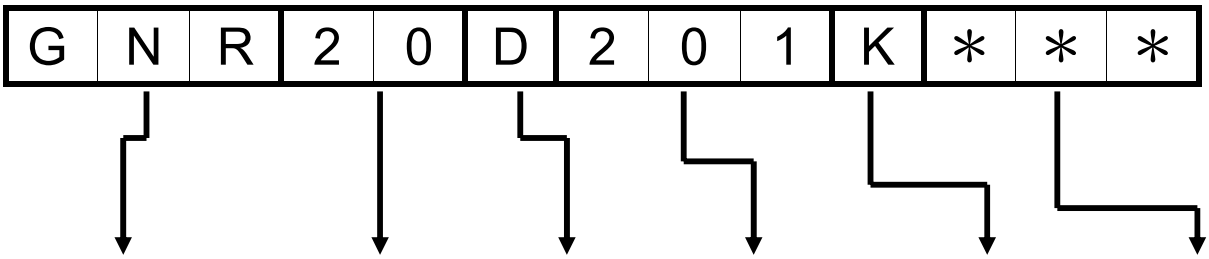
VARISTORS
Catalog number system



Product Series	Element Size	Type	Nominal Voltage at 1mA DC	Tolerance	Suffixes
GNR: General Nonlinear Resistor	**05** :ψ5mm **07** :ψ7mm **10** :ψ10mm **14** :ψ14mm **20** :ψ20mm **25** :ψ25mm **32** :ψ32mm **34** :34mm x 34mm **40** :ψ40mm **53** :ψ53mm **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	Clamping Voltage (Max.)		Maximum Peak current (8/20 μs)(A)		Maximum Energy (Joule)		Typical Capacitance (Reference)
	$AC_{rm}s$ (V)	DC (V)	(V)	VC(V)	Ip(A)	1 Time	2 Times	10/1000 μs	2ms	@1kHz(pF)
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℃
Storage Temperature Range : -40 to 125℃

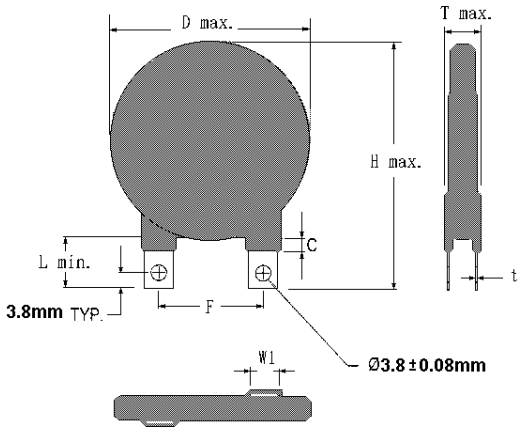
Varistor Voltage : 32D series …V_{1mA}

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

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	 Unit: mm

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**

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

3 ELECTRICAL CHARACTERISTICS

N0.	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	$\frac{V_{cmA\,at\,85°C} - V_{cmA\,at\,25°C}}{V_{cmA\,at\,25°C}} \times \frac{1}{60} \times 100$
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**

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) 1 TIME	I_{tm}(A) 2 TIMES	W_{tm}(joule)	(A)
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	
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32D681K	420	560	612~748	1120				600	
32D751K	460	615	675~825	1240				625	
32D781K	485	640	702~858	1290				650	
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32D911K	550	745	819~1001	1500				760	
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