

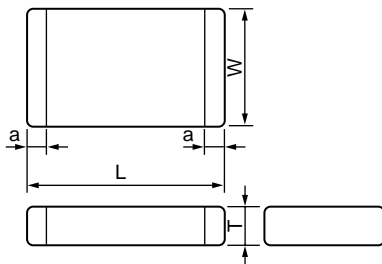
C Series

Chip Type For Direct Surface Mounting (5C and 7C Type)


 Operating Temperature Range: -40 to +125°C
 Storage Temperature Range: -50 to +150°C

◆STANDARD RATINGS (Type 5C, 7C)

Part Number	Previous Part Number (Just for your reference)	Maximum Ratings					Max. Clamping Voltage		Varistor Voltage V _{0.1mA}	T±1 (mm)
		Max. Allowable Voltage		Max. Peak Current	Max. Energy	Rated Wattage	(A)	(V)		
		AC (Vrms)	DC (V)	8/20μs(A)	2ms(J)	(W)			(V)	
TNC05C-220KB00AAA0	TNR5C220K	14	18	25A/2 times	0.16	0.005	0.5	48	22 (20~24)	1.5
TNC05C-270KB00AAA0	TNR5C270K	17	22		0.20			60	27 (24~30)	
TNC05C-330KB00AAA0	TNR5C330K	20	26		0.24			73	33 (30~36)	
TNC05C-390KB00AAA0	TNR5C390K	25	30		0.32			86	39 (35~43)	
TNC05C-470KB00AAA0	TNR5C470K	30	37		0.34			104	47 (42~52)	
TNC05C-560KB00AAA0	TNR5C560K	35	44	0.37	123	56 (50~62)	2.0			
TNC05C-680KB00AAA0	TNR5C680K	40	55	0.43	150	68 (61~75)				
TNC05C-820KB00AAA0	TNR5C820K	50	65	0.65	145	82 (74~90)	1.5			
TNC05C-101KB00AAA0	TNR5C101K	60	85	0.65	175	100 (90~110)				
TNC05C-121KB00AAA0	TNR5C121K	75	100	0.65	210	120 (108~132)				
TNC05C-151KB00AAA0	TNR5C151K	95	125	1.0	260	150 (135~165)				
TNC05C-181KB00AAA0	TNR5C181K	110	145	100A/2 times	1.0	0.05		2.5	325	180 (162~198)
TNC05C-201KB00AAA0	TNR5C201K	130	170	1.0	355	200 (180~220)				
TNC05C-221KB00AAA0	TNR5C221K	140	180	1.5	380	220 (198~242)				
TNC05C-241KB00AAA0	TNR5C241K	150	200	1.5	415	240 (216~264)				
TNC05C-271KB00AAA0	TNR5C271K	175	225	2.0	475	270 (243~297)				
TNC07C-220KB00AAA0	TNR7C220K	14	18	0.4	48	22 (20~24)		1.5		
TNC07C-270KB00AAA0	TNR7C270K	17	22	0.5	60	27 (24~30)				
TNC07C-330KB00AAA0	TNR7C330K	20	26	0.6	73	33 (30~36)				
TNC07C-390KB00AAA0	TNR7C390K	25	30	60A/2 times	0.8	0.01	1.0		86	39 (35~43)
TNC07C-470KB00AAA0	TNR7C470K	30	37	1.0	104	47 (42~52)				
TNC07C-560KB00AAA0	TNR7C560K	35	44	1.1	123	56 (50~62)	2.0			
TNC07C-680KB00AAA0	TNR7C680K	40	55	1.3	150	68 (61~75)				
TNC07C-820KB00AAA0	TNR7C820K	50	65	2	145	82 (74~90)	1.5			
TNC07C-101KB00AAA0	TNR7C101K	60	85	2	175	100 (90~110)				
TNC07C-121KB00AAA0	TNR7C121K	75	100	3	210	120 (108~132)				
TNC07C-151KB00AAA0	TNR7C151K	95	125	3	260	150 (135~165)				
TNC07C-181KB00AAA0	TNR7C181K	110	145	4	325	180 (162~198)				
TNC07C-201KB00AAA0	TNR7C201K	130	170	5	355	200 (180~220)				
TNC07C-221KB00AAA0	TNR7C221K	140	180	250A/2 times	5	0.1		5.0	380	220 (198~242)
TNC07C-241KB00AAA0	TNR7C241K	150	200	5	415	240 (216~264)				
TNC07C-271KB00AAA0	TNR7C271K	175	225	6	475	270 (243~297)				
TNC07C-331KB00AAA0	TNR7C331K	210	270	8	600	330 (297~363)				
TNC07C-361KB00AAA0	TNR7C361K	230	300	8	620	360 (324~396)		2.0		
TNC07C-391KB00AAA0	TNR7C391K	250	320	8	675	390 (351~429)				
TNC07C-431KB00AAA0	TNR7C431K	275	350	10	745	430 (387~473)		2.5		
TNC07C-471KB00AAA0	TNR7C471K	300	385	10	810	470 (423~517)				

◆DIMENSIONS [mm]


Type	L±0.3	W±0.3	a Nom.
5C	8.0	6.3	0.8
7C	10.0	8.0	1.0
9C	12.5	10.0	1.0
12C	16.0	12.5	1.0

◆Precautions for pattern design and soldering

Do not line under the chip varistors at pattern design.
 TNR C Series is designed for reflow soldering only.
 Peak temperature of reflow soldering profile shall be 220 to 240°C during 5 to 10 sec.



C Series

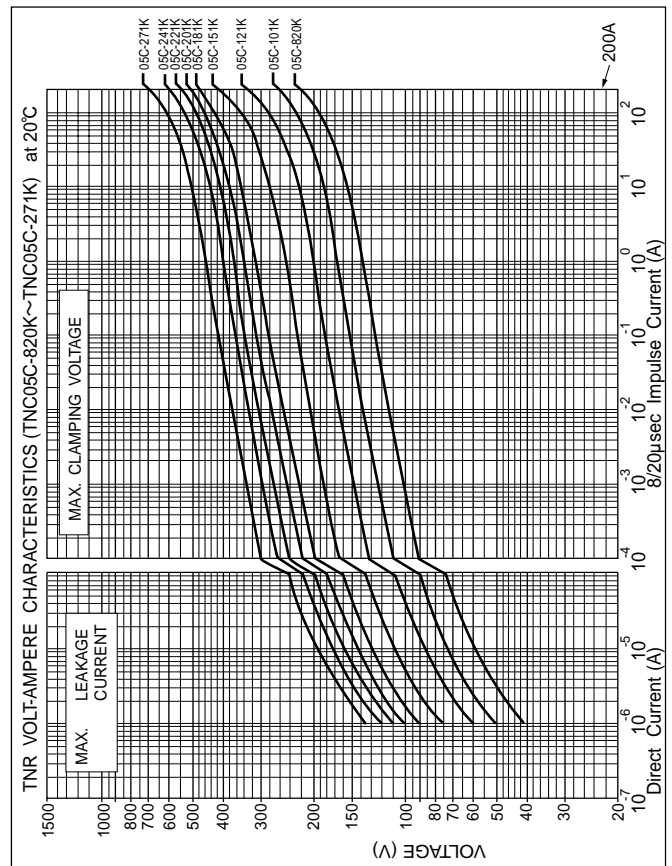
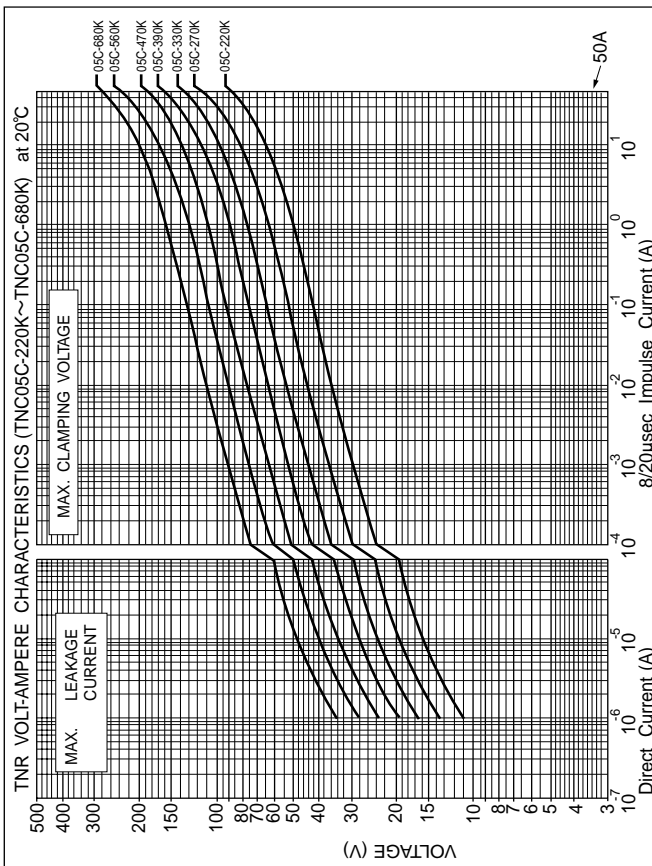
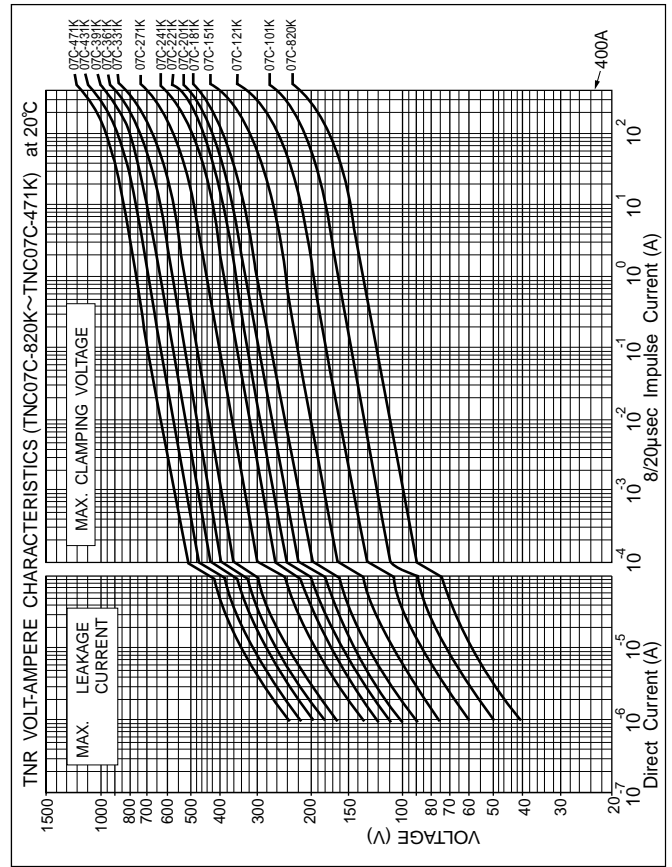
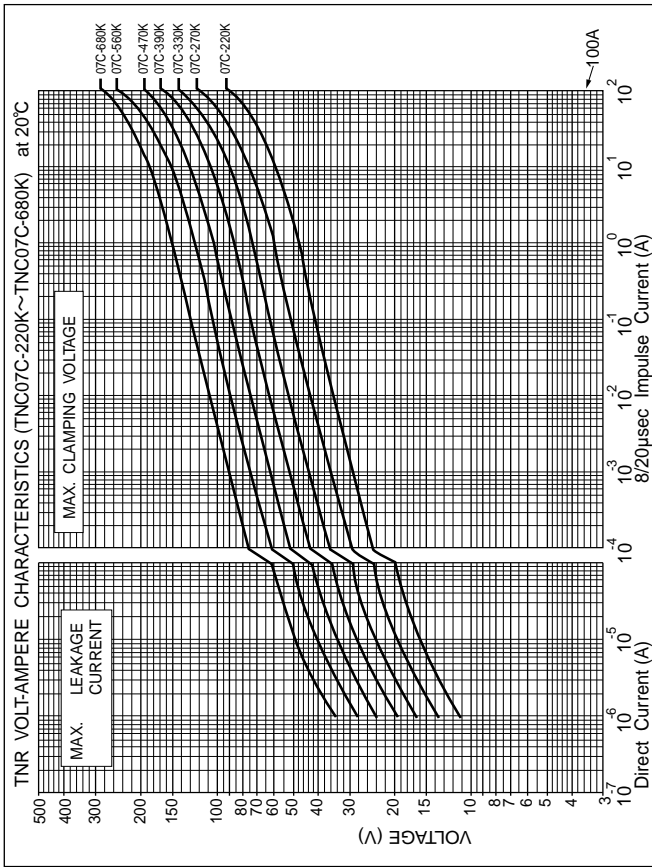
Chip Type For Direct Surface Mounting (9C and 12C Type)

Operating Temperature Range: -40 to +125°C
Storage Temperature Range: -50 to +150°C

◆STANDARD RATINGS (Type 9C, 12C)

Part Number	Previous Part Number (Just for your reference)	Maximum Ratings					Max. Clamping Voltage		Varistor Voltage V1mA	T±1		
		Max. Allowable Voltage		Max. Peak Current	Max. Energy	Rated Wattage	(A)	(V)				
		AC (Vrms)	DC (V)	8/20µs(A)	2ms(J)	(W)			(V)	(mm)		
TNC09C-220KB00AAA0	TNR9C220K	14	18	125A/2 times	1.0	0.02	2.0	43	22 (20~ 24)	1.5		
TNC09C-270KB00AAA0	TNR9C270K	17	22		1.0			53	27 (24~ 30)			
TNC09C-330KB00AAA0	TNR9C330K	20	26		1.2			65	33 (30~ 36)			
TNC09C-390KB00AAA0	TNR9C390K	25	30		1.5			77	39 (35~ 43)			
TNC09C-470KB00AAA0	TNR9C470K	30	37		1.8			93	47 (42~ 52)			
TNC09C-560KB00AAA0	TNR9C560K	35	44	2.2	2.0	10.0	110	56 (50~ 62)	2.0			
TNC09C-680KB00AAA0	TNR9C680K	40	55	2.5			135	68 (61~ 75)				
TNC09C-820KB00AAA0	TNR9C820K	50	65	4	600A/2 times	0.2	135	82 (74~ 90)	1.5			
TNC09C-101KB00AAA0	TNR9C101K	60	85	4			164	100 (90~110)				
TNC09C-121KB00AAA0	TNR9C121K	75	100	5			195	120 (108~132)				
TNC09C-151KB00AAA0	TNR9C151K	95	125	6			245	150 (135~165)				
TNC09C-181KB00AAA0	TNR9C181K	110	145	8			295	180 (162~198)				
TNC09C-201KB00AAA0	TNR9C201K	130	170	10			330	200 (180~220)				
TNC09C-221KB00AAA0	TNR9C221K	140	180	10			360	220 (198~242)				
TNC09C-241KB00AAA0	TNR9C241K	150	200	10			390	240 (216~264)				
TNC09C-271KB00AAA0	TNR9C271K	175	225	12			440	270 (243~297)				
TNC09C-331KB00AAA0	TNR9C331K	210	270	15			540	330 (297~363)				
TNC09C-361KB00AAA0	TNR9C361K	230	300	16			590	360 (324~396)				
TNC09C-391KB00AAA0	TNR9C391K	250	320	17			640	390 (351~429)				
TNC09C-431KB00AAA0	TNR9C431K	275	350	20			700	430 (387~473)				
TNC09C-471KB00AAA0	TNR9C471K	300	385	20	765	470 (423~517)						
TNC12C-220KB00AAA0	TNR12C220K	14	18	2.0	250A/2 times	0.05	43	22 (20~ 24)	1.5			
TNC12C-270KB00AAA0	TNR12C270K	17	22	2.5			53	27 (24~ 30)				
TNC12C-330KB00AAA0	TNR12C330K	20	26	3.0			65	33 (30~ 36)				
TNC12C-390KB00AAA0	TNR12C390K	25	30	3.5			77	39 (35~ 43)				
TNC12C-470KB00AAA0	TNR12C470K	30	37	4.5			93	47 (42~ 52)				
TNC12C-560KB00AAA0	TNR12C560K	35	44	5.5			110	56 (50~ 62)				
TNC12C-680KB00AAA0	TNR12C680K	40	55	6.5			135	68 (61~ 75)				
TNC12C-820KB00AAA0	TNR12C820K	50	65	8			25.0	0.4		135	82 (74~ 90)	1.5
TNC12C-101KB00AAA0	TNR12C101K	60	85	10						165	100 (90~110)	
TNC12C-121KB00AAA0	TNR12C121K	75	100	12						195	120 (108~132)	
TNC12C-151KB00AAA0	TNR12C151K	95	125	16						245	150 (135~165)	
TNC12C-181KB00AAA0	TNR12C181K	110	145	18						295	180 (162~198)	
TNC12C-201KB00AAA0	TNR12C201K	130	170	20						330	200 (180~220)	
TNC12C-221KB00AAA0	TNR12C221K	140	180	25	360	220 (198~242)						
TNC12C-241KB00AAA0	TNR12C241K	150	200	25	390	240 (216~264)						
TNC12C-271KB00AAA0	TNR12C271K	175	225	30	440	270 (243~297)						
TNC12C-331KB00AAA0	TNR12C331K	210	270	35	540	330 (297~363)						
TNC12C-361KB00AAA0	TNR12C361K	230	300	35	590	360 (324~396)						
TNC12C-391KB00AAA0	TNR12C391K	250	320	40	640	390 (351~429)						
TNC12C-431KB00AAA0	TNR12C431K	275	350	45	700	430 (387~473)						
TNC12C-471KB00AAA0	TNR12C471K	300	385	45	765	470 (423~517)						

◆V-I CURVE



◆V-I CURVE

