

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

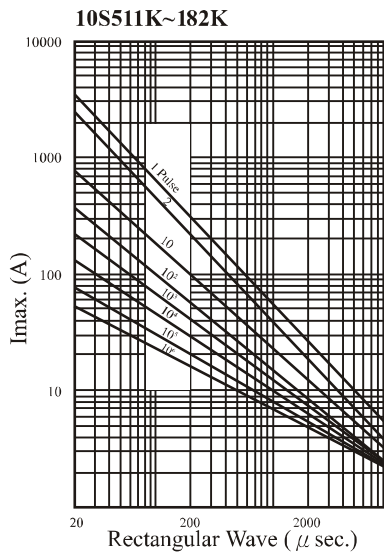
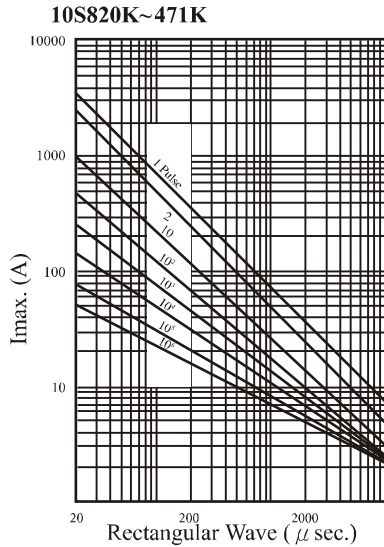
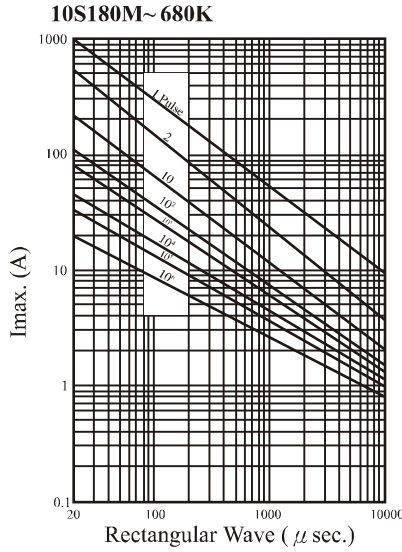
Agency	File Number	Monogram
UL/cUL	E325508	
VDE	Certificate No. 005937	
CQC	CQC07001019159 /9161/9162/9163/9164	

CHARACTERISTICS & RATINGS

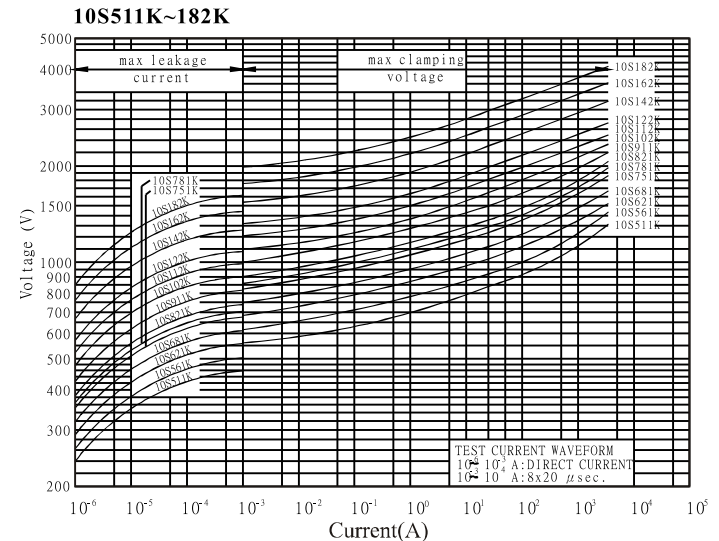
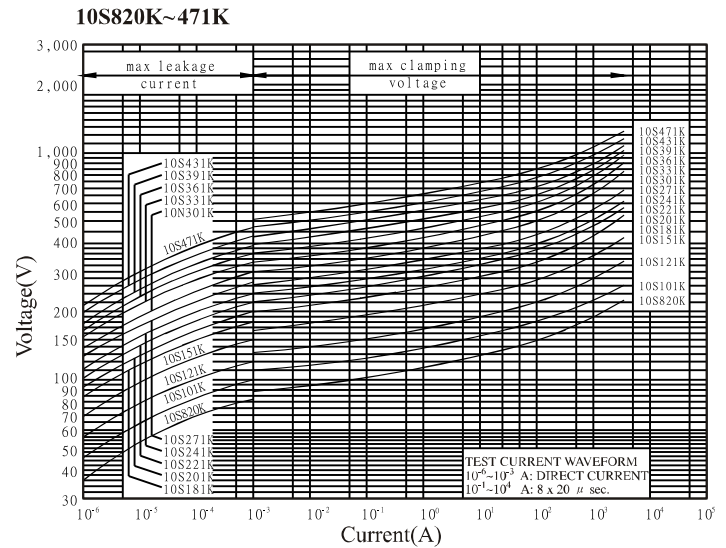
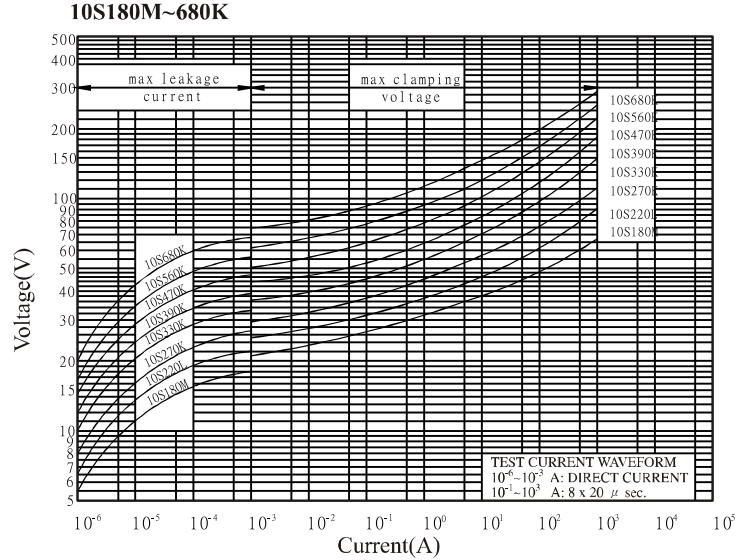
Part Number	Varistor Voltage at 0.1mA		Maximum Allowable Voltage		Maximum Clamping Voltage		Withstanding Surge Current (8/20µs)	Nominal Discharge Current (8/20µs)	Rated Wattage (W)	Energy (10/1000µs) (J)
	DC (V)	Tolerance	AC rms (V)	DC (V)	V@ic (V)	ic (A)				
JVR10S180M87***	18	20%	11	14	36	5	1000	0.75	0.05	2.6
JVR10S220L87***	22	15%	14	18	43					3.2
JVR10S270K87***	27	10%	17	22	53					3.9
JVR10S330K87***	33		20	26	65					4.8
JVR10S390K87***	39		25	31	77					5.6
JVR10S470K87***	47		30	38	93					6.8
JVR10S560K87***	56		35	45	110					8.1
JVR10S680K87***	68		40	56	135					9.8
JVR10S820K87***	82		50	65	135					14
JVR10S101K87***	100		60	85	165					18
JVR10S121K87***	120		75	100	200					22
JVR10S151K87***	150		95	125	250					25
JVR10S181K87***	180		115	150	300					32
JVR10S201K87***	200		130	170	340					35
JVR10S221K87***	220		140	180	360	39				
JVR10S241K87***	240		150	200	395	42				
JVR10S271K87***	270	175	225	455	49					
JVR10S301K87***	300	195	250	505	52					
JVR10S331K87***	330	210	275	550	58					
JVR10S361K87***	360	230	300	595	65					
JVR10S391K87***	390	250	320	650	70					
JVR10S431K87***	430	275	350	710	80					
JVR10S471K87***	470	300	385	775	85					
JVR10S511K87***	510	320	418	842	92					
JVR10S561K87***	560	350	460	920	102					
JVR10S621K87***	620	385	505	1025	107					
JVR10S681K87***	680	420	560	1120	112					
JVR10S751K87***	750	460	615	1240	115					
JVR10S781K87***	780	485	640	1290	116					
JVR10S821K87***	820	510	670	1355	118					
JVR10S911K87***	910	550	745	1500	127					
JVR10S102K87***	1000	625	825	1650	140					
JVR10S112K87***	1100	680	895	1815	155					
JVR10S122K87***	1200	720	975	1980	168					
JVR10S142K87***	1400	825	1135	2310	195					
JVR10S162K87***	1600	920	1300	2640	222					
JVR10S182K87***	1800	1000	1465	2970	247					

*** Replace with Lead & Packaging code

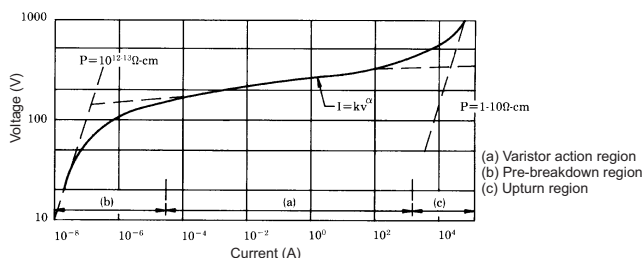
■ 10mm PULSE LIFETIME RATINGS



■ 10mm V-I CHARACTERISTIC CURVE



CURRENT - VOLTAGE CHARACTERISTICS



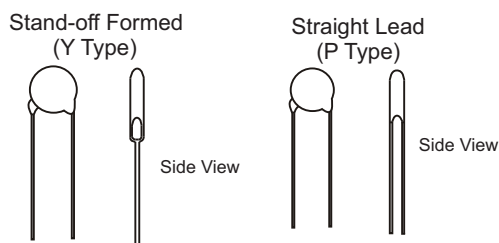
Operating & Storage Temperature Range : -40°C to +85°C
 Temperature Coefficient of Voltage : 0~0.05% / °C max.

PART NUMBER EXAMPLE

JV R 07 N 181 K 6 5 Y AW

- Series**: JV
- Coating**: R: Epoxy Coating, Operating Temperature 85°C; T: Silicone Coating, Operating Temperature 125°C
- Disc Size**: 05 = φ 5mm, 14 = φ 14mm, 07 = φ 7mm, 20 = φ 20mm, 10 = φ 10mm, 25 = φ 25mm
- Surge Current**: N = Standard, S = High Surge, U = Ultra Surge
- Varistor Voltage**: The first two digits indicate voltage. The third digit signified the number of zeros.
 For example: 8V=080, 18V=180, 180V=181, 1800V=182
- Lead Length & Packaging**: * see chart below
- Lead Style**: Y = In-line stand-off, P = Straight Lead
- Lead Spacing**: 5 = 5.0mm, 7 = 7.5mm, 1 = 10.0mm
- Lead Diameter**: 6 = 0.6 ± 0.05mm, 8 = 0.8 ± 0.05mm, 1 = 1.0 ± 0.05mm
- Tolerance**: K = ± 10% (Standard), L = ± 15%, M = ± 20%

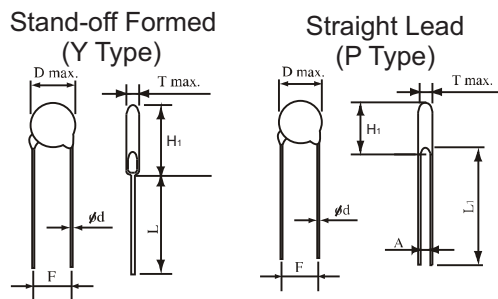
LEAD LENGTH & PACKAGING



Lead Type	Code	Dimension	Package
Y Type Leads	50	L = 5 ± 1mm	Bulk
	U4	L = 24mm min.	Bulk
	AW	H ₀ = 16mm	Ammo
	RW	H ₀ = 16mm	Reel
P Type Leads	50	L = 5 ± 1mm	Bulk
	U5	L = 25mm min.	Bulk
	AY	H ₀ = 20mm	Ammo
	RY	H ₀ = 20mm	Reel

* H₀ see the drawing on page 5

LEAD STYLES & DIMENSIONS (mm)



Diameter	5mm	7mm	10mm	14mm	20mm
D max	7.5	9.0	12.5	16.5	23.0
d \pm 0.05	0.6	0.6	0.8	0.8	1.0
F \pm 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

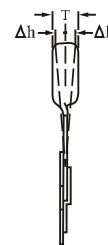
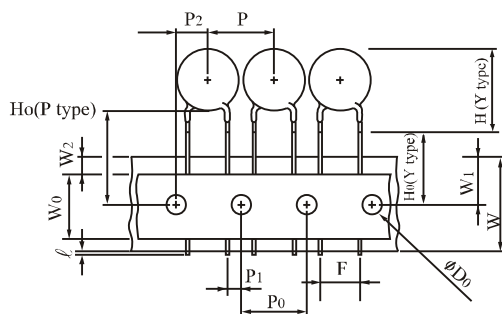
* Just for 182K

Table of T & H₁ max, A \pm 0.8

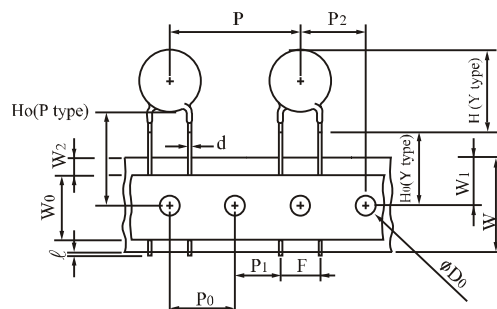
Diameter	5mm			7mm			10mm			14mm			20mm		
	T	A	H ₁	T	A	H ₁	T	A	H ₁	T	A	H ₁	T	A	H ₁
180M	4.5	0.8	10.5	4.5	0.8	12	4.9	0.8	15.5	5	0.9	19.5	---	---	---
220M/L	4.5	0.9	10.5	4.5	0.9	12	4.9	0.9	15.5	5	1	19.5	5.3	1	26.5
270M/K	4.7	0.9	10.5	4.7	0.9	12	5.1	0.9	15.5	5.2	1.1	19.5	5.4	1.1	26.5
330M/K	4.7	1	10.5	4.7	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

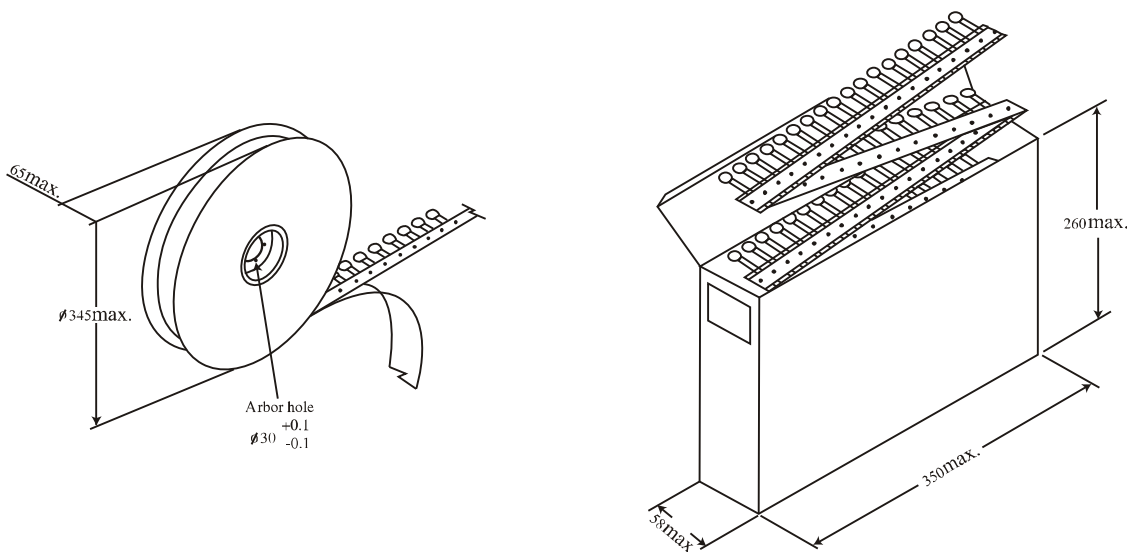


Symbols	Item	5 / 7 mm	10 / 14mm	20mm
	Cut out length	1.1 mm max.	1.1 mm max.	
H (Y Type)	Height of Top	See H Max. Table on page 4		
Ho (Y Type)	Height to seating plane	16.0 ± 0.5mm (*±1.0mm)	16.0 ± 0.5mm (*±1.0mm)	
Ho (P Type)	Height of component from hole center	16.0 ~ 21.0 mm	16.0 ~ 21.0 mm	
Δ h	Front 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	
W0	Hold down tape width	10.0mm	10.0mm	
W1	Sprocket hole position	9.0 ^{+0.75} / _{-0.5} mm	9.0 ^{+0.75} / _{-0.5} mm	
W2	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	
P0	Sprocket hole pitch	12.7 ± 0.3 mm	12.7 ± 0.3 mm	
P1	Lead length from hole center to lead	3.85 ± 0.7 mm	8.95 ± 0.7 mm	7.7 ± 0.7 mm
P2	Length from hole center to disk center	6.35 ± 1.3 mm	12.7 ± 1.3 mm	
D0	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