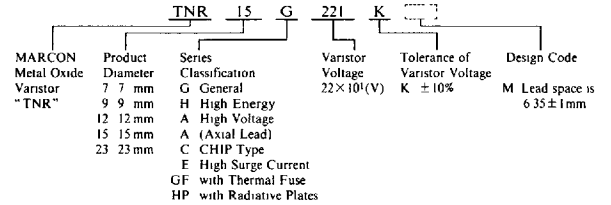


Marcon TNR Metal Oxide Varistors are voltage dependent, symmetrical resistors which perform in a manner similar to back-to-back zener diodes in circuit protective functions and offer advantages in performance and economics. When exposed to high energy voltage transients, the varistor impedance changes from a very high standby value to a very low conducting value thus clamping the transient voltage to a safe level. The dangerous energy of the incoming high voltage pulse is absorbed by the TNR varistor, thus protecting voltage sensitive circuit components.



### ● TNR Features

1. Excellent transient voltage suppression
2. High discharge current capability
3. Wide range of voltage ratings
4. Symmetrical V-I characteristics(Non Polarity)
5. Instantaneous response
6. Steady operation for repeating surge
7. Low temperature coefficient
8. High reliability
9. UL recognized(G series)

### ● Applications

1. Electronic instrument protection
2. Telephone system protection
3. Relay contact point protection
4. Rectification diode protection
5. SCR protection
6. Reduction of abnormal voltage in high voltage current
7. Switching transistor protection
8. Reduction of switching surge in electromagnetic brake
9. Prevention of error in digital circuit
10. Reduction of noise from an abnormal voltage

### G-SERIES (Disc Type, Radial Lead)



Operating temp. range: -40~+85°C  
 Storage temp. range: -50~+125°C

UL STANDARD 1414 FILE No.E 65426  
 UL STANDARD 1449 FILE No.E 95427

Model Number	Maximum Applied Voltage (Continuous)		Maximum Peak Current (8/20µs)	Maximum Energy (2msec.)	Rated Wattage	Clamping Voltage		Capacitance (Typical) 1kHz	Varistor Voltage V0 1mA (V)
	AC (Vrms)	DC (V)				(A)	(V)		
	(A)	(J)	(W)	(A)	(V)	(pF)	V0 1mA (V)		
TNR7G180K	10	14		0.3			40	2,200	18(16~20)
TNR7G220K	14	18		0.4			48	1,800	22(20~24)
TNR7G270K	17	22		0.5			60	1,500	27(24~30)
TNR7G330K	20	26	100/1Time	0.6			73	1,300	33(30~36)
TNR7G390K	25	30	60/2Times	0.8	0.01		86	1,150	39(35~43)
TNR7G470K	30	37		1.0			104	980	47(42~52)
TNR7G560K	35	44		1.1			123	840	56(50~62)
TNR7G680K	40	55		1.3			150	720	68(61~75)
TNR7G820K	50	65		2.0			145	260	82(74~90)
TNR7G101K	60	85		2.0			175	200	100(90~110)
TNR7G121K	75	100		3.0			210	170	120(108~132)
TNR7G151K	95	125		3.0			260	140	150(135~165)
TNR7G181K	110	145		4.0			325	120	180(162~198)
TNR7G201K	130	170		5.0			355	110	200(180~220)
TNR7G221K	140	180	400/1Time	5.0			380	105	220(198~242)
TNR7G241K	150	200	250/2Times	5.0	0.1		415	98	240(216~264)
TNR7G271K	175	225		6.0			475	88	270(243~297)
TNR7G331K	210	270		8.0			600	76	330(297~363)
TNR7G361K	230	300		8.0			620	71	360(324~396)
TNR7G391K	250	320		8.0			675	67	390(351~429)
TNR7G431K	275	350		10.0			745	60	430(387~473)
TNR7G471K	300	385		10.0			810	57	470(423~517)
	AC (Vrms)	DC (V)	(A)	(J)	(W)	(A)	(V)	(pF)	V0 1mA (V)
TNR9G150K	8	12		0.6			30	5,800	15(13~17)
TNR9G180K	10	14		0.8			35	5,400	18(16~20)
TNR9G220K	14	18		1.0			43	4,900	22(20~24)
TNR9G270K	17	22	250/1Time	1.0			53	4,200	27(24~30)
TNR9G330K	20	26		1.2	0.02		65	3,500	33(30~36)
TNR9G390K	25	30	125/2Times	1.5			77	3,100	39(35~43)
TNR9G470K	30	37		1.8			93	2,600	47(42~52)
TNR9G560K	35	44		2.2			110	2,300	56(50~62)
TNR9G680K	40	55		2.5			135	1,900	68(61~75)
TNR9G820K	50	65		4.0			135	620	82(74~90)
TNR9G101K	65	85		4.0			165	530	100(90~110)
TNR9G121K	75	100		5.0			195	460	120(108~132)
TNR9G151K	90	125		6.0			245	380	150(135~165)
TNR9G181K	110	145		8.0			295	335	180(162~198)
TNR9G201K	130	170		10.0			330	310	200(180~220)
TNR9G221K	140	180	1,200/1Time	10.0			360	280	220(198~242)
TNR9G241K	155	200		10.0			390	270	240(216~264)
TNR9G271K	170	225	600/2Times	12.0	0.2		440	245	270(243~297)
TNR9G331K	210	270		15.0			540	210	330(297~363)
TNR9G361K	230	300		16.0			590	200	360(324~396)
TNR9G391K	255	320		17.0			640	185	390(351~429)
TNR9G431K	275	350		20.0			700	170	430(387~473)
TNR9G471K	300	385		20.0			765	160	470(423~517)