

The high surge type S series of Metal Oxide Varistor (MOV) are radial lead varistors (also known as Voltage Dependent Resistors or VDRs) that are designed to be used continuously across AC line primary or DC circuit for transient voltage and surge suppression.

Operating Temperature -40°C~+85°C

■ **RECOGNITION** : made for RFE by UL shop Joyin



Agency	File Number	Monogram
UL/cUL	E325508	
VDE	Certificate No. 005937	
CQC	CQC07001019159 /9161/9162/9163/9164	

■ CHARACTERISTICS & RATINGS

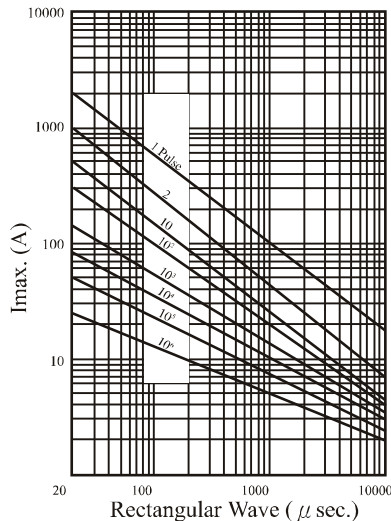
Part Number	Varistor Voltage at 0.1mA		Maximum Allowable Voltage		Maximum Clamping Voltage		Withstanding Surge Current (8/20μs)	Nominal Discharge Current (8/20μs)	Rated Wattage	Energy (10/1000μs)
	DC (V)	Tolerance	AC rms (V)	DC (V)	V @ ic (V)	ic (A)	1 Time (A)	In (KA)	(W)	(J)
JVR14S180M87***	18	20%	11	14	36	10	2000	1	0.1	5.2
JVR14S220L87***	22	15%	14	18	43					6.3
JVR14S270K87***	27		17	22	53					7.8
JVR14S330K87***	33		20	26	65					9.5
JVR14S390K87***	39		25	31	77					11
JVR14S470K87***	47		30	38	93					14
JVR14S560K87***	56		35	45	110					16
JVR14S680K87***	68		40	56	135	50	6000	3	0.6	20
JVR14S820K87***	82		50	65	135					28
JVR14S101K87***	100		60	85	165					36
JVR14S121K87***	120		75	100	200					44
JVR14S151K87***	150		95	125	250					53
JVR14S181K87***	180		115	150	300					65
JVR14S201K87***	200		130	170	340					70
JVR14S221K87***	220		140	180	360					78
JVR14S241K87***	240		150	200	395					84
JVR14S271K87***	270		175	225	455					99
JVR14S301K87***	300		195	250	505					105
JVR14S331K87***	330		210	275	550					115
JVR14S361K87***	360	10%	230	300	595					130
JVR14S391K87***	390		250	320	650					140
JVR14S431K87***	430		275	350	710					155
JVR14S471K87***	470		300	385	775					175
JVR14S511K87***	510		320	418	842					190
JVR14S561K87***	560		350	460	920					205
JVR14S621K87***	620		385	505	1025					215
JVR14S681K87***	680		420	560	1120					225
JVR14S751K87***	750		460	615	1240	50	6000	2	0.6	230
JVR14S781K87***	780		485	640	1290					233
JVR14S821K87***	820		510	670	1355					235
JVR14S911K87***	910		550	745	1500					255
JVR14S102K87***	1000		625	825	1650					283
JVR14S112K87***	1100		680	895	1815					310
JVR14S122K87***	1200		720	975	1980					338
JVR14S142K87***	1400		825	1135	2310	50	6000	2	0.6	393
JVR14S162K87***	1600		920	1300	2640					450
JVR14S182K87***	1800		1000	1465	2970					510

*** Replace with Lead & Packaging code

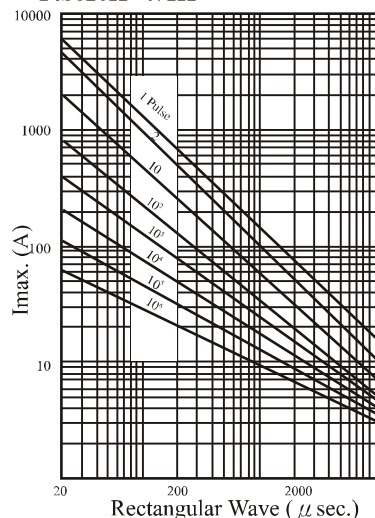
14mm PULSE LIFETIME RATINGS

14mm V-I CHARACTERISTIC CURVE

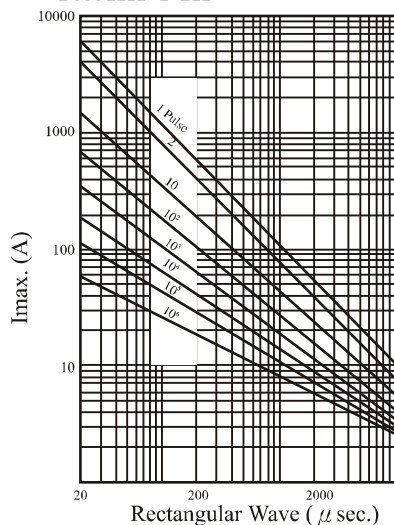
14S180M~680K



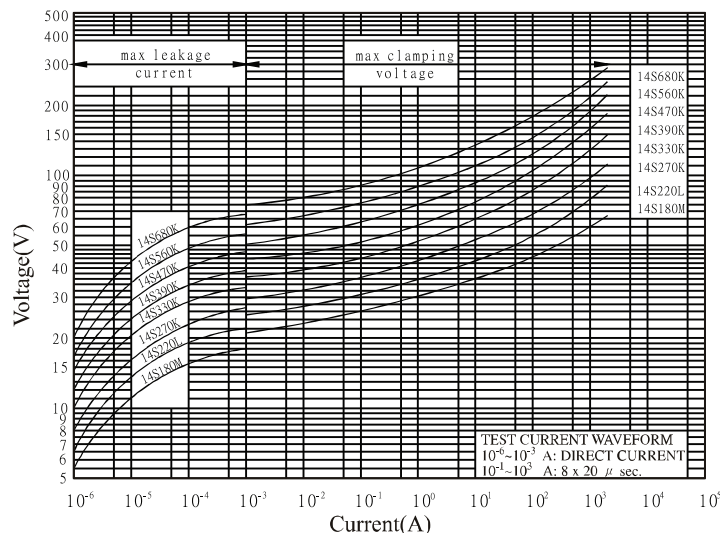
14S820K~471K



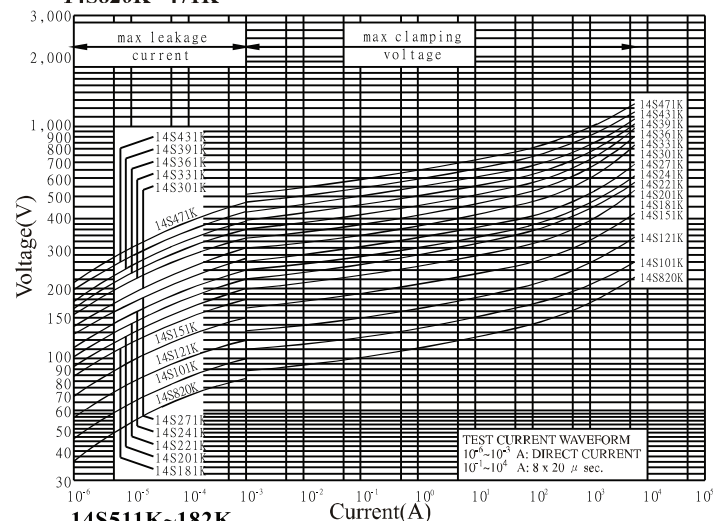
14S511K~182K



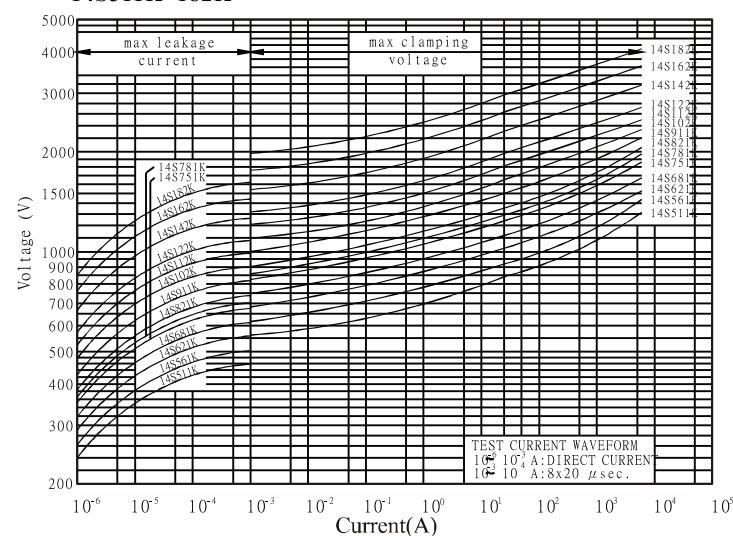
14S180M~680K



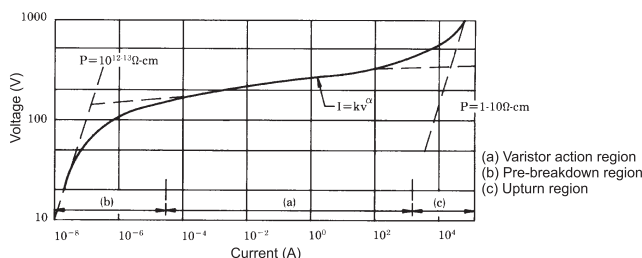
14S820K~471K



14S511K~182K

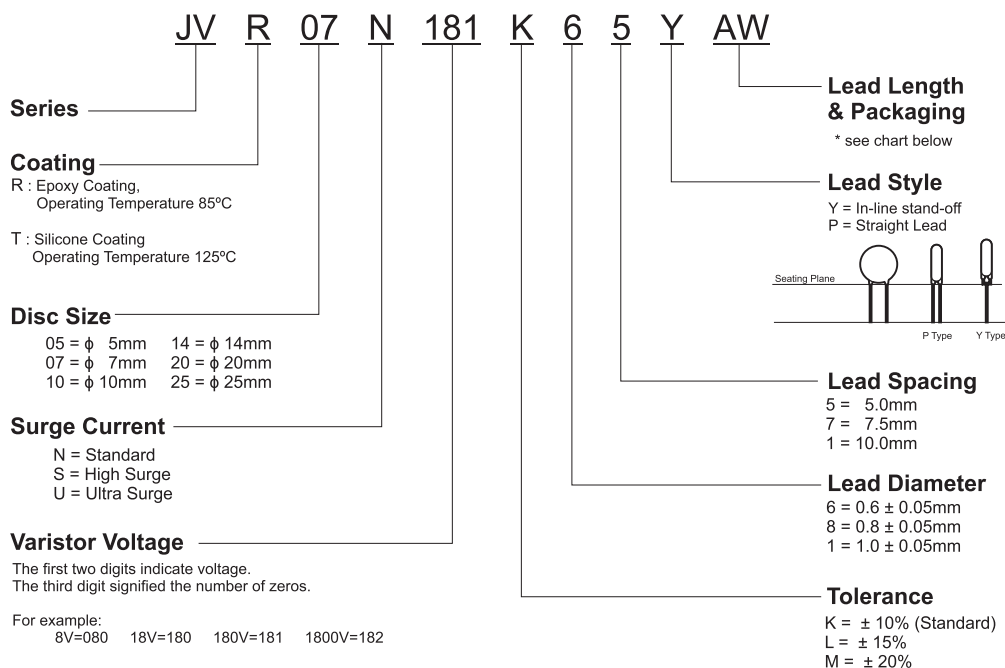


CURRENT - VOLTAGE CHARACTERISTICS

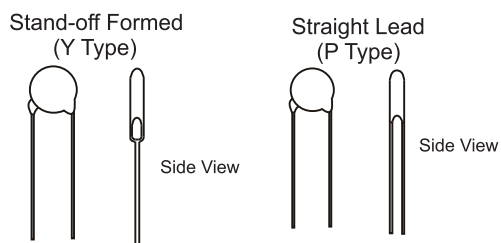


Operating & Storage Temperature Range : -40°C to +85°C
Temperature Coefficient of Voltage : 0~0.05% / °C max.

PART NUMBER EXAMPLE



LEAD LENGTH & PACKAGING

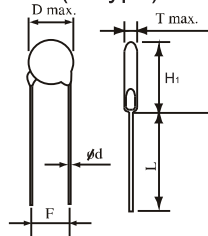


Lead Type	Code	Dimension	Package
Y Type Leads	50	L = 5 $\pm$ 1mm	Bulk
	U4	L = 24mm min.	Bulk
	AW	H0 = 16mm	Ammo
	RW	H0 = 16mm	Reel
P Type Leads	50	L = 5 $\pm$ 1mm	Bulk
	U5	L = 25mm min.	Bulk
	AY	H0 = 20mm	Ammo
	RY	H0 = 20mm	Reel

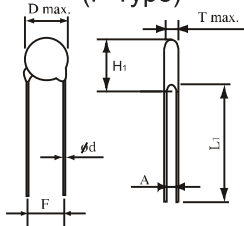
* H0 see the drawing on page 5

LEAD STYLES & DIMENSIONS (mm)

Stand-off Formed
(Y Type)



Straight Lead
(P Type)



Diameter	5mm	7mm	10mm	14mm	20mm
D max	7.5	9.0	12.5	16.5	23.0
d ± 0.05	0.6	0.6	0.8	0.8	1.0
F ± 1.0	5.0	5.0	7.5	7.5	10.0
H max.	11.0	13.0	18/*19	22/*23	28/*29
L1 max.	25.0	25.0	25.0	25.0	25.0
L min.	24.0	24.0	24.0	24.0	24.0

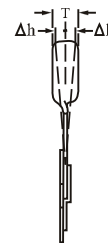
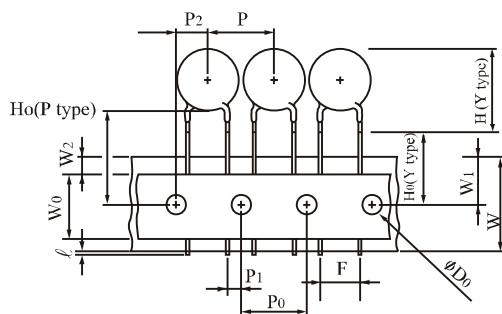
* Just for 182K

Table of T & H1 max, A ± 0.8

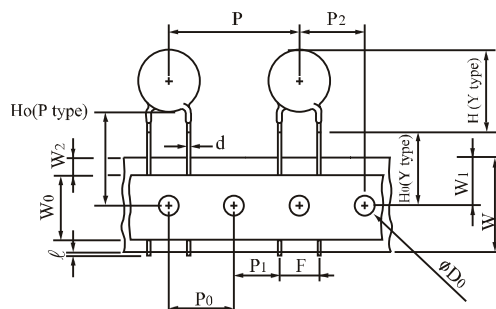
Diameter	5mm			7mm			10mm			14mm			20mm		
Value	T	A	H1	T	A	H1	T	A	H1	T	A	H1	T	A	H1
180M	4.5	0.8	10.5	4.5	0.8	12	4.9	0.8	15.5	5	0.9	19.5	—	—	—
220M/L	4.5	0.9	10.5	4.5	0.9	12	4.9	0.9	15.5	5	1	19.5	5.3	1	26.5
270M/K	4.7	0.9	10.5	4.7	0.9	12	5.1	0.9	15.5	5.2	1.1	19.5	5.4	1.1	26.5
330M/K	4.7	1	10.5	4.7	1	12	5.1	1	15.5	5.2	1.2	19.5	5.4	1.2	26.5
390L/K	4.7	1.2	10.5	4.7	1.2	12	5.1	1.2	15.5	5.2	1.4	19.5	5.4	1.4	26.5
470L/K	5	1.2	10.5	5	1.2	12	5.5	1.2	15.5	5.6	1.4	19.5	5.6	1.4	26.5
560L/K	5	1.4	10.5	5	1.4	12	5.5	1.4	15.5	5.6	1.6	19.5	5.6	1.6	26.5
680L/K	5.5	1.7	10.5	5.5	1.7	12	6	1.7	15.5	6.1	1.9	19.5	6.1	1.9	26.5
820K	3.8	0.8	10.5	3.8	0.8	12	4.3	0.8	15.5	4.4	1	19.5	5	1.1	26.5
101K	3.9	0.8	10.5	3.9	0.8	12	4.4	0.8	15.5	4.5	1	19.5	5.1	1.2	26.5
121K	4.1	0.9	10.5	4.1	0.9	12	4.5	0.9	15.5	4.6	1.1	19.5	5.3	1.3	26.5
151K	4.5	1.2	10.5	4.5	1.2	12	4.9	1.2	15.5	5.1	1.4	19.5	5.6	1.6	26.5
181K	4.1	1	10.5	4.1	1	12	4.5	1	15.5	4.7	1.2	19.5	5.2	1.4	26.5
201K	4.2	1	10.5	4.2	1	12	4.6	1	15.5	4.8	1.2	19.5	5.3	1.47	26.5
221K	4.3	1.1	10.5	4.3	1.1	12	4.7	1.1	15.5	4.9	1.3	19.5	5.4	1.5	26.5
241K	4.4	1.1	10.5	4.4	1.3	12	4.8	1.3	15.5	5	1.5	19.5	5.5	1.7	26.5
271K	4.6	1.3	10.5	4.6	1.4	12	5	1.4	15.5	5.2	1.5	19.5	5.7	1.9	26.5
301K	4.8	1.3	10.5	4.8	1.5	12	5.2	1.6	15.5	5.4	1.7	19.5	5.9	2.1	26.5
331K	4.9	1.3	10.5	4.9	1.5	12	5.3	1.6	15.5	5.5	1.7	19.5	6	2.1	26.5
361K	5.1	1.8	10.5	5.1	1.9	12	5.5	1.9	15.5	5.7	2.1	19.5	6.2	2.3	26.5
391K	5.3	2	11	5.3	2	12.5	5.7	2.2	16	5.9	2.2	20	6.4	2.4	26.5
431K	6.1	2.1	11	6.1	2	12.5	6.5	2.5	16	6.7	2.5	20	7.2	2.7	26.5
471K	6.4	2.2	11	6.4	2.3	12.5	6.8	2.6	16	7	2.7	20	7.5	2.9	27
511K	6.6	2.5	11.5	6.6	2.5	13	7	3.1	16.5	7.2	3.1	20.5	7.7	3.3	27
561K	6.9	2.8	11.5	6.9	2.8	13	7.3	3.4	16.5	7.5	3.4	20.5	8	3.6	27
621K	7.2	3.1	11.5	7.2	3.1	13	7.6	4	16.5	7.8	3.8	20.5	8.3	4.1	27
681K	7.5	3.4	11.5	7.5	3.4	13	8	4.4	16.5	8.2	4.1	20.5	8.7	4.4	27
751K	7.9	3.7	11.5	7.9	3.7	13	8.4	4.4	16.5	8.6	4.3	20.5	9.1	4.5	27
781K	—	—	—	8.1	3.9	13	8.6	4.6	16.5	8.8	4.6	20.5	9.3	4.8	27
821K	—	—	—	8.3	4.1	13	8.8	4.6	16.5	9	4.6	20.5	9.5	4.8	27
911K	—	—	—	—	—	—	9.4	5.4	16.5	9.6	5.4	20.5	10.1	5.7	27
102K	—	—	—	—	—	—	9.9	5.4	16.5	10.1	5.6	20.5	10.7	5.8	27
112K	—	—	—	—	—	—	10.5	5.7	16.5	10.7	6.1	20.5	11.2	6.3	27
122K	—	—	—	—	—	—	10.9	6.3	17	10.9	6.7	21	11.3	6.9	27.5
142K	—	—	—	—	—	—	11.9	7.4	17.5	11.9	7.8	21.5	12.8	8	28
162K	—	—	—	—	—	—	13.1	8.6	18	13.1	9	22	13.7	9.2	28.5
182K	—	—	—	—	—	—	14.3	9.8	18.5	14.3	10.2	22.5	14.7	10.4	29

TAPING SPECIFICATIONS

1/2" pitch



1.0" pitch

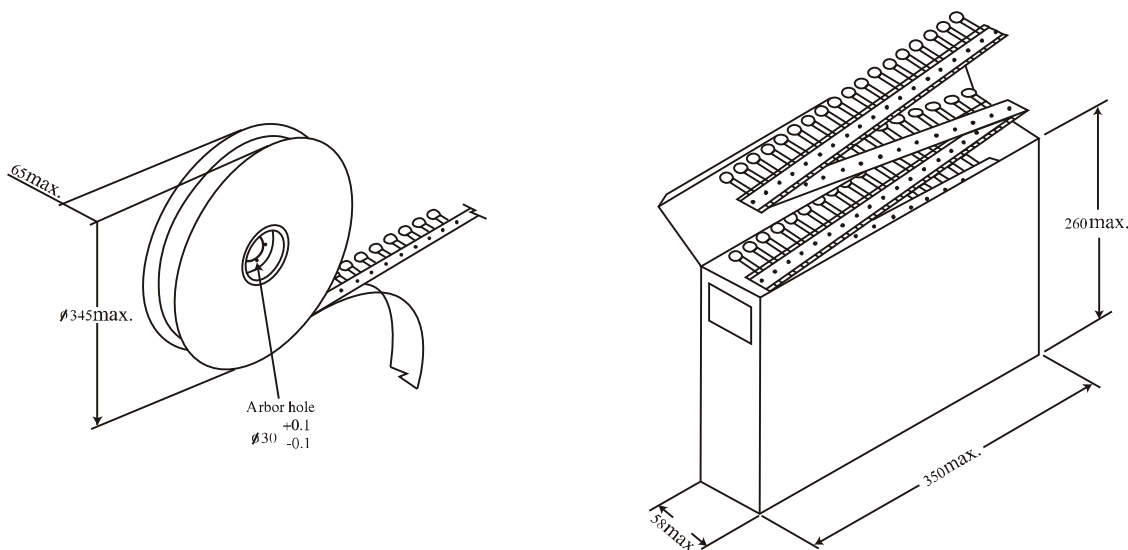


Symbols	Item	5 / 7 mm	10 / 14mm	20mm
	Cut out length	1.1 mm max.	1.1 mm max.	
H (Y Type)	Height of Top	See H Max. Table on page 4		
H ₀ (Y Type)	Height to seating plane	16.0 ± 0.5mm (*±1.0mm)	16.0 ± 0.5mm (*±1.0mm)	
H ₀ (P Type)	Height of component from hole center	16.0 ~ 21.0 mm	16.0 ~ 21.0 mm	
Δ h	Front to back deviation	0 ± 2.0 mm	0 ± 2.0 mm	
W	Carrier tape width	18.0 ^{+1.0} _{-0.5} mm	18.0 ^{+1.0} _{-0.5} mm	
W ₀	Hold down tape width	10.0mm	10.0mm	
W ₁	Sprocket hole position	9.0 ^{+0.75} _{-0.5} mm	9.0 ^{+0.75} _{-0.5} mm	
W ₂	Adhesive tape position	3.0 mm max.	3.0 mm max.	
F	Component head spacing	5.0 ^{+0.8} _{-0.2} mm	7.5 ^{+0.8} _{-0.2} mm	10 ^{+0.8} _{-0.2} mm
P	Pitch of component	12.7 ± 1.0 mm	25.4 ± 1.0 mm	
P ₀	Sprocket hole pitch	12.7 ± 0.3 mm	12.7 ± 0.3 mm	
P ₁	Lead length from hole center to lead	3.85 ± 0.7 mm	8.95 ± 0.7 mm	7.7 ± 0.7 mm
P ₂	Length from hole center to disk center	6.35 ± 1.3 mm	12.7 ± 1.3 mm	
D ₀	Sprocket hole diameter	4.0 ± 0.2 mm	4.0 ± 0.2 mm	
d	Lead wire diameter	0.6 ± 0.05 mm	0.8 ± 0.05 mm	1.0 ± 0.05 mm
T	Disk thickness	See Table of T Max. on page 4		
t1	Total thickness tape	0.7 ± 0.05 mm	0.7 ± 0.05 mm	
t2	Total thickness	1.6 mm max.	1.8 mm max.	

* for manual line

PACKAGING

in mm



Quantity per Packing Unit

in Pcs

Series Part No.	5mm			7mm			10mm			14mm			20mm		
	Bulk (box)	Reel	Ammo	Bulk (box)	Reel	Ammo	Bulk (box)	Reel	Ammo	Bulk (box)	Reel	Ammo	Bulk (box)	Reel	Ammo
180M ~ 470K	5000	1500	1500	5000	1500	1500	2500	1000	500	1500	750	500	750	500	500
560K ~ 680K	5000	1500	1000	5000	1500	1000	2500	1000	500	1500	750	500	750	500	500
820K ~ 391K	5000	1500	1500	5000	1500	1500	2500	1000	500	1500	750	500	750	500	500
431K ~ 471K	5000	1500	1000	5000	1000	1000	2000	750	500	1500	750	500	750	500	500
511K ~ 821K	4000	1000	1000	4000	1000	1000	1500	500	500	750	500	500	450	500	500
911K ~ 122K	---	---	---	---	---	---	1500	500	350	750	500	350	450	---	---
142K ~ 182K	---	---	---	---	---	---	750	---	---	450	---	---	300	---	---

Packaging	Bulk (box)	Reel	Reel (14mm, 20mm)	Ammo (5mm, 7mm)	Ammo (10mm, 14mm)	Ammo (20mm)
Box size (mm)	290*155*110	350*350*105	346*346*72	335*245*43	347*246*50	348*255*60
Carton size (mm)	328*310*250	370*370*590	370*370*468	515*354*258	515*364*246	535*365*275
One carton with	4 boxes	5 boxes (10 reels)	6 boxes (6 reels)	10 boxes	8 boxes	8 boxes