

Disc Type Capacitors with Lead

High Voltage Ceramic Capacitors

Commercial Grade, Low dissipation at high frequency

CC45 series

Type: CC45 [SL characteristics, Edc: 1kV to 6kV]



REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using these products.

REMINDERS

- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

(1) Aerospace/Aviation equipment	(8) Public information-processing equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)	(9) Military equipment
(3) Medical equipment	(10) Electric heating apparatus, burning equipment
(4) Power-generation control equipment	(11) Disaster prevention/crime prevention equipment
(5) Atomic energy-related equipment	(12) Safety equipment
(6) Seabed equipment	(13) Other applications that are not considered general-purpose applications
(7) Transportation control equipment	
- Please refer to the guideline of notabilia for fixed ceramic capacitors issued by JEITA(Japan Electronics and Information Technology Association, EIAJ RCR-2335).

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

Disc Type Capacitors with Lead

Product compatible with RoHS directive
Halogen-free

High Voltage Ceramic Capacitors, Commercial Grade, Low dissipation at high frequency

Overview of CC45 Series

FEATURES

- Low dissipation factor, and decreased self-heating temperature in the high frequency, and high voltage application.
- The rated voltage of 6kV series have been added the rated voltage of 3kV series.
- These products shall conform to RoHS Directive due to lead(Pb) free of lead wire and internal solder material.
- Compatible with halogen-free external resin coating.

APPLICATION

For use in snubber circuit protection for power supplies

PART NUMBER CONSTRUCTION

CC45	SL	3AD	101	J	Y		N	A
Series name*	Temperature characteristics	Rated voltage	Nominal capacitance	Capacitance tolerance	Class	Lead type	Application classification	Internal code
	SL	+350 to -1000ppm/°C	3AD 1kV 3DD 2kV 3FD 3kV 3JD 6kV	030 3pF 220 22pF 471 470pF	C ±0.25pF D ±0.5pF J ±5%	G Long lead N Short lead V Taping	N General use	A Halogen-free

* Please refer to P-5~8 about the product dimensions.

OPERATING TEMPERATURE RANGE

Temperature characteristics	Temperature range*	
	Operating temperature (°C)	Storage temperature** (°C)
SL	-25 to +125	-25 to +125

* The maximum operating temperature of 125°C includes capacitor self-generated heat of up to 20°C.

** The storage temperature range applies to after MLCC is mounted on board.

PACKAGE QUANTITY

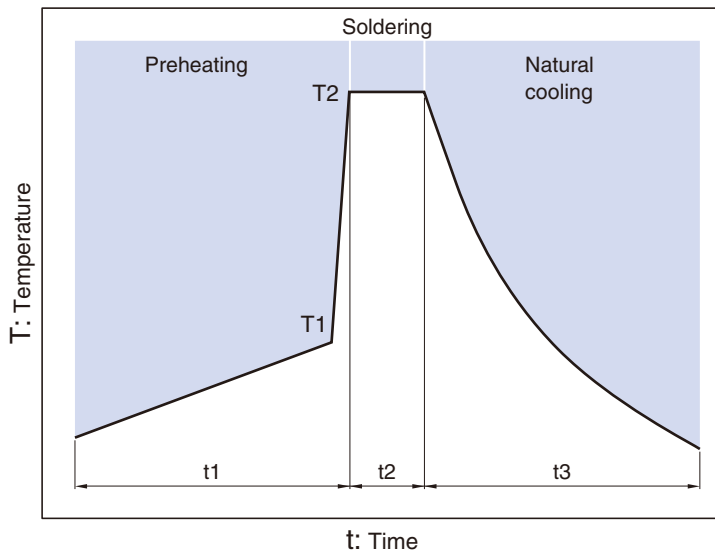
Type	Package quantity	
	Taping (pieces / box)	Bulk (pieces / bag)
CC45	1000	1000

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

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Overview of CC45 Series

RECOMMENDED FLOW PROFILE



Preheating		Peak		Natural cooling
Temp.	Time	Temp.	Time	Time
T1	t1	T2	t2	t3
110°C min.	30 to 60s.	260°C	Within 10s.	Over 60s.

CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 1kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD100JY□NA**
12	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD120JY□NA
15	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD150JY□NA
18	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD180JY□NA
22	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD220JY□NA
27	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD270JY□NA
33	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD330JY□NA
39	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD390JY□NA
47	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD470JY□NA
56	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD560JY□NA
68	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD680JY□NA
82	±5%	6.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD820JY□NA
100	±5%	6.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD101JY□NA
120	±5%	7.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD121JY□NA
150	±5%	7.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD151JY□NA
180	±5%	8.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD181JY□NA
220	±5%	8.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD221JY□NA
270	±5%	9.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD271JY□NA
330	±5%	10.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD331JY□NA
390	±5%	10.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD391JY□NA
470	±5%	11.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3AD471JY□NA

* The part numbers are TDK's standard specification products.

** The "□" of the Part Number contains the lead type, G, N or V. Please refer to the details of each shape is shown below.

*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

	Symbol G Bulk/Long lead	Symbol N Bulk/Short lead	Symbol V Taping
Vertical kink			

- TDK's standard product is vertical kink.
- TDK's recommendation is short lead type with the symbol N for bulk products.

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CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 2kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD100JY□NA**
12	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD120JY□NA
15	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD150JY□NA
18	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD180JY□NA
22	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD220JY□NA
27	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD270JY□NA
33	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD330JY□NA
39	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD390JY□NA
47	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD470JY□NA
56	±5%	6.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD560JY□NA
68	±5%	6.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD680JY□NA
82	±5%	7.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD820JY□NA
100	±5%	7.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD101JY□NA
120	±5%	8.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD121JY□NA
150	±5%	8.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD151JY□NA
180	±5%	9.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD181JY□NA
220	±5%	10.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD221JY□NA
270	±5%	11.0	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD271JY□NA
330	±5%	11.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD331JY□NA
390	±5%	12.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD391JY□NA

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*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

	Symbol G Bulk/Long lead	Symbol N Bulk/Short lead	Symbol V Taping
Vertical kink			

- TDK's standard product is vertical kink.
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CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 3kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD100JY□NA**
12	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD120JY□NA
15	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD150JY□NA
18	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD180JY□NA
22	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD220JY□NA
27	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD270JY□NA
33	±5%	6.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD330JY□NA
39	±5%	6.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD390JY□NA
47	±5%	6.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD470JY□NA
56	±5%	7.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD560JY□NA
68	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD680JY□NA
82	±5%	8.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD820JY□NA
100	±5%	8.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD101JY□NA
120	±5%	9.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD121JY□NA
150	±5%	10.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD151JY□NA
180	±5%	11.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD181JY□NA
220	±5%	12.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD221JY□NA

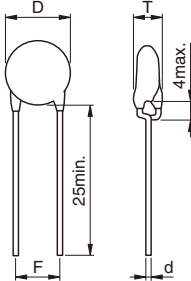
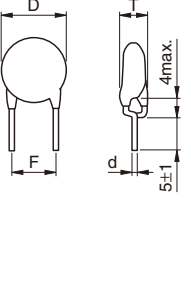
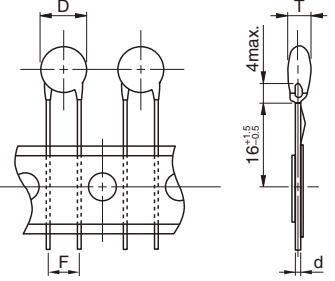
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*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

Dimensions in mm

	Symbol G Bulk/Long lead	Symbol N Bulk/Short lead	Symbol V Taping
Vertical kink			

- TDK's standard product is vertical kink.
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CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 6kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
3	±0.25pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD030CY□NA**
5	±0.5pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD050DY□NA
8	±0.5pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD080DY□NA
10	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD100JY□NA
12	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD120JY□NA
15	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD150JY□NA
18	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD180JY□NA
22	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD220JY□NA
27	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD270JY□NA
33	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD330JY□NA
39	±5%	8.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD390JY□NA
47	±5%	8.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD470JY□NA

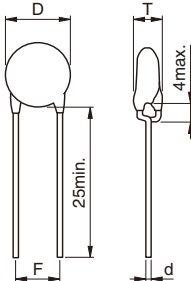
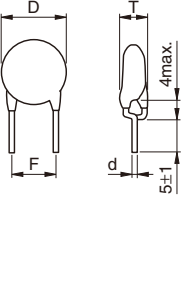
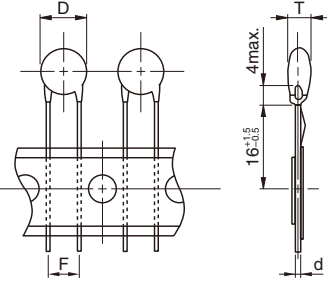
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LIST OF STANDARD LEAD SHAPES

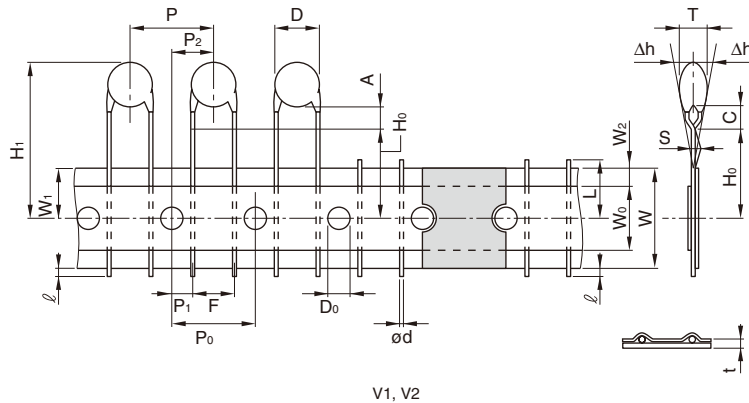
Dimensions in mm

	Symbol G Bulk/Long lead	Symbol N Bulk/Short lead	Symbol V Taping
Vertical kink			

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- TDK's recommendation is short lead type with the symbol N for bulk products.

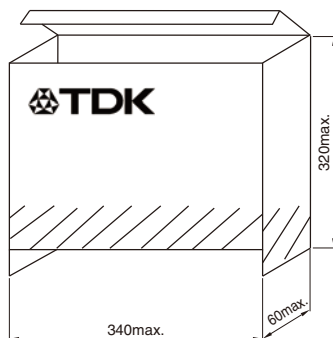
CC45 Type

TAPING DIMENSIONS



Item	Symbol	Dimensions(mm)		Remarks
		V1	V2	
Body diameter	D	Depends on the specification of each product.		
Body thickness	T	Depends on the specification of each product.		
Lead-wire diameter	ød	0.6±0.05	0.6±0.05	
Pitch of component	P	12.7±1.0	15.0±1.0	Including the slant of body
Feed hole pitch	P0	12.7±0.3	15.0±0.3	Excepting the tape splicing part
Feed hole center to lead	P1	3.85±0.7	3.75±0.7	
Feed hole center to component center	P2	6.35±1.3	7.5±1.3	
Lead-to lead distance	F	5+0.8, -0.2	7.5±0.8	Measuring point is bottom kink
Component alignment	Δh	0±2.0	0±2.0	Including the slanting body due to bending lead-wire
Tape width	W	18.0+1.0, -0.5	18.0+1.0, -0.5	
Adhesive tape width	W0	10.0min.	10.0min.	
Hole position	W1	9.0±0.5	9.0±0.5	
Adhesive tape position	W2	4.0max.	4.0max.	Adhesive tape do not stick out the tape
Bottom of kink from tape center	H0	16.0+1.5, -0.5	16.0+1.5, -0.5	
Height of body from tape center	H1	46.0max.	46.0max.	
Lead-wire protrusion	ℓ	1.0max.	1.0max.	
Feed hole diameter	D0	4.0±0.2	4.0±0.2	
Total tape thickness	t	0.6±0.3	0.6±0.3	Including adhesive tape
Length of snapped lead	L	11.0max.	11.0max.	
Coating on lead	C	4.0max.	4.0max.	
Height of kink	A	4.0max.	4.0max.	Measuring point is bottom kink
Spring action	S	2.0max.	2.0max.	

AMMO PACK INNER BOX SIZE



Dimensions in mm

• For more information about products with other capacitance or other data, please contact us.

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Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

TDK:

CC45SL3AD391JYNNA	CC45SL3DD151JYNNA	CC45SL3FD820JYNNA	CC45SL3AD120JYNNA
CC45SL3AD150JYNNA	CC45SL3AD221JYNNA	CC45SL3AD121JYNNA	CC45SL3DD121JYNNA
CC45SL3DD820JYNNA	CC45SL3FD270JYNNA	CC45SL3FD330JYNNA	CC45SL3FD560JYNNA
CC45SL3FD680JYNNA	CC45SL3JD100JYNNA	CC45SL3AD331JYNNA	CC45SL3AD181JYNNA
CC45SL3AD100JYNNA	CC45SL3FD390JYNNA	CC45SL3DD150JYNNA	CC45SL3JD150JYNNA
CC45SL3AD471JYNNA	CC45SL3AD820JYNNA	CC45SL3DD181JYNNA	CC45SL3DD270JYNNA
CC45SL3DD390JYNNA	CC45SL3DD470JYNNA	CC45SL3DD560JYNNA	CC45SL3DD680JYNNA
CC45SL3FD151JYNNA	CC45SL3FD181JYNNA	CC45SL3JD120JYNNA	CC45SL3JD180JYNNA
CC45SL3JD270JYNNA	CC45SL3JD330JYNNA	CC45SL3AD180JYNNA	CC45SL3FD221JYNNA
CC45SL3FD150JYNNA	CC45SL3AD470JYNNA	CC45SL3AD390JYNNA	CC45SL3AD680JYNNA
CC45SL3DD120JYNNA	CC45SL3DD391JYNNA	CC45SL3FD470JYNNA	CC45SL3JD220JYNNA
CC45SL3DD100JYGNA	CC45SL3AD151JYNNA	CC45SL3AD471JYGNA	CC45SL3JD050DYNNA
CC45SL3FD180JYNNA	CC45SL3AD270JYNNA	CC45SL3AD330JYNNA	CC45SL3DD101JYNNA
CC45SL3FD101JYNNA	CC45SL3FD121JYNNA	CC45SL3AD271JYNNA	CC45SL3AD220JYNNA
CC45SL3AD330JYVNA	CC45SL3AD150JYVNA	CC45SL3FD181JYGNA	CC45SL3DD101JYVNA
CC45SL3FD680JYVNA	CC45SL3JD050DYGNA	CC45SL3JD050DYVNA	CC45SL3FD101JYGNA
CC45SL3JD390JYVNA	CC45SL3FD220JYGNA	CC45SL3DD151JYGNA	CC45SL3JD080DYGNA
CC45SL3DD120JYVNA	CC45SL3AD120JYGNA	CC45SL3FD470JYVNA	CC45SL3FD390JYVNA
CC45SL3DD270JYGNA	CC45SL3DD271JYVNA	CC45SL3AD220JYVNA	CC45SL3DD151JYVNA
CC45SL3JD150JYVNA	CC45SL3DD121JYVNA	CC45SL3AD331JYGNA	CC45SL3FD560JYVNA
CC45SL3DD101JYGNA	CC45SL3JD220JYGNA	CC45SL3JD150JYGNA	CC45SL3AD120JYVNA
CC45SL3FD220JYVNA	CC45SL3AD470JYVNA	CC45SL3FD100JYVNA	CC45SL3AD151JYVNA
CC45SL3DD120JYGNA	CC45SL3JD390JYNNA	CC45SL3JD030CYNNA	CC45SL3FD150JYGNA
CC45SL3DD330JYGNA	CC45SL3DD150JYGNA	CC45SL3AD100JYVNA	CC45SL3FD151JYGNA
CC45SL3DD331JYVNA	CC45SL3FD330JYGNA	CC45SL3AD390JYVNA	CC45SL3JD470JYGNA