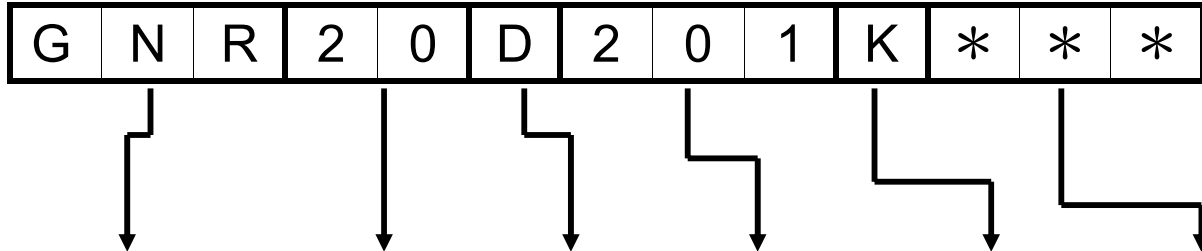


VARISTORS

Catalog number system



Product Series	Element Size	Type	Nominal Voltage at 1mA DC	Tolerance	Suffixes
GNR: General Nonlinear Resistor	05 :φ5mm 07 :φ7mm 10 :φ10mm 14 :φ14mm 20 :φ20mm 25 :φ25mm 32 :φ32mm 34 :34mm x 34mm 40 :φ40mm 53 :φ53mm 60 :60mm x 60mm	D: Disk S: Square B: Block	The first two digits are significant figures and the third one denotes the number of zeros following	J: ±5% K: ±10% L: ±15% or customer special requirement	A: F=7.5 4: L=4mm±1mm C: Crimped lead T: Ammo R: Reel

● 32D Specification

Model Number	Maximum Allowable Voltage		Varistor Voltage (V)	Clamping Voltage (Max.)		Maximum Peak current (8/20 μ s)(A)		Maximum Energy (Joule)		Typical Capacitance (Reference) @1kHz(pF)
	AC _{rms} (V)	DC (V)		VC(V)	I _p (A)	1 Time	2 Times	10/1000 μ s	2ms	
32D201K	130	170	200(185~225)	340	200	25000	20000	250	210	5500
32D241K	150	200	240(216~264)	395				290	240	5000
32D271K	175	225	270(243~297)	455				300	255	4200
32D331K	210	275	330(297~363)	550				360	300	3500
32D361K	230	300	360(324~396)	595				380	325	3000
32D391K	250	320	390(351~429)	650				395	350	2500
32D431K	275	350	430(387~473)	710				440	400	3000
32D471K	300	385	470(423~517)	775				480	405	2500
32D511K	320	415	510(459~561)	845				510	405	2500
32D621K	385	505	620(558~682)	1025				580	415	2400
32D681K	420	560	680(612~748)	1120				600	450	2200
32D751K	460	615	750(675~825)	1240				625	500	2100
32D781K	485	640	780(702~858)	1290				650	520	2000
32D821K	510	670	820(738~902)	1355				720	545	1900
32D911K	550	745	910(819~1001)	1500				760	600	1800
32D951K	575	765	950(855~1045)	1570				800	600	1700
32D102K	625	825	1000(900~1100)	1650				815	620	1000
32D112K	680	895	1100(990~1210)	1815	880	650	800			

Operating Temperature Range : -40 to 85°C

Varistor Voltage : 32D series ...V_{1mA}

Storage Temperature Range : -40 to 125°C

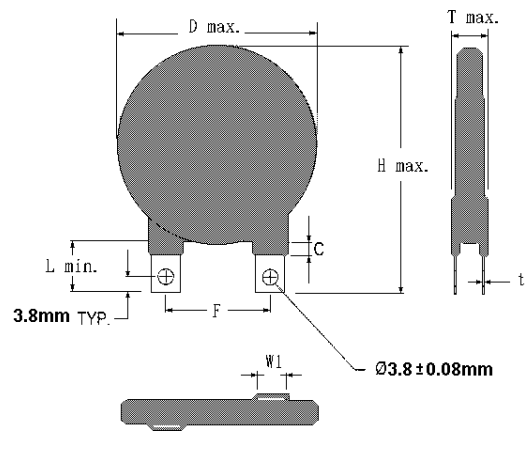
Standard No.	UL 1449
File No.	E207368
201K~112K	Approved

	TYPE	GNR32□□□K	MODEL	N	PAGE	1/4
CITATION				DATE	Nov.19,2004	
SUBJECT	QUALITY APPROVAL and STRUCTURE			REV.	C01	

1. SAFETY STANDARDS APPROVAL

Standard No.	UL 1449
File No.	E207368

2. STRUCTURE

NO.	ITEM	DESCRIPTION		
2.1	Main Material	Zinc Oxide		
2.2	Coating Material	Epoxy Resin		
2.3	Marking	GNR, Part number		
2.4	Appearance	Without dirt and crack, marking should be clear		
2.5	Dimensions	 <p style="text-align: right;">Unit: mm</p>	D(max.)	38.0
			H(max.)	56.3
			T(max.)	* (1)
			F	25.4±0.5
			T	0.5±0.1
			L(min.)	16.5
			C(max.)	3.18
			W1(max.)	7.0

* (1) See Page2 Dimensions Table

	TYPE	GNR32□□□K	MODEL	N	PAGE	2/4
CITATION				DATE	Nov.19,2004	
SUBJECT	DIMENSIONS TABLE			REV.	C01	

Part No.	T_{max.}
32D201K	6.2
32D241K	6.4
32D271K	6.6
32D331K	6.9
32D361K	7.1
32D391K	7.3
32D431K	7.5
32D471K	7.8
32D511K	8.0
32D621K	8.7
32D681K	9.0
32D751K	9.4
32D781K	9.6
32D821K	9.8
32D911K	10.4
32D951K	10.8
32D102K	11.2
32D112K	11.8

Unit:mm

	TYPE	GNR32□□□K	MODEL	N	PAGE	3/4
CITATION				DATE	Nov.19,2004	
SUBJECT	ELECTRICAL CHARACTERISTICS			REV.	C01	

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 : * (2) Vrms DC : * (2) V	Maximum continuous sine wave(RMS) or DC voltage which may be applied.
3.2	Varistor Voltage	V _{1mA} : * (2) V	Voltage across the varistor measured at C _{mA} DC.
3.3	Varistor Voltage Temperature Coefficient	0 ~ -0.05 %/°C	$\frac{V_{cmA@85^{\circ}C} - V_{cmA@25^{\circ}C}}{V_{cmA@25^{\circ}C}} \times \frac{1}{60} \times 100$
3.4	Max. Clamping Voltage	* (2) V at * (2) A	Peak voltage across the varistor with a specified peak impulse current of 8 x 20μs waveform.
3.5	Withstanding Surge Current	* (2) A	The max. current within the varistor voltage change of less than ±10% when one impulse current (8 x 20μs) applied.
			The max. current with a varistor voltage change of less than ±10% when two times impulse current (8 x 20μs) are applied at intervals of 5 minutes.
3.6	Energy	* (2) Joule	The max. energy absorbed with a varistor voltage change of less than ±10% when one impulse(10 x 1000μs) is applied.
3.7	Surge Life	* (2) A	The max. current with a varistor voltage change of less than ±10% when 10,000 times impulse current (8 x 20μs) are applied at intervals of 20 seconds at room temperature.

* (2) See Page4

	TYPE	GNR32□□□K	MODEL	N	PAGE	4/4
CITATION				DATE	Nov.19,2004	
SUBJECT	ELECTRICAL CHARACTERISTICS			REV.	C01	

PART NUMBER	MAXIMUM ALLOWABLE VOLTAGE		VARISTOR VOLTAGE	CLAMPING VOLTAGE (MAX.)		SURGE CURRENT (8/20μs)		MAXIMUM ENERGY (10/1000μs)	SURGE LIFE
	AC _{rms} (V)	DC(V)	(V)	(V)	Ip(A)	I _{tm} (A)		W _{tm} (joule)	(A)
						1 TIME	2 TIMES		
32D201K	130	170	185~225	340	200	25000	20000	250	300
32D241K	150	200	216~264	395				290	
32D271K	175	225	243~297	455				300	
32D331K	210	275	297~363	550				360	
32D361K	230	300	324~396	595				380	
32D391K	250	320	351~429	650				395	
32D431K	275	350	387~473	710				440	
32D471K	300	385	423~517	775				480	
32D511K	320	415	459~561	845				510	
32D621K	385	505	558~682	1025				580	
32D681K	420	560	612~748	1120				600	
32D751K	460	615	675~825	1240				625	
32D781K	485	640	702~858	1290				650	
32D821K	510	670	738~902	1355				720	
32D911K	550	745	819~1001	1500				760	
32D951K	575	765	885~1045	1570				800	
32D102K	625	825	900~1100	1650				815	
32D112K	680	895	990~1210	1815				880	