


## AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI-DIRECTIONAL DIODES

## TRANSIENT VOLTAGE SUPPRESSORS, 500W SERIES

SERIES TYPE	BREAK-DOWN VOLTAGE $V_{(BR)}$	TEST CURRENT $I_{(BR)}$	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$	MAXIMUM REVERSE CURRENT $I_{R1}$	MAX. CLAMP. VOLTAGE $V_{C(max)}$ @ $I_P$ $t_p = 1ms$	MAX. PEAK PULSE CURRENT $I_P$	MAX. TEMP. COEFFICIENT $V_{(BR)}$	MAX. REVERSE CURRENT @ $T_A = 150^\circ C$	PACKAGE STYLE
500W	Min. Vdc	mA dc	Vdc	$\mu A$ dc	V(pk)	A(pk)	% / $^\circ C$	$\mu A$ dc	
1N6102	6.12	175	5.2	100	11.0	45.4	.05	4,000	
1N6103	6.75	175	5.7	50	11.8	42.4	.06	750	
1N6104	7.38	150	6.2	20	12.7	39.4	.06	500	
1N6105	8.19	150	6.9	20	14.0	35.7	.06	300	
1N6106	9.00	125	7.6	20	15.2	32.9	.07	200	
1N6107	9.90	125	8.4	20	16.3	30.7	.07	200	
1N6108	10.80	100	9.1	20	17.7	28.2	.07	150	
1N6109	11.70	100	9.9	20	19.0	26.3	.08	150	
1N6110	13.50	75	11.4	20	21.9	22.8	.08	100	
1N6111	14.40	75	12.2	20	23.4	21.4	.08	100	
1N6112	16.20	65	13.7	1.0	26.3	19.0	.085	100	
1N6113	18.00	65	15.2	1.0	29.0	17.2	.085	100	
1N6114	19.8	50	16.7	1.0	31.9	15.7	.085	100	
1N6115	21.6	50	18.2	1.0	34.8	14.4	.09	100	
1N6116	24.3	50	20.6	1.0	39.2	12.8	.09	100	
1N6117	27.0	40	22.8	1.0	43.6	11.5	.09	100	
1N6118	29.7	40	25.1	1.0	47.9	10.4	.095	100	
1N6119	32.4	30	27.4	1.0	52.3	9.6	.095	100	
1N6120	35.1	30	29.7	1.0	56.2	8.9	.095	100	
1N6121	38.7	30	32.7	1.0	62.0	8.1	.095	100	
1N6122	42.3	25	35.8	1.0	67.7	7.4	.095	100	
1N6123	45.9	25	38.8	1.0	73.5	6.8	.095	100	
1N6124	50.4	20	42.6	1.0	80.7	6.2	.095	100	
1N6125	55.8	20	47.1	1.0	89.3	5.6	.100	100	
1N6126	61.2	20	51.7	1.0	98.0	5.1	.100	100	
1N6127	67.5	20	56.0	1.0	108.1	4.6	.100	100	
1N6128	73.8	15	62.2	1.0	118.2	4.2	.100	100	
1N6129	81.9	15	69.2	1.0	131.1	3.8	.100	100	
1N6130	90.0	12	76.0	1.0	144.1	3.5	.100	100	
1N6131	99.0	12	83.6	1.0	158.5	3.2	.100	100	
1N6132	108.0	10	91.2	1.0	172.9	2.9	.100	100	
1N6133	117.0	10	98.8	1.0	187.3	2.7	.105	100	
1N6134	135.0	8.0	114.0	1.0	216.2	2.3	.105	100	
1N6135	144.0	8.0	121.6	1.0	228.8	2.2	.105	100	
1N6136	162.0	5.0	136.8	1.0	257.4	1.9	.110	100	
1N6137	180.0	5.0	152.0	1.0	286.0	1.7	.110	100	

(Transient Voltage Suppressors, Continued on the Next Page)

**AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI-DIRECTIONAL DIODES**  
(Continued)

SERIES TYPE	BREAK-DOWN VOLTAGE $V_{(BR)}$	TEST CURRENT $I_{(BR)}$	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$	MAXIMUM REVERSE CURRENT $I_{R1}$	MAX. CLAMP. VOLTAGE $V_C(max)$ @ $I_p$ $t_p = 1ms$	MAX. PEAK PULSE CURRENT $I_p$	MAX. TEMP. COEFFICIENT $V_{(BR)}$	MAX. REVERSE CURRENT @ $T_A = 150^\circ C$	PACKAGE STYLE
1500W	Min. Vdc	mA dc	Vdc	$\mu A$ dc	V(pk)	A(pk)	% / $^\circ C$	$\mu A$ dc	
1N6138	6.12	175	5.2	500	11.0	136.4	.05	12,000	
1N6139	6.75	175	5.7	300	11.8	127.1	.06	9,000	
1N6140	7.38	150	6.2	100	12.7	118.4	.06	2,000	
1N6141	8.19	150	6.9	100	14.0	107.4	.06	1,200	
1N6142	9.00	125	7.6	100	15.2	98.7	.07	800	
1N6143	9.90	125	8.4	20	16.3	92.0	.07	800	
1N6144	10.80	100	9.1	20	17.7	84.7	.07	600	
1N6145	11.70	100	9.9	20	19.0	78.9	.08	600	
1N6146	13.50	75	11.4	20	21.9	68.5	.08	400	
1N6147	14.40	75	12.2	20	23.4	64.1	.08	400	
1N6148	16.20	65	13.7	10	26.3	57.0	.085	400	
1N6149	18.00	65	15.2	5.0	29.0	51.7	.085	400	
1N6150	19.80	50	16.7	5.0	31.9	47.0	.085	400	
1N6151	21.6	50	18.2	5.0	34.8	43.1	.09	400	
1N6152	24.3	50	20.6	5.0	39.2	38.3	.09	400	
1N6153	27.0	40	22.8	5.0	43.6	34.4	.09	400	
1N6154	29.7	40	25.1	5.0	47.9	31.3	.095	400	
1N6155	32.4	30	27.4	5.0	52.3	28.7	.095	400	
1N6156	35.1	30	29.7	5.0	56.2	26.7	.095	400	
1N6157	38.7	30	32.7	5.0	62.0	24.2	.095	400	
1N6158	42.3	25	35.8	5.0	67.7	22.2	.095	400	
1N6159	45.9	25	38.8	5.0	73.5	20.4	.095	400	
1N6160	50.40	20	42.6	5.0	80.7	18.6	.095	400	
1N6161	55.8	20	47.1	5.0	89.3	16.8	.100	400	
1N6162	61.2	20	51.7	5.0	98.0	15.3	.100	400	
1N6163	67.5	20	56.0	5.0	108.1	13.9	.100	400	
1N6164	73.8	15	62.2	5.0	118.2	12.7	.100	400	
1N6165	81.9	15	69.2	5.0	131.1	11.4	.100	400	
1N6166	90.0	12	76.0	5.0	144.1	10.4	.100	400	
1N6167	99.0	12	83.6	5.0	158.5	9.5	.100	400	
1N6168	108.0	10	91.2	5.0	172.9	8.7	.100	400	
1N6169	117.0	10	98.8	5.0	187.3	8.0	.105	400	
1N6170	135.9	8.0	114.0	5.0	216.2	6.9	.105	400	
1N6171	144.0	8.0	121.6	5.0	228.8	6.6	.105	400	
1N6172	162.0	5.0	136.8	5.0	257.4	5.8	.110	400	
1N6173	180.0	5.0	152.0	5.0	286.0	5.2	.110	400	

Notes:

$P_R = 2W$  (for 500W peak pulse power devices) and  $3W$  (for 1,500W peak pulse power devices at  $T_A = +25^\circ C$ ).

$P_R = 3W$  (for 500W peak pulse power devices) and  $5W$  (for 1,500W peak pulse power devices at  $T_L = +75^\circ C$  for  $L = 0.375$  inch (9.53mm)).

$P_{PR} = 500W$  (1N6102 through 1N6137 (including A and US suffix versions) and 1,500W (1N6138 through 1N6173 (including A and US suffix versions) at  $t_p = 1ms$ ).

$-55^\circ C \leq T_{op} \leq +175^\circ C$ ,  $-55^\circ C \leq T_{stg} \leq +175^\circ C$  (ambient temperatures).

To order surface mount devices (MELFs), add the suffix US to the above listed part numbers.

## AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI DIRECTIONAL DIODES

## TRANSIENT VOLTAGE SUPPRESSORS, 500W SERIES

SERIES TYPE	BREAK-DOWN VOLTAGE $V_{(BR)}$	TEST CURRENT $I_{(BR)}$	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$	MAXIMUM REVERSE CURRENT $I_{R1}$	MAX. CLAMP. VOLTAGE $V_{C(max)}$ @ $I_P$ $t_p = 1ms$	MAX. PEAK PULSE CURRENT $I_P$	MAX. TEMP. COEFFICIENT $T$ $V_{(BR)}$	MAX. REVERSE CURRENT @ $T_A = 150^\circ C$	PACKAGE STYLE
500W	Min. Vdc	mA dc	Vdc	$\mu A$ dc	V(pk)	A(pk)	% / $^\circ C$	$\mu A$ dc	
1N6102A	6.46	175	5.2	100	10.5	47.6	.05	4,000	
1N6103A	7.13	175	5.7	50	11.2	44.6	.06	750	
1N6104A	7.79	150	6.2	20	12.1	41.3	.06	500	
1N6105A	8.65	150	6.9	20	13.4	37.3	.06	300	
1N6106A	9.50	125	7.6	20	14.5	34.5	.07	200	
1N6107A	10.45	125	8.4	20	15.6	32.0	.07	200	
1N6108A	11.40	100	9.1	20	16.9	29.6	.07	150	
1N6109A	12.35	100	9.9	20	18.2	27.5	.08	150	
1N6110A	14.25	75	11.4	20	21.0	23.8	.08	100	
1N6111A	15.20	75	12.2	20	22.3	22.4	.08	100	
1N6112A	17.10	65	13.7	1.0	25.1	19.9	.085	100	
1N6113A	19.00	65	15.2	1.0	27.7	18.0	.085	100	
1N6114A	20.9	50	16.7	1.0	30.5	16.4	.085	100	
1N6115A	22.8	50	18.2	1.0	33.3	15.0	.09	100	
1N6116A	25.7	50	20.6	1.0	37.4	13.4	.09	100	
1N6117A	28.5	40	22.8	1.0	41.6	12.0	.09	100	
1N6118A	31.4	40	25.1	1.0	45.7	10.9	.095	100	
1N6119A	34.2	30	27.4	1.0	49.9	10.0	.095	100	
1N6120A	37.1	30	29.7	1.0	53.6	9.3	.095	100	
1N6121A	40.9	30	32.7	1.0	59.1	8.5	.095	100	
1N6122A	44.7	25	35.8	1.0	64.6	7.7	.095	100	
1N6123A	48.5	25	38.8	1.0	70.1	7.1	.095	100	
1N6124A	53.2	20	42.6	1.0	77.0	6.5	.095	100	
1N6125A	58.9	20	47.1	1.0	85.3	5.9	.100	100	
1N6126A	64.6	20	51.7	1.0	97.1	5.1	.100	100	
1N6127A	71.3	20	56.0	1.0	103.1	4.8	.100	100	
1N6128A	77.9	15	62.2	1.0	112.8	4.4	.100	100	
1N6129A	86.5	15	69.2	1.0	125.1	4.0	.100	100	
1N6130A	95.0	12	76.0	1.0	137.6	3.6	.100	100	
1N6131A	104.5	12	83.6	1.0	151.3	3.3	.100	100	
1N6132A	114.0	10	91.2	1.0	165.1	3.0	.100	100	
1N6133A	123.5	10	98.8	1.0	178.8	2.8	.105	100	
1N6134A	142.5	8.0	114.0	1.0	206.3	2.4	.105	100	
1N6135A	152	8.0	121.6	1.0	218.4	2.3	.105	100	
1N6136A	171	5.0	136.8	1.0	245.7	2.0	.110	100	
1N6137A	190	5.0	152.0	1.0	273.0	1.8	.110	100	

(Transient Voltage Suppressors, Continued on the Next Page)

**AXIAL LEAD / MELF, TRANSIENT VOLTAGE SUPPRESSOR BI-DIRECTIONAL DIODES**  
(Continued)

SERIES TYPE	BREAK-DOWN VOLTAGE $V_{BR}$	TEST CURRENT $I_{TR}$	WORKING PEAK REVERSE VOLTAGE $V_{RWM}$	MAXIMUM REVERSE CURRENT $I_{R1}$	MAX. CLAMP. VOLTAGE $V_C(max)$ @ $I_p$ $t_p = 1ms$	MAX. PEAK PULSE CURRENT $I_p$	MAX. TEMP. COEFFICIENT $T$ $V_{(BR)}$	MAX. REVERSE CURRENT @ $T_A = 150^\circ C$	PACKAGE STYLE
1500W	Min. Vdc	mA dc	Vdc	$\mu A$ dc	V(pk)	A(pk)	%/°C	$\mu A$ dc	
1N6138A	6.0	175	6.2	500	10.5	130.0	.05	12,000	
1N6139A	7.13	175	5.7	500	11.2	130.0	.05	3,000	
1N6140A	7.79	150	6.2	100	12.1	134.0	.05	2,000	
1N6141A	8.65	150	6.9	100	13.4	111.9	.05	1,200	
1N6142A	9.50	125	7.6	100	14.5	109.4	.07	800	
1N6143A	10.35	100	8.4	20	15.6	85.2	.07	800	
1N6144A	11.20	75	9.1	20	16.9	82.4	.07	500	
1N6145A	12.35	100	9.9	20	18.2	82.4	.08	500	
1N6146A	14.25	75	11.4	20	21.0	71.4	.08	400	
1N6147A	15.20	75	12.2	20	22.3	67.3	.08	400	
1N6148A	17.10	65	13.7	10	25.1	59.8	.085	400	
1N6149A	18.00	65	15.2	5.0	27.7	54.2	.085	400	
1N6150A	20.9	50	16.7	5.0	30.5	49.2	.085	400	
1N6151A	22.8	50	18.2	5.0	33.3	45.0	.09	400	
1N6152A	25.7	50	20.6	5.0	37.4	40.1	.09	400	
1N6153A	28.5	40	22.8	5.0	41.6	36.0	.09	400	
1N6154A	31.4	40	25.1	5.0	45.7	32.8	.095	400	
1N6155A	34.2	30	27.4	5.0	49.9	30.1	.095	400	
1N6156A	37.1	30	29.7	5.0	53.6	28.0	.095	400	
1N6157A	40.9	30	32.7	5.0	59.1	25.4	.095	400	
1N6158A	44.7	25	35.8	5.0	64.6	23.2	.095	400	
1N6159A	48.5	25	38.8	5.0	70.1	21.4	.095	400	
1N6160A	53.2	20	42.6	5.0	77.0	19.5	.095	400	
1N6161A	58.9	20	47.1	5.0	85.3	17.6	.100	400	
1N6162A	64.6	20	51.7	5.0	97.1	15.4	.100	400	
1N6163A	71.3	20	56.0	5.0	103.1	14.5	.100	400	
1N6164A	77.9	15	62.2	5.0	112.8	13.3	.100	400	
1N6165A	86.5	15	69.2	5.0	125.1	12.0	.100	400	
1N6166A	95.0	12	76.0	5.0	137.6	10.9	.100	400	
1N6167A	104.5	12	83.6	5.0	151.3	9.9	.100	400	
1N6168A	114.0	10	91.2	5.0	165.1	9.1	.100	400	
1N6169A	123.5	10	98.8	5.0	178.8	8.4	.105	400	
1N6170A	142.5	8.0	114.0	5.0	206.3	7.3	.105	400	
1N6171A	152	8.0	121.6	5.0	218.4	6.9	.105	400	
1N6172A	171	5.0	136.8	5.0	245.7	6.1	.110	400	
1N6173A	190	5.0	152.0	5.0	273.0	5.5	.110	400	

Notes:

$P_R = 2W$  (for 500W peak pulse power devices) and  $3W$  (for 1,500W peak pulse power devices at  $T_A = +25^\circ C$ ).

$P_R = 3W$  (for 500W peak pulse power devices) and  $5W$  (for 1,500W peak pulse power devices at  $T_L = +75^\circ C$  for  $L = 0.375$  inch (9.53mm)).

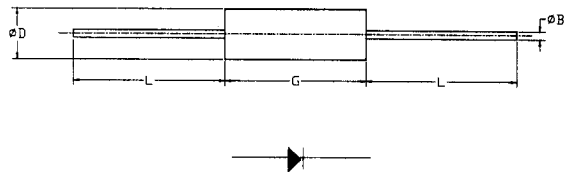
$P_{PR} = 500W$  (1N6102 through 1N6137 (including A and US suffix versions) and 1,500W (1N6138 through 1N6173 (including A and US suffix versions) at  $t_p = 1ms$ .

$-55^\circ C \leq T_{op} \leq +175^\circ C$ ,  $-55^\circ C \leq T_{stg} \leq +175^\circ C$  (ambient temperatures).

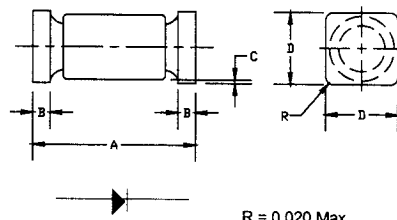
To order surface mount devices (MELFs), add the suffix US to the above listed part numbers.

**TVS OUTLINES**

**AXIAL**



**MELF**



**500 W 1N6102 - 1N6137, 1N6102A - 1N6137A**

PACKAGE	DIMENSIONS - INCHES / MILLIMETERS			
STYLE	$\phi B$	$\phi D$	G	L
401	.026/.033 .66/.84	.085/.140 2.16/3.56	.140/.185 3.56/4.70	1.00/1.30 25.4/33.02

**1500 W 1N6138 - 1N6173, 1N6138A - 1N6173A**

PACKAGE	DIMENSIONS - INCHES / MILLIMETERS			
STYLE	$\phi B$	$\phi D$	G	L
402	.036/.042 .92/1.07	.135/.185 3.43/4.70	.140/.195 3.56/4.95	1.00/1.30 25.4/33.02

**500 W 1N6102US - 1N6137US, 1N6102AUS - 1N6137AUS**

PACKAGE	DIMENSIONS - INCHES / MILLIMETERS			
STYLE	A	B	C	D
MELF-B	.200/.225 5.08/5.72	.019/.028 0.48/0.71	0.003 Min 0.08 Min	.137/.148 3.48/3.76

**1500 W 1N6138US - 1N6173US, 1N6138AUS - 1N6173AUS**

PACKAGE	DIMENSIONS - INCHES / MILLIMETERS			
STYLE	A	B	C	D
MELF-C	.205/.245 5.21/6.22	.019/.028 .48/.71	0.003 Min 0.08 Min	.183/.202 4.65/5.13