NACY Series
Surface Mount Aluminum Electrolytic Capacitors

AEC-Q200 QUALIFIED

ROHS/REACH COMPLIANT HALOGEN FREE

NIC COMPONENTS Performance Passives By Design

FEATURES
- CYLINDRICAL V-CHIP CONSTRUCTION FOR SURFACE MOUNTING
- LOW IMPEDANCE AT 100KHz (Up to 20% lower than NACZ)
- WIDE TEMPERATURE RANGE (-55 +105°C)
- DESIGNED FOR AUTOMATIC MOUNTING AND REFLOW SOLDERING
- MEETS THE REQUIREMENTS OF AEC-Q200*

*Contact NIC for supporting test data

Available with Wide Anti-Vibration Terminations

CHARACTERISTICS

Rated Capacitance Range			2.2 ~ 6800 µF							
Operating Temperature Range			- 55°C + 105°C							
Capacitance Tolerance			±20% (120Hz/+20°C)							
Max. Leakage Current after 2 minutes at 20°C			0.01CV or 3 µA							
Max. Tan δ at 120Hz & 20°C	W.V.(Vdc)		6.3	10	16	25	35	50	63	80	100
	S.V.(Vdc)		8	13	20	32	44	63	80	100	125
	Tan δ	φ4 to φ6.3	0.24	0.20	0.16	0.14	0.12	0.12	0.10	0.08	0.07
		φ8 ~ φ16 C≤1500µF	0.28	0.24	0.20	0.16	0.14	0.14	0.12	0.10	0.08
		φ8 ~ φ16 C=2200µF	-	0.26	-	0.18	-	-	-	-	-
		φ8 ~ φ16 C=3300µF	0.32	-	0.24	-	-	-	-	-	-
		φ8 ~ φ16 C=4700µF	-	0.30	-	-	-	-	-	-	-
		φ8 ~ φ16 C=6800µF	0.36	-	-	-	-	-	-	-	-
Low Temperature Stability (Impedance Ratio at 120 Hz)	Z -40°C/Z +20°C		3	2	2	2	2	2	2	2	2
	Z -55°C/Z +20°C		5	4	4	3	3	3	3	3	3
Load Life Test AT 105°C 4 ~ 6.3mm Dia 1,000 Hours 8 ~ 12.5mm Dia 2,000 Hours	Capacitance Change		Within ±25% of initial measured value								
	Tan δ		Less than 200% of the specified value								
	Leakage Current		Less than the specified maximum value								

STANDARD PRODUCT AND CASE SIZE Dφ xL (mm)

Cap (µF)	Code	Working Voltage (Vdc)								
		6.3	10	16	25	35	50	63	80	100
2.2	2R2	-	-	-	-	-	-	-	-	6.3x6.3
3.3	3R3	-	-	-	-	-	-	-	-	6.3x6.3
4.7	4R7	-	-	-	-	4x6.3	4x6.3	5x6.3	6.3x6.3	6.3x6.3
10	100	-	-	-	4x6.3	5x6.3	6.3x6.3	6.3x6.3	6.3x8	6.3x8
15	150	-	-	4x6.3	5x6.3	5x6.3	-	-	-	-
22	220	-	4x6.3	5x6.3	5x6.3	5x6.3	6.3x6.3	6.3x8	8x10.5	8x10.5
27	270	4x6.3	-	-	-	-	-	-	-	-
33	330	-	5x6.3	-	6.3x6.3	6.3x6.3	6.3x8	8x10.5	8x10.5	10x10.5
47	470	5x6.3	-	6.3x6.3	6.3x6.3	6.3x6.3	6.3x8	8x10.5	10x10.5	12.5x14
56	560	5x6.3	-	-	6.3x6.3	-	-	-	-	-
68	680	-	6.3x6.3	6.3x6.3	6.3x6.3	6.3x8	-	-	12.5x14	12.5x14
100	101	6.3x6.3	-	6.3x6.3	6.3x8	8x10.5	8x10.5	10x10.5	12.5x14	16x17
150	151	6.3x6.3	6.3x6.3	6.3x8	8x10.5	8x10.5	-	-	12.5x14	16x17
220	221	6.3x6.3	6.3x8	6.3x8	8x10.5	8x10.5	10x10.5	12.5x14	-	-
330	331	6.3x8	8x10.5	8x10.5	8x10.5	10x10.5	12.5x14	-	16x17	-
470	471	8x10.5	8x10.5	8x10.5	10x10.5	12.5x14	-	16x17	-	-
680	681	8x10.5	-	10x10.5	-	12.5x14	-	-	-	-
1000	102	8x10.5	10x10.5	-	12.5x14	16x17	16x17	-	-	-
1500	152	10x10.5	-	12.5x14	-	16x17	-	-	-	-
2200	222	-	12.5x14	-	16x17	-	-	-	-	-
3300	332	12.5x14	-	16x17	-	-	-	-	-	-
4700	472	-	16x17	-	-	-	-	-	-	-
6800	682	16x17	-	-	-	-	-	-	-	-

NIC Components Corp.
1 Huntington Quadrangle, Suite 1C10. Melville, NY 11747

Last Updated 9/5/2025. Specification subject to change without notice. Please check web site for latest information.

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STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (µF)	W.V. (Vdc)	Dissipaton Factor (Tan δ)	Max. Ripple Current (mA) +105°C/100kHz	Max. Z (Ω) +20°C/100kHz	Load Life Hours @ +105°C
NACY270M6.3V4X6.3TR15F	27	6.3	0.24	90	1.45	1,000
NACY470M6.3V5X6.3TR15F	47		0.24	170	0.7	1,000
NACY560M6.3V5X6.3TR15F	56		0.24	170	0.7	1,000
NACY101M6.3V6.3X6.3TR15F	100		0.24	250	0.39	1,000
NACY151M6.3V6.3X6.3TR15F	150		0.24	250	0.39	1,000
NACY221M6.3V6.3X6.3TR15F	220		0.24	250	0.39	1,000
NACY331M6.3V6.3X8TR15F	330		0.24	300	0.3	1,000
NACY471M6.3V8X10.5TR15F	470		0.28	600	0.15	2,000
NACY681M6.3V8X10.5TR15F	680		0.28	600	0.15	2,000
NACY102M6.3V8X10.5TR15F	1000		0.28	600	0.15	2,000
NACY152M6.3V10X10.5TR15F	1500		0.28	850	0.08	2,000
NACY332M6.3V12.5X14TR15F	3300		0.32	1150	0.058	2,000
NACY682M6.3V16X17TR15F	6800		0.36	1800	0.035	2,000
NACY220M10V4X6.3TR15F	22	10	0.20	90	1.45	1,000
NACY330M10V5X6.3TR15F	33		0.20	170	0.7	1,000
NACY680M10V6.3X6.3TR15F	68		0.20	250	0.39	1,000
NACY151M10V6.3X6.3TR15F	150		0.20	250	0.39	1,000
NACY221M10V6.3X8TR15F	220		0.20	300	0.3	1,000
NACY331M10V8X10.5TR15F	330		0.24	600	0.15	2,000
NACY471M10V8X10.5TR15F	470		0.24	600	0.15	2,000
NACY102M10V10X10.5TR15F	1000		0.24	850	0.08	2,000
NACY222M10V12.5X14TR15F	2200		0.26	1150	0.058	2,000
NACY472M10V16X17TR15F	4700		0.30	1800	0.035	2,000
NACY150M16V4X6.3TR15F	15	16	0.16	90	1.45	1,000
NACY220M16V5X6.3TR15F	22		0.16	170	0.7	1,000
NACY470M16V6.3X6.3TR15F	47		0.16	250	0.39	1,000
NACY680M16V6.3X6.3TR15F	68		0.16	250	0.39	1,000
NACY101M16V6.3X6.3TR15F	100		0.16	250	0.39	1,000
NACY151M16V6.3X8TR15F	150		0.16	300	0.3	1,000
NACY221M16V6.3X8TR15F	220		0.16	300	0.3	1,000
NACY331M16V8X10.5TR15F	330		0.20	600	0.15	2,000
NACY471M16V8X10.5TR15F	470		0.20	600	0.15	2,000
NACY681M16V10X10.5TR15F	680		0.20	850	0.08	2,000
NACY152M16V12.5X14TR15F	1500		0.20	1150	0.058	2,000
NACY332M16V16X17TR15F	3300		0.24	1800	0.035	2,000
NACY100M25V4X6.3TR15F	10	25	0.14	90	1.45	1,000
NACY150M25V5X6.3TR15F	15		0.14	170	0.7	1,000
NACY220M25V5X6.3TR15F	22		0.14	170	0.7	1,000
NACY330M25V6.3X6.3TR15F	33		0.14	250	0.39	1,000
NACY470M25V6.3X6.3TR15F	47		0.14	250	0.39	1,000
NACY560M25V6.3X6.3TR15F	56		0.14	250	0.39	1,000
NACY680M25V6.3X6.3TR15F	68		0.14	250	0.39	1,000
NACY101M25V6.3X8TR15F	100		0.14	300	0.3	1,000
NACY151M25V8X10.5TR15F	150		0.16	600	0.15	2,000
NACY221M25V8X10.5TR15F	220		0.16	600	0.15	2,000
NACY331M25V8X10.5TR15F	330		0.16	600	0.15	2,000
NACY471M25V10X10.5TR15F	470		0.16	850	0.08	2,000
NACY102M25V12.5X14TR15F	1000		0.16	1150	0.058	2,000
NACY222M25V16X17TR15F	2200		0.18	1800	0.035	2,000
NACY4R7M35V4X6.3TR15F	4.7	35	0.12	90	1.45	1,000
NACY100M35V5X6.3TR15F	10		0.12	170	0.7	1,000
NACY150M35V5X6.3TR15F	15		0.12	170	0.7	1,000
NACY220M35V5X6.3TR15F	22		0.12	170	0.7	1,000
NACY330M35V6.3X6.3TR15F	33		0.12	250	0.39	1,000
NACY470M35V6.3X6.3TR15F	47		0.12	250	0.39	1,000
NACY680M35V6.3X8TR15F	68		0.12	300	0.30	1,000
NACY101M35V8X10.5TR15F	100		0.14	600	0.15	2,000
NACY151M35V8X10.5TR15F	150		0.14	600	0.15	2,000
NACY221M35V8X10.5TR15F	220		0.14	600	0.15	2,000

For Automotive Equipment, see part number system

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STANDARD VALUES, CASE SIZES AND SPECIFICATIONS

NIC Part Number	Cap. (µF)	W.V. (Vdc)	Dissipaton Factor (Tan δ)	Max. Ripple Current (mA) +105°C/100kHz	Max. Z (Ω) +20°C/100kHz	Load Life Hours @ +105°C
NACY331M35V10X10.5TR15F	330	35	0.14	850	0.08	2,000
NACY471M35V12.5X14TR15F	470		0.14	1150	0.058	2,000
NACY681M35V12.5X14TR15F	680		0.14	1150	0.058	2,000
NACY102M35V16X17TR15F	1000		0.14	1800	0.035	2,000
NACY152M35V16X17TR15F	1500		0.14	1800	0.035	2,000
NACY4R7M50V4X6.3TR15F	4.7	50	0.12	64	2.55	1,000
NACY100M50V6.3X6.3TR15F	10		0.12	215	0.52	1,000
NACY220M50V6.3X6.3TR15F	22		0.12	215	0.52	1,000
NACY330M50V6.3X8TR15F	33		0.12	243	0.44	1,000
NACY470M50V6.3X8TR15F	47		0.12	243	0.44	1,000
NACY101M50V8X10.5TR15F	100		0.14	400	0.22	2,000
NACY221M50V10X10.5TR15F	220		0.14	585	0.13	2,000
NACY331M50V12.5X14TR15F	330		0.14	800	0.10	2,000
NACY102M50V16X17TR15F	1000		0.14	1610	0.065	2,000
NACY4R7M63V5X6.3TR15F	4.7	63	0.10	55	2.00	1,000
NACY100M63V6.3X6.3TR15F	10		0.10	90	1.00	1,000
NACY220M63V6.3X8TR15F	22		0.10	135	0.80	1,000
NACY330M63V8X10.5TR15F	33		0.12	280	0.35	2,000
NACY470M63V8X10.5TR15F	47		0.12	280	0.35	2,000
NACY101M63V10X10.5TR15F	100		0.12	480	0.20	2,000
NACY221M63V12.5X14TR15F	220		0.12	800	0.14	2,000
NACY471M63V16X17TR15F	470		0.12	1410	0.065	2,000
NACY4R7M80V6.3X6.3TR15F	4.7	80	0.08	45	2.40	1,000
NACY100M80V6.3X8TR15F	10		0.08	65	2.00	1,000
NACY220M80V8X10.5TR15F	22		0.10	140	0.90	2,000
NACY330M80V8X10.5TR15F	33		0.10	140	0.90	2,000
NACY470M80V10X10.5TR15F	47		0.10	220	0.50	2,000
NACY680M80V12.5X14TR15F	68		0.10	500	0.24	2,000
NACY101M80V12.5X14TR15F	100		0.10	500	0.24	2,000
NACY151M80V12.5X14TR15F	150		0.10	500	0.24	2,000
NACY331M80V16X17TR15F	330		0.10	800	0.14	2,000
NACY2R2M100V6.3X6.3TR15F	2.2	100	0.07	42	2.70	1,000
NACY3R3M100V6.3X6.3TR15F	3.3		0.07	45	2.40	1,000
NACY4R7M100V6.3X6.3TR15F	4.7		0.07	45	2.40	1,000
NACY100M100V6.3X8TR15F	10		0.07	65	2.00	1,000
NACY220M100V8X10.5TR15F	22		0.08	140	0.90	2,000
NACY330M100V10X10.5TR15F	33		0.08	220	0.50	2,000
NACY470M100V12.5X14TR15F	47		0.08	500	0.24	2,000
NACY680M100V12.5X14TR15F	68		0.08	500	0.24	2,000
NACY101M100V16X17TR15F	100		0.08	800	0.14	2,000
NACY151M100V16X17TR15F	150		0.08	800	0.14	2,000

For Automotive Equipment, see part number system

RIPPLE CURRENT FREQUENCY CORRECTION FACTOR

Frequency	≤ 120Hz	≤ 1KHz	≤ 10KHz	≤ 100KHz
Correction Factor	0.75	0.85	0.95	1.00

PART NUMBER SYSTEM

NACY 100 M 25V 4x6.3 TR 15 WT Y F

- F — RoHS Compliant
- Y — Optional: Suitable for automotive equipment, sourced to special production and inspection at IATF-16949 certified production site
- WT — Wide Termination Option (8 ~16mm dia.)
- 15 — Reel Size (15", 380mm)
- TR — Tape & Reel
- 4x6.3 — Size in mm
- 25V — Working Voltage
- M — Tolerance Code M=20%
- 100 — Capacitance Code in mF, first 2 digits are significant. Third digit is no. of zeros, "R" indicates decimal for values under 10µF
- NACY — Series

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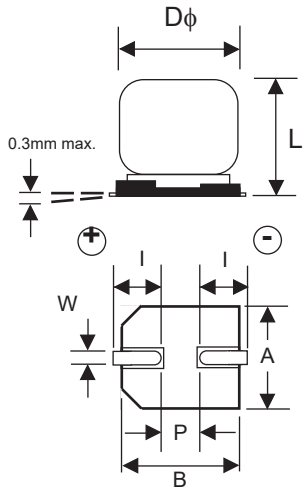
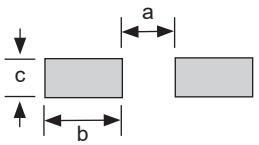
DIMENSIONS (mm)

Case Size	Dϕ ±0.5	L max.	A ±0.2	B ±0.2	I ±0.2	W	P ±0.2
4x6.3	4.0	6.3	4.3	4.3	1.8	0.5 ~ 0.8	1.0
5x6.3	5.0	6.3	5.3	5.3	2.2	0.5 ~ 0.8	1.5
6.3x6.3	6.3	6.3	6.6	6.6	2.5	0.5 ~ 0.8	2.2
6.3x8	6.3	8.0	6.6	6.6	2.5	0.5 ~ 0.8	2.2
8x10.5	8.0	10.5	8.3	8.3	2.9	0.7 ~ 1.1	3.2
10x10.5	10.0	10.5	10.3	10.3	3.2	0.7 ~ 1.4	4.6
12.5x14	12.5	14.0	12.8	12.8	4.5	1.0 ~ 1.4	4.6
16x17	16.0	17	16.3	16.3	5.0	1.7 ~ 2.1	7.0



RECOMMENDED LAND PATTERN DIMENSIONS (mm)

Case Size	a	b	c
4 ϕ	1.0	2.6	1.8
5 ϕ	1.4	3.0	1.8
6.3 ϕ	1.8	3.6	1.8
8 ϕ	2.8	4.1	2.1
10 ϕ	4.3	4.4	2.5



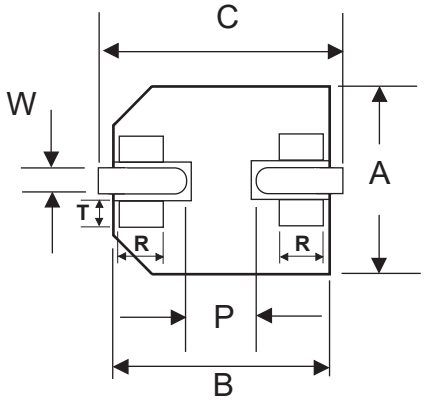
WT (WIDE TERMINATIONS) LAND PATTERN DIM. (mm)

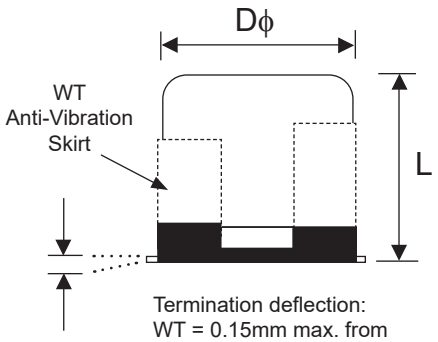
Case Size	a	b	c
8x10.5	2.5	4.5	4.7
10x10.5	3.8	4.8	4.7
12.5x14	3.8	6.1	6.9
16x17	5.0	8.0	9.5

WT (WIDE TERMINATIONS) COMPONENT DIM. (mm)

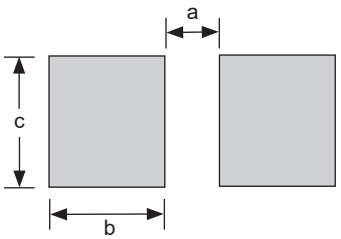
Case Size	Dϕ ±0.5	L max.	A, B ±0.2	C ±0.2	P	W	R	T
8x10.5	8.0	11.0	8.3	9.0	(3.2)	0.7 ~ 1.0	(0.7)	(1.3)
10x10.5	10.0	11.0	10.3	11.0	(4.6)	1.0 ~ 1.4	(0.7)	(1.3)
12.5x14	12.5	14.5	13.5	14.2	(4.6)	1.0 ~ 1.4	(2.2)	(2.4)
16x17	16.0	17.5	17.0	18.0	(7.0)	1.7 ~ 2.1	(3.0)	(2.0)

(Reference dimensions)





Termination deflection:
WT = 0.15mm max. from
bottom of support terminals



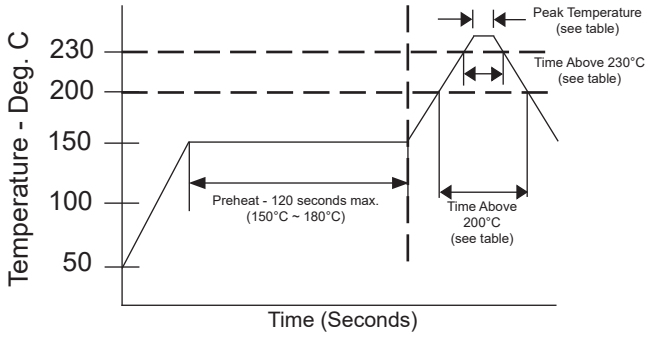
WT (Wide Terminations) Anti-Vibration Test	
Test Method	Direction: X, Y, Z axis Frequency & Duration: 5 to 2000Hz reciprocation for 20 minutes, 2 hours each direction Peak to Peak Amplitude: 5mm Peak Acceleration: 30G Sweep Type: Log
Δ Capacitance	Within ± 10% of initial value
Tangent of Loss	≤ Specified value
Leakage Current	≤ Specified value

PRECAUTIONS

Please review the notes on correct use, safety and precautions found at
https://www.niccomp.com/wp-content/uploads/files/aluminum/AlumApplInfoCautions.pdf
If in doubt or uncertainty, please review your specific application - process details with
NIC's technical support personnel: tpmg@niccomp.com

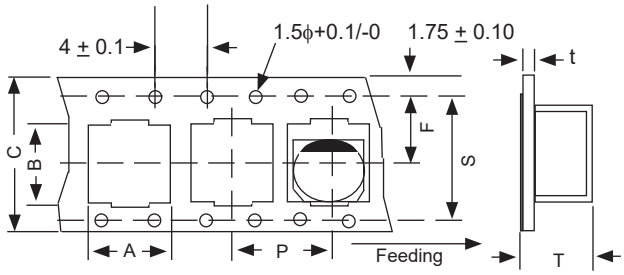
REFLOW TEMPERATURES AND DURATION

Voltage	Diameter	Time above 200°C	Time above 217°C	Time above 230°C	Peak Temperature
6.3 ~ 63V	4 ~ 6.3mm ϕ	70 sec. max.	60 sec. max.	40 sec. max.	250°C
	8mm ϕ	60 sec. max.	50 sec. max.	30 sec. max.	245°C
	10mm ~ 12mm ϕ	50 sec. max.	40 sec. max.	20 sec. max.	240°C
	16mm ϕ	50 sec. max.	30 sec. max.	15 sec. max.	235°C
80V ~ 100V	6.3mm ϕ	60 sec. max.	50 sec. max.	40 sec. max.	250°C
	8mm ϕ	60 sec. max.	40 sec. max.	30 sec. max.	240°C
	10mm ϕ	50 sec. max.	30 sec. max.	20 sec. max.	240°C
	12mm ϕ	50 sec. max.	30 sec. max.	20 sec. max.	235°C
	16mm ϕ	45 sec. max.	20 sec. max.	10 sec. max.	235°C

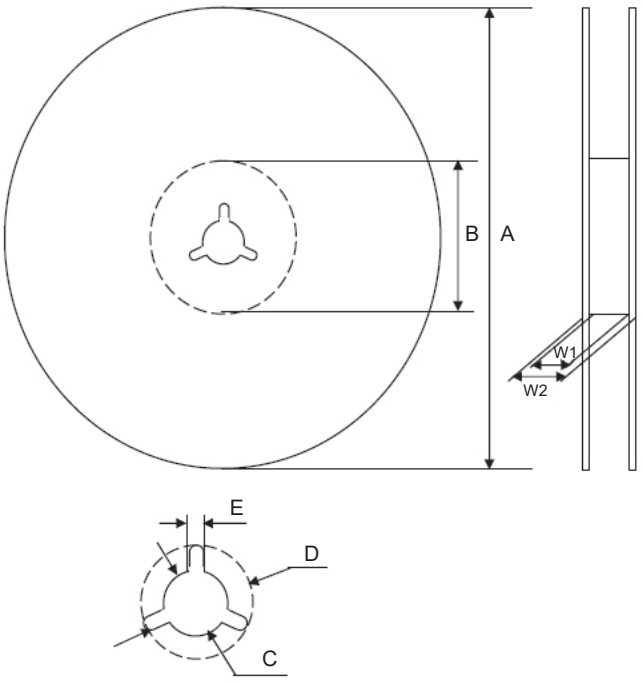


CARRIER TAPE DIMENSIONS & REEL QTY

Case Size	A ±0.5	B ±0.5	C ±0.3	F ±0.1	P ±0.1	S ±0.1	T ±0.2	t ±0.1
4x6.3	4.7	4.7	12.0	5.5	8.0	-	6.4	0.6
5x6.3	5.7	5.7	12.0	5.5	12.0	-	6.4	0.6
6.3x6.3	7.0	7.0	16.0	7.5	12.0	-	6.5	0.6
6.3x8	7.0	7.0	16.0	7.5	12.0	-	8.2	0.6
8x10.5	8.7	8.7	24.0	11.5	16.0	-	11.1	0.6
10x10.5	10.7	10.7	24.0	11.5	16.0	-	11.2	0.6
12.5x14	13.2	13.2	32.0	14.3	24.0	28.4	14.3	0.6
16x17	17.5	17.5	44.0	20.2	28	40.4	17.3	0.6



V-Chip 15" (380mm) Reels (TR15 suffix)



Dimensions (mm)

Case Size	Tape Width	W1	W2
4x6.3, 5x6.3	12.0	12.5 ~ 14.0	15.5 ~ 20.0
6.3x6.3, 6.3x8	16.0	16.5 ~ 18.0	19.5 ~ 24.0
8x10.5, 10x10.5	24.0	24.5 ~ 26.0	27.5 ~ 32.0
12.5x14	32.0	33.0 ~ 34.0	36.5 ~ 38.5
16x17	44.0	45.0 ~ 46.0	48.5 ~ 50.5

Case Size	Tape Width	A	B	C	D	E
4x6.3, 5x6.3	12.0	ϕ380 ±2	ϕ80~105	ϕ13 ±0.5	ϕ21 ±1.0	2.0 ±0.5
6.3x6.3, 6.3x8	16.0					
8x10.5, 10x10.5	24.0					
12.5x14	32.0					
16x17	44.0					

Case Size	Quantity Per Reel
	15" (380mm) Reel
4x6.3	2,000 pcs
5x6.3	1,000 pcs
6.3x6.3	1,000 pcs
6.3x8	900 pcs
8x10.5	500 pcs
10x10.5	500 pcs
12.5x14	250 pcs
16x17	200 pcs