



SPECIFICATIONS

PRODUCT : **VARISTOR**

TYPE : **GNR60B□□□K**

MODEL :

CITATION :

REVISION : **B01**

TOTAL PAGES : **4**

PAGE : **1/4**

RELEASED DATE : **Feb. 06, 2002**

REVISION HISTORY

NO	REV. DATE	DCR NO.	DESCRIPTION OF CHANGE	REV.
1	Feb. 06,2002		NEW RELEASE	B01
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Approved by	Checked by	Edited by
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1. QUALITY SYSTEM APPROVAL

ISO9001 Certificate of approval No.97-HOU-AQ-1382

2. STRUCTURE

NO.	ITEM	DESCRIPTION		
2.1	Main Material	Zinc Oxide		
2.2	Package Material	Plastic		
2.3	Marking	GNR, Part number		
2.4	Appearance	Without dirt and crack, marking should be clear		
2.5	Dimensions	<p>Unit: mm</p>	H1(max.)	100.0
			H2(max.)	5.0
			H3(max.)	92.0
			H4(max.)	83.0
			H5(max.)	45.0
			H6(max.)	30.0
			H7(max.)	5.0
			T1(max.)	24.0
			T2(max.)	7.0
			W1(max.)	100.0
W2(max.)	86.0			
W3(max.)	71.0			
W4(max.)	40.0			

CERAMATE	TYPE	GNR60B□□□K	MODEL		PAGE	3/4
CITATION				DATE	Feb. 06, 2002	
SUBJECT	ELECTRICAL CHARACTERISTICS			REV.	B01	

3. ELECTRICAL CHARACTERISTICS

NO.	ITEM	PERFORMANCE	TEST METHODS
3.0	Standard Conditions		Unless otherwise specified, all tests are made under environmental conditions as given below: Temperature: 5~35°C Relative humidity: 45~85 % RH
3.1	Maximum Allowable Voltage	AC : * Vrms DC : * V	Maximum continuous sine wave(RMS) or DC voltage which may be applied.
3.2	Varistor Voltage	V _{1mA} : * V	Voltage across the varistor measured at C _{mA} DC.
3.3	Varistor Voltage Temperature Coefficient	0 ~ -0.05 %/°C	$\frac{V_{CmA} \text{ at } 85^{\circ}\text{C} - V_{CmA} \text{ at } 25^{\circ}\text{C}}{V_{CmA} \text{ at } 25^{\circ}\text{C}} \times \frac{1}{60} \times 100$
3.4	Max. Clamping Voltage	* V at * A	Peak voltage across the varistor with a specified peak impulse current of 8x 20 μs waveform.
3.5	Rated Power	* W	Maximum 50~60Hz power which may be loaded for 1,000 hrs at 85± 2°C with $\Delta V_{CmA} / V_{CmA} \leq \pm 10\%$.
3.6	Withstanding Surge Current	* A	The max. current within the varistor voltage change of less than ± 10% when one impulse current (8x 20 μs) applied.
			The max. current with a varistor voltage change of less than ± 10% when two times impulse current (8x 20 μs) are applied at intervals of 5 minutes.
3.7	Energy	* Joule	The max. energy absorbed with a varistor voltage change of less than ± 10% when one impulse(2ms) is applied.
3.8	Typical Capacitance	* pF	Capacitance shall be measured at 1 kHz± 10%, 1 Vrms max. 0V bias and 20± 2°C

* See Page 4

PART NUMBER	MAXIMUM ALLOWABLE VOLTAGE		VARISTOR VOLTAGE (V)	CLAMPING VOLTAGE (MAX.)		RATED WATTAGE (MAX.) (W)	SURGE CURRENT (8/20 μ s)		MAXIMUM ENERGY (2ms) W_{tm} (joule)	Typical Capacitance pF
	AC _{rms} (V)	DC(V)		(V)	Ip(A)		I _{tm} (A)			
			1 TIME			2 TIMES				
60B330K	20	26	30~36	65	100	0.35	20000	15000	120	86000
60B390K	25	31	35~43	77					150	64000
60B470K	30	38	42~52	93					190	55000
60B560K	35	45	50~62	110					220	49000
60B680K	40	56	61~75	135					250	43000
60B820K	50	65	74~90	135	500	1.6	50000	40000	250	37000
60B101K	60	85	90~110	165					300	30000
60B121K	75	100	108~132	200					320	24500
60B151K	95	125	135~165	250					380	20000
60B181K	115	150	162~198	300					450	16500
60B201K	130	170	185~225	340					490	15000
60B221K	140	180	198~242	360					530	13250
60B241K	150	200	216~264	395					570	12500
60B271K	175	225	247~303	455					630	11000
60B301K	190	250	270~330	505					650	10000
60B331K	210	275	297~363	545			680	9000		
60B361K	230	300	324~396	595			730	8500		
60B391K	250	320	351~429	650			880	7500		
60B431K	275	350	387~473	710			950	7000		
60B471K	300	385	423~517	775			1000	6500		
60B511K	320	410	459~561	845			1100	6000		
60B561K	350	460	504~616	920			1200	5500		
60B621K	385	505	558~682	1025			1300	5000		
60B681K	420	560	612~748	1120			1500	4500		
60B751K	460	615	675~825	1240			1600	4000		
60B781K	485	640	702~858	1290	1650	3900				
60B821K	510	670	738~902	1355	1800	3700				
60B911K	550	745	819~1001	1500	2000	3300				
60B951K	575	765	855~1045	1570	2100	3200				
60B102K	625	825	900~1100	1650	2200	3000				
60B112K	680	895	990~1210	1815	2500	2700				
60B122K	750	990	1155~1320	1980	2700	2500				
60B142K	880	1140	1310~1540	2310	2400	2200				
60B162K	1000	1280	1700~1980	2640	2600	1900				