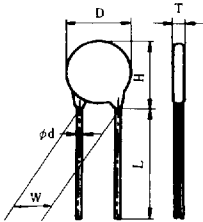


H-SERIES (High Energy, Low Varistor Voltage Series)



Operating temperature range: $-40 \sim +125^{\circ}\text{C}$
 Storage temperature range: $-40 \sim +150^{\circ}\text{C}$



Type	D max.	H max.	W ± l	L min.	φd
9H	10.0	14.0	5.0	25.0	0.5
12H	14.0	17.0	7.5	25.0	0.8
15H	17.0	20.0	7.5	30.0	0.8
23H	24.0	28.0	10.0	30.0	0.8

	T max.
220K~330K	6.0
390K~470K	8.0

Model Number	Maximum Applied Voltage			Maximum Energy (20ms)	Maximum Clamping Voltage		Varistor Voltage at 1mA DC
	Continuous		5 Minutes		Voltage		
	AC Vrms	DC V	DC V	J	at A	V	V
TNR9H220K	12	16	24	5	2	43	22(20~24)
TNR9H270K	15	19	29			53	27(24~30)
TNR9H330K	18	24	36			65	33(30~36)
TNR9H390K	22	28	42			77	39(35~43)
TNR9H470K	26	34	50			93	47(42~52)
TNR12H220K	12	16	24	10	5	43	22(20~24)
TNR12H270K	15	19	29			53	27(24~30)
TNR12H330K	18	24	36			65	33(30~36)
TNR12H390K	22	28	42			77	39(35~43)
TNR12H470K	26	34	50			93	47(42~52)
TNR15H220K	12	16	24	20	10	43	22(20~24)
TNR15H270K	15	19	29			53	27(24~30)
TNR15H330K	18	24	36			65	33(30~36)
TNR15H390K	22	28	42			77	39(35~43)
TNR15H470K	26	34	50			93	47(42~52)
TNR23H220K	12	16	24	40	25	43	22(20~24)
TNR23H270K	15	19	29			53	27(24~30)
TNR23H330K	18	24	36			65	33(30~36)
TNR23H390K	22	28	42			77	39(35~43)
TNR23H470K	26	34	50			93	47(42~52)

HP-SERIES (with Radiative Plates)



Operating temperature range: $-40 \sim +150^{\circ}\text{C}$
 Storage temperature range: $-40 \sim +150^{\circ}\text{C}$

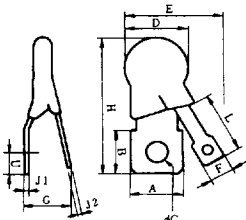
H, HP-SERIES (High Energy Absorption Capability)

● Outline

Because of the present extensive use of semiconductors and microprocessors in automotive electronic circuits, there is great demand for effective suppressors of various transients that can cause many problems in these circuits. Transients are generated by the following.

1. Electronic ignition
2. Alternator-regulator systems
3. Load dump

Marcon has developed effective suppressors for these transients.



	A	B	φC	D	E	F	G	H	J1	J2	L	U
12HP	10	10	5.0	15MAX	23MAX	6.4	17MAX	32MAX	0.8	0.8	8 MIN	5.0
15HP	12	12	5.5	18MAX	25MAX	6.4	20MAX	37MAX	0.8	0.8	9 MIN	6.0
23HP	14	14	6.5	25MAX	30MAX	6.4	25MAX	45MAX	0.8	0.8	10MIN	7.0

Unit : mm