{BR} min., I_{SM}