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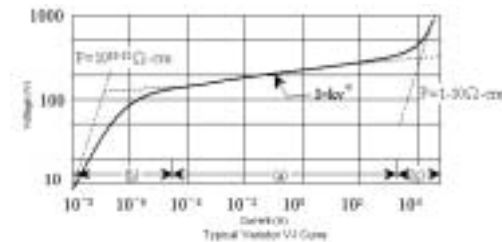
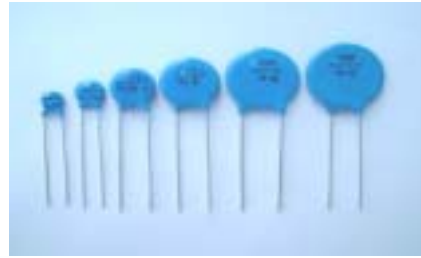
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Jameco Part Number 667227

CeNtRa Varistor

Varistor are voltage dependent, nonlinear device which have an electrical behavior similar to back-to-back zener diodes. CNR series zinc oxide varistor are nonlinear resistors, consisting main of zinc oxide and several kinds of metal oxide additive. They are bilateral and symmetrical V-I characteristics curve and unparalleled large peak current capability are used for absorption of transient voltage, suppression of pulse noise and circuit voltage stabilization.



Features

- Fast response
- Excellent voltage ratio
- High stabilization for circuit voltage
- Unparalleled absorption for transient voltage characteristics
- Bilateral and symmetrical V-I Characteristics curve

Applications

- Surge Protection in consumer electronics
 - industrial electronics
 - telephone and telecommunication systems
 - automobile equipments
 - measuring and controller systems
 - electronic home appliances
 - gas and petroleum appliances
- Absorption of switching surge from various kinds of relays and electro-magnetic valves.
- Electrostatic discharge an spike noise suppression.
- Protection of various kinds of transistors, diodes, ICs, thyristors, triac semiconductors, and etc.
- Automobile control system such as transistorized ignition system and electronic fuel injection system, and etc.

Related Standards

- UL1414, UL1449(2nd Edition), CSA, VDE

Explanation of Part Numbers

CNR			D				
Common Code	Element Dia.		Type	Varistor Voltage			Tolerance
CeNtRa	05	ψ 5.0mm	D	Examples			K : ±10% or customer special requirement
Zinc Oxide	07	ψ 7.0mm		2 2 0			
Varistor	10	ψ 10.0mm		22 × 10 ⁰ = 22V			
	14	ψ 14.0mm		2 2 1			
	18	ψ 18.0mm		22 × 10 ¹ = 220V			
	20	ψ 20.0mm					



Transient/Surge Absorbers Transient Voltage Surge Suppressors

Device Ratings and Characteristics

Part No.	Maximum Allowable Voltage		Varistor Voltage (@1mA)			Clamping Voltage @ Test Current (8/20μs)		Maximum Energy (J)	Maximum Peak Current (8/20μs)	Rated Power	Typical Capacitance (@1KHz)	Standards
Device Marking	ACrms(V)	DC(V)	Min.	Vb(Vdc)	Max.	Vc(V)	Ip(A)	10/1000μs	(A)	(W)	(pF)	
CNR-05D301K	195	250	270	300	330	505	5	9.0	400	0.10	100	
CNR-07D301K						500	10	20.0	1200	0.25	190	
CNR-10D301K						500	25	42.0	2500	0.40	500	
CNR-14D301K						500	50	73.0	4500	0.6	900	
CNR-20D301K						500	100	150.0	6500	1.0	1800	
CNR-05D331K	210	275	297	330	363	600	5	10.0	400	0.10	90	
CNR-07D331K						550	10	25.0	1200	0.25	180	
CNR-10D331K						550	25	47.0	2500	0.40	450	
CNR-14D331K						550	50	93.0	4500	0.6	850	
CNR-20D331K						550	100	163.0	6500	1.0	1750	
CNR-05D361K	230	300	324	360	396	620	5	10.0	400	0.10	80	
CNR-07D361K						595	10	25.0	1200	0.25	170	
CNR-10D361K						595	25	47.0	2500	0.40	450	
CNR-14D361K						595	50	93.0	4500	0.6	800	
CNR-20D361K						595	100	163.0	6500	1.0	1700	
CNR-05D391K	250	320	351	390	429	675	5	12.0	400	0.10	80	
CNR-07D391K						650	10	25.0	1200	0.25	160	
CNR-10D391K						650	25	60.0	2500	0.40	430	
CNR-14D391K						650	50	100.0	4500	0.6	800	
CNR-20D391K						650	100	180.0	6500	1.0	1400	
CNR-05D431K	275	350	387	430	473	745	5	13.0	400	0.10	70	
CNR-07D431K						710	10	28.0	1200	0.25	150	
CNR-10D431K						710	25	65.0	2500	0.40	400	
CNR-14D431K						710	50	115.0	4500	0.6	650	
CNR-20D431K						710	100	190.0	6500	1.0	1350	
CNR-05D471K	300	385	423	470	517	810	5	15.0	400	0.10	70	
CNR-07D471K						775	10	30.0	1200	0.25	130	
CNR-10D471K						775	25	70.0	2500	0.40	300	
CNR-14D471K						775	50	125.0	4500	0.6	550	
CNR-20D471K						775	100	220.0	6500	1.0	1200	
CNR-05D511K	320	410	459	510	561	880	5	15.0	400	0.10	65	
CNR-07D511K						845	10	30.0	1200	0.25	120	
CNR-10D511K						845	25	70.0	2500	0.40	260	
CNR-14D511K						845	50	125.0	4500	0.6	450	
CNR-20D511K						845	100	220.0	6500	1.0	1050	
CNR-05D561K	350	460	504	560	616	940	5	15.0	400	0.10	65	
CNR-07D561K						915	10	30.0	1200	0.25	120	
CNR-10D561K						915	25	70.0	2500	0.40	200	
CNR-14D561K						915	50	125.0	4500	0.6	400	
CNR-20D561K						915	100	220.0	6500	1.0	850	
CNR-05D621K	385	505	558	620	682	1050	5	15.0	400	0.10	65	
CNR-07D621K						1025	10	30.0	1200	0.25	120	
CNR-10D621K						1025	25	70.0	2500	0.40	170	
CNR-14D621K						1025	50	125.0	4500	0.6	350	
CNR-20D621K						1025	100	220.0	6500	1.0	570	
CNR-05D681K	420	560	612	680	748	1150	5	15.0	400	0.10	60	
CNR-07D681K						1120	10	30.0	1200	0.25	110	
CNR-10D681K						1120	25	70.0	2500	0.40	160	
CNR-14D681K						1120	50	130.0	4500	0.6	350	
CNR-20D681K						1120	100	23.0	6500	1.0	550	

Note : 1. 05D series Varistor voltage test current by Dc 0.1mA





Transient/Surge Absorbers

Transient Voltage Surge Suppressors

Device Ratings and Characteristics

Part No.	Maximum Allowable Voltage		Varistor Voltage (@1mA)			Clamping Voltage @ Test Current (8/20μs)		Maximum Energy (J)	Maximum Peak Current (8/20μs)	Rated Power	Typical Capacitance (@1KHz)	Standards
Device Marking	ACrms(V)	DC(V)	Min.	Vb(Vdc)	Max.	Vc(V)	Ip(A)	10/1000μs	(A)	(W)	(pF)	
CNR-05D751K	460	615	675	750	825	1290	5	15.0	800	0.10	40	
CNR-07D751K						1240	10	33.0	1750	0.25	70	
CNR-10D751K						1240	25	75.0	3500	0.40	160	
CNR-14D751K						1240	50	143.0	6000	0.6	310	
CNR-20D751K						1240	100	255.0	12000	1.0	600	
CNR-07D781K	485	640	702	780	858	1290	10	37.0	1750	0.25	70	
CNR-10D781K						1290	25	80.0	3500	0.40	150	
CNR-14D781K						1290	50	148.0	6000	0.6	300	
CNR-20D781K						1290	100	265.0	12000	1.0	550	
CNR-07D821K	510	670	738	820	902	1355	10	40.0	1750	0.25	60	
CNR-10D821K						1355	25	85.0	3500	0.40	140	
CNR-14D821K						1355	50	157.0	6000	0.6	280	
CNR-20D821K						1355	100	282.0	12000	1.0	530	
CNR-10D911K	550	745	819	910	1001	1500	25	93.0	3500	0.40	130	
CNR-14D911K						1500	50	175.0	6000	0.6	260	
CNR-20D911K						1500	100	310.0	12000	1.0	520	
CNR-10D102K	625	825	900	1000	1100	1650	25	102.0	3500	0.40	120	
CNR-14D102K						1650	50	190.0	6000	0.6	250	
CNR-20D102K						1650	100	342.0	12000	1.0	500	
CNR-10D112K	680	895	990	1100	1210	1815	25	115.0	3500	0.40	110	
CNR-14D112K						1815	50	213.0	6000	0.6	240	
CNR-20D112K						1815	100	383.0	12000	1.0	480	

Note : 1. 05D series Varistor voltage test current by Dc 0.1mA

Application Notes for UL Recognized Components

Related Standards

Standard No.	UL 1414	UL 1449(2nd Edition)	CSA	VDE
Title	Across-The-Line Components	Transient Voltage Surge Suppressors	Accessories and Parts for Electronic Products	Varistors for use in Electronic equipment
File No.	E165143	E150709	LR109736-1	21557-4790-001
Symbols				

Selection guide

1. Determine the necessary steady-state voltage (working voltage).
2. Establish the transient energy absorbed by the varistor.
3. Calculate the peak transient current through the varistor.
4. Determine power dissipation requirement.
5. Select a model to provide the required voltage-clamping characteristics.