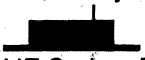
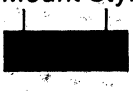
P Series, Base Mount Style; 20 mm



HE Series, Base Mount Style; 32 mm



RATINGS AND CHARACTERISTICS TABLE: P/HE SERIES

Series P/HE Varistors are listed under UL file #E75961 as a UL recognized component.

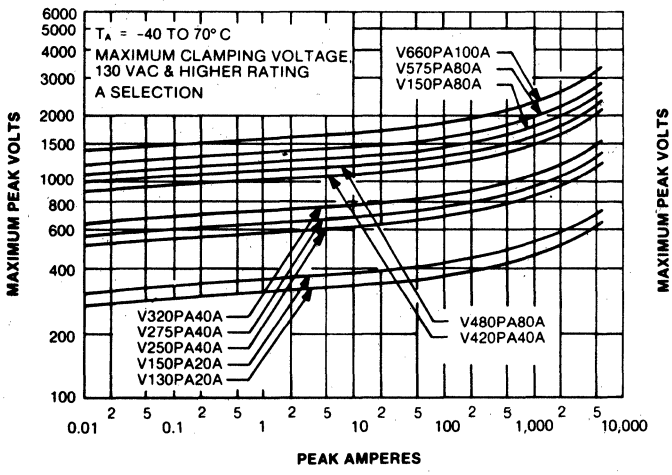
MODEL NUMBER	MAXIMUM RATINGS (25°C)				CHARACTERISTICS					
	CONTINUOUS		TRANSIENT		VARISTOR VOLTAGE @ 1mA DC TEST CURRENT			MAXIMUM CLAMPING VOLTAGE, V_C @ TEST CURRENT (8 / 20μs)		TYPICAL CAPACI-TANCE
	RMS VOLTAGE	DC VOLTAGE	ENERGY (10 / 1000μs)	PEAK CURRENT (8 / 20μs)						
	$V_{m(ac)}$	$V_{m(dc)}$	W_{tm}	I_{tm}	MIN.	$V_{N(dc)}$	MAX*	V_C	P	f = 0.1-1MHz
	VOLTS	VOLTS	JOULES	AMPERES	VOLTS	VOLTS	VOLTS	VOLTS	AMPS	PICOFARADS
V130PA20A	130	175	70	6,500	184	200	243	360	100	2400
V130PA20C							220	325	100	
V130HE150			200	20,000			228	365	300	4700
V150PA20A	150	200	80	6,500	212	240	284	420	100	2000
V150PA20C							243	360	100	
V150HE150			220	20,000			268	425	300	4000
V250PA40A	250	330	130	6,500	354	390	453	675	100	1200
V250PA40C							413	620	100	
V250HE250			330	20,000			429	690	300	2500
V275PA40A	275	369	140	6,500	389	430	494	740	100	1100
V275PA40C							453	680	100	
V275HE250			360	20,000			473	760	300	2250
V320PA40A	320	420	160	6,500	462	510	565	850	100	1000
V320PA40C							540	800	100	
V320HE300			390	20,000			539	860	300	1900
V420PA40A	420	560	160	6,500	610	680	790	1160	100	1200
V420PA40C							690	1050	100	
V420HE400			400	25,000			748	1200	300	3000
V480PA80A	480	640	180	6,500	670	750	860	1280	100	1100
V480PA80C							790	1160	100	
V480HE450			450	25,000			824	1320	300	2700
V510PA80A	510	675	190	6,500	735	820	963	1410	100	1000
V510PA80C							860	1280	100	
V510HE500			500	25,000			910	1450	300	2400
V575PA80A	575	730	220	6,500	805	910	1050	1560	100	900
V575PA80C							960	1410	100	
V575HE550			550	25,000			1005	1600	300	2200
V660PA100A	660	850	250	6,500	940	1050	1210	1820	100	800
V660PA100C							1100	1650	100	
V660HE600			600	25,000			1160	1850	300	1900
V750HE700	750	970	700	25,000	1080	1200	1320	2100	300	1700

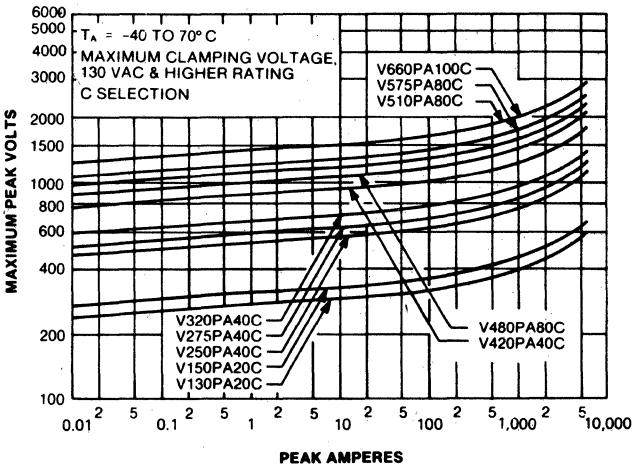
*With 50-60Hz ac test, the maximum voltage for 1mA peak current is 5% higher.

NOTE: Average power dissipation of transients not to exceed 1.0-1.5 watts for PA/HE Series Varistors.

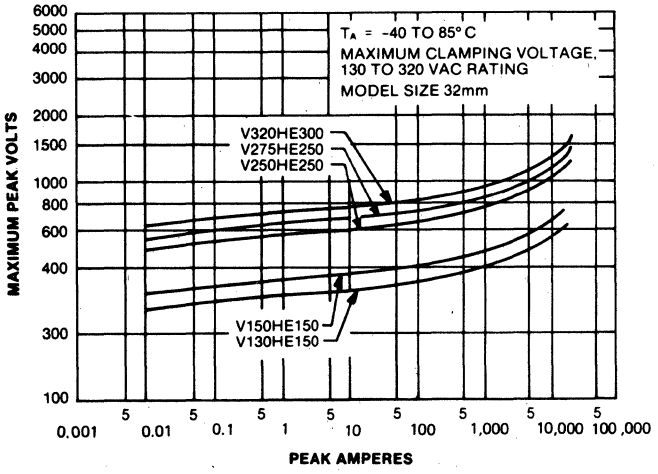
TRANSIENT V-I CHARACTERISTICS:

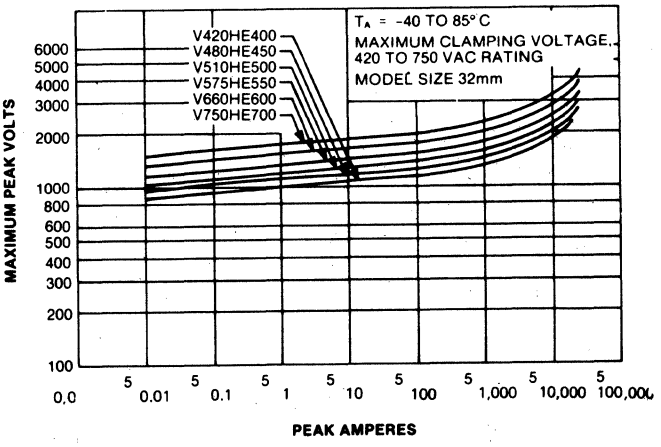
P SERIES



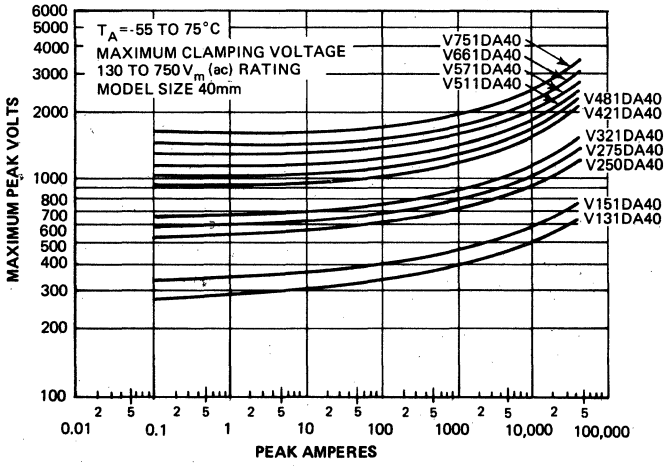


HE SERIES

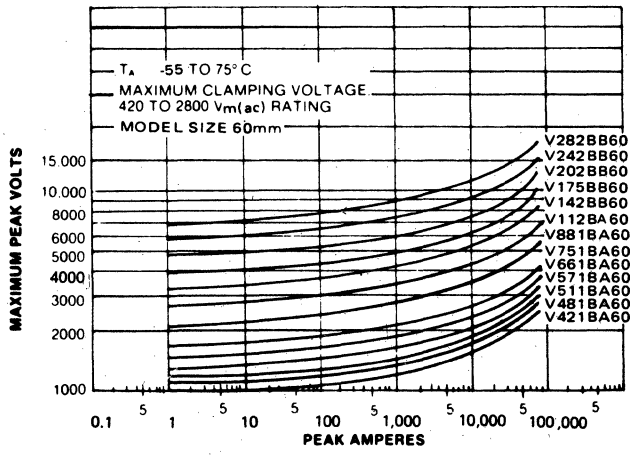




D SERIES



B SERIES



MECHANICAL AND ENVIRONMENTAL TESTING: HIGH RELIABILITY SERIES

The High Reliability GE-MOV®II Varistor is the latest step in increased product performance. Applications requiring guaranteed quality in extreme ambients can now be served. The new series of varistors are 100% prescreened and process conditioned to meet stringent mechanical and electrical requirements.

100% PRESCREEN

Pre-encapsulation Inspection	Visual Inspection of Lead Frame and Disc Prior to Coating
Electrical	I_L, $V_{N(dc)}$, V_C(8x20μs)
Final Inspection	Coating Integrity, Leads, Marking, Outline

100% PROCESS CONDITIONING

TEST NAME	TEST METHOD(MIL-STD-750)	DESCRIPTION
High Temperature Life	Method 1032.1	125°C, 24 Hr. Bake
Thermal Shock	Method 1051.1	Air-Air; −55°C to 125°C, 5 Cycles
Constant Acceleration	Method 2006	20,000 G, Z_1
Humidity Life	No Equivalent	85°C, 85% RH, 168 Hr. Exposure
Burn-In	Method 1038, Cond B	96 Hr., 85°C, Rated $V_{m(ac)}$
Post Burn-In Screen	No Equivalent	$V_{n(dc)}$ and V_C Screen; 10% PDA
Visual Inspection	Method 2071	Encapsulation, Marking, Outline, Leads

QUALITY ASSURANCE TESTS AFTER PROCESSING CONDITIONING

- Electrical (Bi-Directional), $V_{n(dc)}$, V_C — 0.1% AQL LEVEL II
- Dielectric BV (MIL-STD 202-301) — 0.65% AQL LEVEL I
- Capacitance @ 1MHz — 1.0% AQL LEVEL S-4
- Solderability (Non Activated) — 1.0% AQL LEVEL S-4

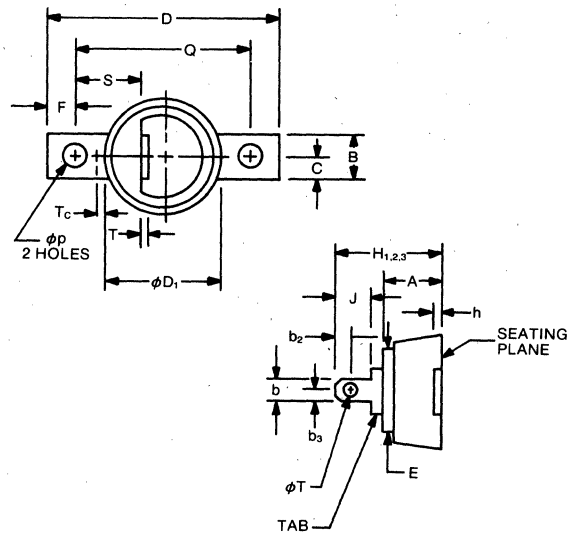
ADDITIONAL CAPABILITIES

TEST NAME	TEST METHOD(MIL-STD-750)	DESCRIPTION
Terminal Strength	Method 2036.3	3 Bends; 90° Arc; 16 oz. Weight
Shock	Method 2016.2	1500 G's; .5 ms; 5 pulses; X_1, Y_1, Z_1
Variable Frequency Vibration	Method 2056	20 G's; 100-2000Hz; X_1, Y_1, Z_1
Salt Atmosphere	Method 1041	35°C; 24 Hr.; 10-50 G/M²/Day
Soldering Heat	Method 2031	260°C; 10 Sec.; 3 Cycles; Test
Resistance to Solvents	MIL-202E, Method 215	Marking Permanence; 3 Solvents
Flammability	MIL-202E, Method 111A	15 Sec. Torching; 10 Sec. to Flame Out

Note: High reliability varistors are rated to withstand a low temperature storage of −65°C.

Please contact your local General Electric Sales Office for any specific high reliability requirement or for types presently available.

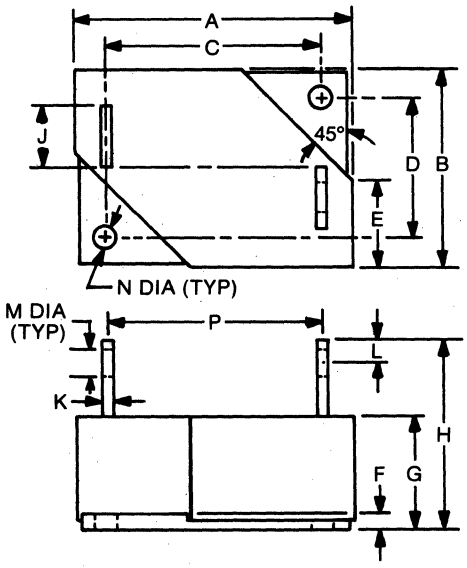
OUTLINES AND DIMENSIONS: P SERIES



SYMBOL	INCHES			MILLIMETERS			NOTES
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.	
A			.57			14.3	
b			.26			6.6	1
b_2		.16			4.1		
b_3		.13			3.2		
B			.51			12.9	
C			.26			6.5	
D			2.61			66.2	
ϕD_1			1.32			33.5	
E		.44			11.2		
F		.30			7.7		
h		.03	.04		.8	.9	
H_1			1.01	23.2		25.5	3
H_2			1.12	24.6		28.3	3
H_3			1.29	26.3		32.6	3
J			.32			8.1	
φp	.22		.24	5.8		6.0	
Q	1.99	2.00	2.01	50.6	50.8	51.0	
S		.76			19.2		
T			.04			1.0	
φT	.11			2.8			
T_c		.13			3.2		2

NOTES:
1. Tab is designed to fit ¼" quick connect terminal.
2. Case temperature is measured at T_c on top surface of base plate.
3. H_1 (130-150V_{RMS} devices)
   H_2 (250-320V_{RMS} devices)
   H_3 (420-660V_{RMS} devices)
4. Electrical connection: top terminal and base plate.
5. Typical weight - 100g.

HE SERIES



DIMENSION	MILLIMETERS	INCHES
A	61 MAX.	2.40 MAX.
B	41. MAX.	1.60 MAX.
C	44.45 ± .75	1.75 ± .03
D	25.40 ± .75	1.00 ± .03
E	16.5 NOM.	.65 NOM.
F	3.2 NOM.	.13 NOM.
G	23 MAX.	.91 MAX.
H	41 MAX.	1.60 MAX.
J	13 NOM.	.51 NOM.
K	1.6 NOM.	.06 NOM.
L	6.4 NOM.	.25 NOM.
M	6.4 NOM.	.25 NOM.
N	5.4 NOM.	.21 NOM.
P	40.5 NOM.	1.6 NOM.

Typical Weight ..... 100g.

Minimum Strike and Creep Distance
Terminal to Terminal ..... 1.4 in. (3.5 cm.)
Terminal to Baseplate ..... 0.80 in. (2.0 cm.)