

6 VARISTORS

T-11-25

■ Ceramic Varistors

SNR - □ □ □ □ D □ □

Sanken
Nonlinear
Resistor

Diameter of ceramic disc

Number	05	07	10	14	20
Diameter	5 φ	7 φ	10 φ	14 φ	20 φ

Series Designation

Tolerance of varistor voltage

K : ±10%、L : ±15%、M : ±20%

Varistor Voltage:

The first two digits represent the first two figures of varistor voltage and the last digit represents the number of zeros to follow. In addition, in case there are decimal points, they are shown by R and all digits should be effective. EX:(241:240V, 120:12V, 8R0:8.0V)

■ Ratings in Common (p.28~30)

Operating Temperature -40℃ ~ +85℃
 Storage Temperature -40℃ ~ +125℃
 Varistor Voltage Temperature Coefficient
 -0.08%/℃ (typical)
 Varistor Voltage Temperature Coefficient (Low Voltage Series) -0.05%/℃ (typical)

SNR Low Voltage Series (5φ·7φ·10φ)

Type No.	Max. Applied Voltage		Energy (J)	Peak Pulse Current (A)	Average Power Dissipation (W)	Varistor Voltage (V)		Max. Clamping Voltage (V)		Typical Capacitance (pF) @ 1kHz	Fig. No.	Dimensions(mm)	
	ACrms(V)	DC(V)				(V)	@	(V)	@			T max	W max
SNR-8ROMD05	4.0	5.5	0.2	50	0.01	8 (6~11)	V _{0.1mA}	22	V _{1.0A}	2500	1	4.0	2.0
SNR-120MD05	6.0	8.0	0.3			12 (9~16)		32		2000			
SNR-8ROMD07	4.0	5.5	0.4	125	0.02	8 (6~11)	V _{1mA}	20	V _{2.5A}	6000	2	4.0	2.0
SNR-120MD07	6.0	8.0	0.6			12 (9~16)		30		4000			
SNR-8ROMD10	4.0	5.5	0.8	250	0.05	8 (6~11)	V _{1mA}	20	V _{5A}	12000	3	4.4	2.0
SNR-120MD10	6.0	8.0	1.2			12 (9~16)		30		7500			

SNR Series (5φ)

Type No.	Max. Applied Voltage		Energy (J)	Peak Pulse Current (A)	Average Power Dissipation (W)	Varistor Voltage (V)		Max. Clamping Voltage (V)		Typical Capacitance (pF) @ 1kHz	Fig. No.	Dimensions(mm)	
	ACrms(V)	DC(V)				(V)	@	(V)	@			T max	W max
SNR-180LD05	10	14	0.3	50	0.01	18 (15 ~ 21)	V _{0.1mA}	42	V _{1A}	1200	1	4.0	2.0
SNR-220KD05	14	18	0.4			22 (20 ~ 24)		48		1000			
SNR-270KD05	17	22	0.5			27 (24 ~ 30)		60		800			
SNR-330KD05	20	26	0.6			33 (30 ~ 36)		73		690			
SNR-390KD05	25	31	0.8			39 (35 ~ 43)		86		570		4.5	2.5
SNR-470KD05	30	38	1.0			47 (42 ~ 52)		104		490		5.0	3.0
SNR-560KD05	35	45	1.0			56 (50 ~ 62)		123		460			
SNR-680KD05	40	56	1.2			68 (61 ~ 75)		150		420		5.5	3.5
SNR-820KD05	50	65	1.7			82 (74 ~ 90)		145	V _{5A}	200	1	5.0	2.5
SNR-101KD05	60	85	2.0			100 (90 ~ 110)		175		170			
SNR-121KD05	75	100	2.5			120 (108 ~ 132)		210		150			
SNR-151KD05	95	125	3.0			150 (135 ~ 165)		260		120			
SNR-201KD05	130	170	4.0	200	0.1	200 (185 ~ 225)		355		100		6.0	3.5
SNR-221KD05	140	180	4.5			220 (198 ~ 242)		380		80			
SNR-241KD05	150	200	5.0			240 (216 ~ 264)		415		75			
SNR-271KD05	175	225	6.0			270 (247 ~ 303)		475		70			
SNR-391KD05	250	320	8.0			390 (351 ~ 429)		675		50		7.0	5.0
SNR-431KD05	275	350	9.0			430 (387 ~ 473)		745		45			
SNR-471KD05	300	385	10.0			470 (423 ~ 517)		810		40			

SNR Series(20 ϕ)

Type No.	Max. Applied Voltage		Energy	Peak Pulse Current	Average Power Dissipation	Varistor Voltage		Max. Clamping Voltage		Typical Capacitance	Fig. No.	Dimensions(mm)	
	AC _{rms} (V)	DC(V)				(V)	@	(V)	@	@ 1kHz (pF)		T max	W max
SNR-201KD20	130	170	70.0	4000	1.0	200(185~225)	V _{1mA}	340	V _{100A}	1500	6	6.5	4.0
SNR-221KD20	140	180	75.0			220(198~242)		360		1400			
SNR-241KD20	150	200	80.0			240(216~264)		395		1300			
SNR-271KD20	175	225	90.0			270(247~303)		455		1200			
SNR-391KD20	250	320	130.0			390(351~409)		650		900		8.0	5.5
SNR-431KD20	275	350	140.0			430(387~473)		710		800			
SNR-471KD20	300	385	150.0			470(423~517)		775		750			
SNR-681KD20	420	560	160.0			680(612~748)		1120		500	7	10.5	8.5
SNR-821KD20	510	670	190.0			820(738~902)		1355		460		11.5	9.5

● Outline Drawings (Dimensions in mm)

Fig 1

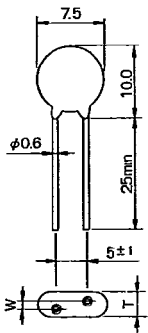


Fig 2

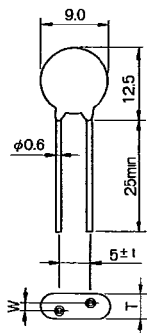


Fig 3

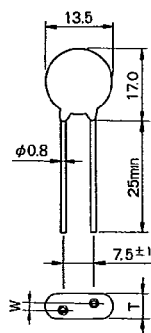


Fig 4

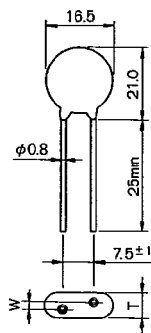


Fig 5

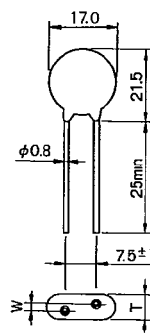


Fig 6

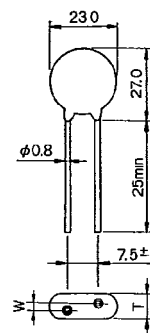
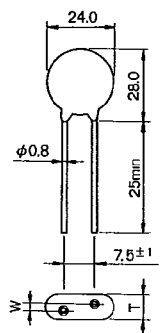


Fig 7



■ Silicon Varistors

Type No.	Maximum Ratings				Electrical Characteristics (Ta=25°C)						Color Band	Fig. No.
	I _F (mA)	I _{FSM} (A)	T _{OP} (°C)	T _{STG} (°C)	V _{F1} (V)	I _{F1} (mA)	V _{F2} (V)	I _{F2} (mA)	V _{F3} (V)	I _{F3} (mA)		
VR-60SS	400	—	65	-40~+100	1.5	1000	—	—	0.2	0.02	Orange	8
-61SS	150	—			2.3 ± 0.25	1	2.75 ± 0.25	10	3.1 ± 0.25	70	Orange & Red	
SV-2SS	150	25	65	-40~+100	4.0	100	—	—	1.2	0.05	Red	8
-3SS	250	30			2.0		—	—	0.6		Orange	
-4SS	150	—			1.5 ± 0.2	1	2.15 ± 0.2	12	2.4 ± 0.25	70	—	
SV02YS	200	30	70	-40~+130	1.2 ± 0.2	1	1.5 ± 0.25	70	V _R (100V)	I _R (10μA)	—	9
03YS	150	27			1.8 ± 0.2		2.3 ± 0.25					
04YS	100	25			2.35 ± 0.25		3.0 ± 0.3					
05YS	80	22			3.0 ± 0.3		3.8 ± 0.4					
06YS	70	20			3.5 ± 0.35		4.5 ± 0.45					

● Outline Drawings (Dimensions in mm)

Fig 8

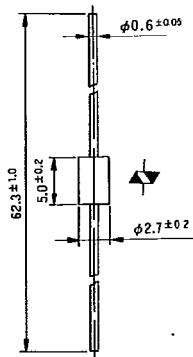


Fig 9

