

	W	Dia.	Lead L	Lead Dia.	Lead Spacing A	Lead Spacing B
a	4.0	3.68	29.0	0.83	—	—
b	5.6	12.5	25.4	0.86	7.5	2.5
c	5.6	8.7	25.4	0.68	5.0	2.5
d	5.6	16.4	25.4	0.86	7.5	2.5
e	5.6	22.5	25.4	0.86	7.5	2.5
g	7.3	16.4	25.4	0.86	7.5	4.0
h	7.3	22.5	25.4	0.86	7.5	4.0



Packages b, c, d, e, g, h.

	Body Dia.	Body Thickness	Fix Cent	Fix Hole Dia.
k	33.5	14.3	50.8	6.0
l	35.5	9.0	25.0	4.2
m	35.5	10.3	25.0	4.2
n	42.5	9.0	25.0	4.2

	PA Series	MA Series	LA/ZA Series	HA Series
Operating ambient temperature	-40°C to +85°C	-55°C to +75°C	-55°C to +85°C	-55°C to 85°C
Test withstand voltage	—	1000V dc	2500V dc	2500V dc
Insulation resistance	—	>1000MΩ	>1000MΩ	>1000MΩ
Voltage temp. coefficient	—	-0.03%/°C	-0.05%/°C	0.01%/°C

PA Series (Bolt Down Package)

Maximum Ratings (25°C)

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc (V min V nom V max)	Order Code
130	175	70	6500	184 200 243	318-190
250	330	130	6500	354 390 453	318-206
275	369	140	6500	389 430 494	318-218
480	640	180	6500	670 750 860	318-220

Mfrs. List No. and Device Marking
 V130PA20A = 318-190, V250PA40A = 318-206, V275PA40A = 318-218, V480PA80A = 318-220

AC Voltage	Energy (Joules)	Pack-age	Order Code	1+	25+	100+	1K+
130	70	k	318-190				
250	130	k	318-206				
275	140	k	318-218				
480	180	k	318-220				

MA Series (Axial Lead Package)

Maximum Ratings (25°C)

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc (V min V nom V max)	Device Marking	Order Code
18	23	0.13	40	26.0 33 40.0	33A	318-231
20	26	0.15	40	29.5 33 36.5	33B	318-243
138	191	0.9	100	198 220 242	221	318-255
264	365	1.7	100	387 430 473	431	318-267

Mfrs. List No. V33MA1A = 318-231, V33MA1B = 318-243, V220MA4B = 318-255, V430MA7B = 318-267

AC Voltage	Energy (Joules)	Pack-age	Order Code	1+	25+	100+	1K+
18	0.13	a	.318-231				
20	0.15	a	.318-243				
138	0.90	a	.318-255				
264	1.70	a	.318-267				

ZA Series (Radial Lead Package)

Maximum Ratings (25°C)

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc (V min V nom V max)	Device Marking	Order Code
4	5.5	0.4	100	6.0 8.2 11	0821	318-279
4	5.5	0.8	250	6.0 8.2 11	0822	318-280
6	8	1.2	250	9.0 12 16	1222	318-292
10	14	0.8	250	14.4 18 21.6	1821	318-309
10	14	3.5	1000	14.4 18 21.6	1823	318-310
14	18	0.9	250	18.7 22 26	2221	318-322
14	18	4.0	1000	18.7 22 26	2223	318-334
14	18	100	2000	19.2 24 26	24250	318-346
17	22	1.0	250	23 27 31.1	2721	241-313
17	22	5.0	1000	23 27 31.1	2724	318-358
20	26	1.2	250	29.5 33 36.5	3321	318-360
20	26	6.0	1000	29.5 33 36.5	3325	318-371
21	27	150	2000	29.5 33 36.5	33270	318-383
25	31	1.5	250	35 39 43	3921	318-395
25	31	7.2	1000	35 39 43	3926	318-401
30	38	1.8	250	42 47 52	4721	318-413
30	38	8.8	1000	42 47 52	4727	318-425
35	45	2.3	250	50 56 62	5622	318-437
35	45	10	1000	50 56 62	5628	318-449
40	56	3.0	250	61 68 75	6822	241-325
40	56	13	1000	61 68 75	68210	318-450
50	66	4.0	250	74 82 91	8222	318-462
50	66	15	4500	73 82 91	82212	241-337
60	81	5.0	1200	90 100 110	1002	318-474
60	81	20	4500	90 100 110	100215	241-349
75	102	6.0	1200	108 120 132	1202	318-486
75	102	22	4500	108 120 132	12026	241-350
95	127	8.0	1200	135 150 165	2051	241-362
95	127	30	4500	135 150 165	15028	241-374
115	153	10	1200	162 180 198	1802	241-386
115	153	35	4500	162 180 198	180210	241-398

Mfrs. List No.
 V8ZA1 = 318-279, V8ZA2 = 318-280, V12ZA2 = 318-292, V18ZA1 = 318-309,
 V18ZA3 = 318-310, V22ZA1 = 318-322, V22ZA3 = 318-334, V24ZA50 = 318-346,
 V27ZA1 = 241-313, V27ZA4 = 318-358, V33ZA1 = 318-360, V33ZA5 = 318-371,
 V33ZA70 = 318-383, V39ZA1 = 318-395, V39ZA6 = 318-401, V47ZA1 = 318-413,
 V47ZA7 = 318-425, V56ZA2 = 318-437, V56ZA8 = 318-449, V68ZA2 = 241-325,
 V68ZA10 = 318-450, V82ZA2 = 318-462, V82ZA12 = 241-337, V100ZA3 = 318-474,
 V100ZA15 = 241-349, V120ZA1 = 318-486, V120ZA6 = 241-350, V150ZA1 = 241-362,
 V150ZA8 = 241-374, V180ZA1 = 241-386, V180ZA10 = 241-398

Order Multiple=5

AC Voltage	Energy (Joules)	Pack-age	Order Code	5+	25+	100+	1K+
4	0.4	b	318-279				
4	0.8	b	318-280				
6	1.2	b	318-292				
10	0.8	c	318-309				
10	3.5	d	318-310				
14	0.9	c	318-322				
14	4.0	d	318-334				
14	100	e	318-346				
17	1.0	c	.241-313				
17	5.0	d	318-358				
20	1.2	c	318-360				
20	6.0	d	318-371				
21	150	e	318-383				
25	1.5	c	318-395				
25	7.2	d	.318-401				
30	1.8	c	318-413				
30	8.8	d	318-425				
35	2.3	c	.318-437				
35	10	d	318-449				
40	3.0	c	.241-325				
40	13	d	318-450				
50	4.0	c	318-462				
50	15	d	241-337				
60	5.0	c	318-474				
60	20	d	241-349				
75	6.0	c	318-486				
75	22	d	241-350				
95	3.0	c	241-362				
95	30	d	241-374				
115	10	c	241-386				
115	35	d	241-398				

Continued

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