

Disc Type Capacitors with Lead

High Voltage Ceramic Capacitors Automotive Grade

Safety Standard Approved CS series

Issue date: March 2013

• All specifications are subject to change without notice.

• Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

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BASIC INSULATION TYPE CLASS 2 HIGH DIELECTRIC

FEATURES

- AEC-Q200 compliant.
- 1,000 cycles guaranteed under heat shock testing at -55°C to +125°C.
- It can be used as a Y capacitor for battery chargers used in automobiles (EV, PHEV).
- Compliant with IEC and the safety standards of various countries.
- · Rated at a withstand voltage of AC.2600V.
- Compatible with halogen-free external resin coating.

OPERATING TEMPERATURE RANGE: -40 to +125°C

TEMPERATURE CHARACTERISTICS AND TOLERANCE

Tomporaturo oboractoristico	Test temperature	Capacitance
remperature characteristics	range	tolerance
SL (+350 to -1000ppm/°C)	+20 to +85°C	J (±5%)
B (±10%)	–25 to +85°C	K (±10%)
Z5U (+22, -56%)	+10 to +85°C	M (±20%)

PRODUCT IDENTIFICATION

CS	80	ΖU	2GA	222	М	А	Ν	Κ	Α
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

- (1) Type
- (2) Shape
- (3) Temperature characteristics
- (4) Rated voltage
- (5) Nominal capacitance
- (6) Capacitance tolerance
- (7) For use in automobiles
- (8) Lead type
- (9) Safety standard
- (10) Halogen-free compatible product

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CAPACITANCE AND DIMENSIONS

Davit Na	Temperature characteristics	Capacitance	Capacitance Capacitance		Dimensions (mm)			
Fait No.		(pF)	tolerance	D max.	T max.	F	d	dimensions
CS45SL2GA100JA□*KA		10	J (±5%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS45SL2GA150JA□KA		15	J (±5%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS45SL2GA220JA□KA	-	22	J (±5%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS45SL2GA330JA□KA	SL (+350 to -1000ppm/°C)	33	J (±5%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS45SL2GA470JA□KA	_	47	J (±5%)	8.0	7.0	7.5±1.5	0.6±0.05	V2
CS45SL2GA680JA□KA		68	J (±5%)	9.0	7.0	7.5±1.5	0.6±0.05	V2
CS65-B2GA101KADKA		100	K (±10%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS65-B2GA151KA□KA	B (±10%)	150	K (±10%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS65-B2GA221KA□KA		220	K (±10%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS70-B2GA331KA□KA		330	K (±10%)	7.5	7.0	7.5±1.5	0.6±0.05	V2
CS75-B2GA471KA□KA		470	K (±10%)	9.0	7.0	7.5±1.5	0.6±0.05	V2
CS85-B2GA681KA□KA		680	K (±10%)	9.5	7.0	7.5±1.5	0.6±0.05	V2
CS65ZU2GA102MA□KA		1,000	M (±20%)	7.0	7.0	7.5±1.5	0.6±0.05	V2
CS75ZU2GA152MA□KA	Z5U (+22, –56%)	1,500	M (±20%)	8.0	7.0	7.5±1.5	0.6±0.05	V2
CS80ZU2GA222MA□KA		2,200	M (±20%)	9.5	7.0	7.5±1.5	0.6±0.05	V2
CS95ZU2GA332MA□KA		3,300	M (±20%)	12.0	7.0	7.5±1.5	0.6±0.05	V2
CS11ZU2GA472MA□KA	_	4,700	M (±20%)	13.5	7.0	7.5±1.5	0.6±0.05	V2

* 🗆 : Lead shape symbol

LIST OF STANDARD LEAD SHAPES

The lead type is indicated by the letter which is the 15th character of the product name.

Example) TDK Product Name: CS80ZU2GA222MANKA

N: Lead type (Vertical kink, Short)



• We recommend using a vertical kink type.

• For bulk products, we recommend a short lead type with the symbol N.

MARKINGS

Item	Markings	Specifications	Marking examples		
1. Series	CS	CS series	\bigcirc		
2. Nominal capacitance	222	2200pF	CS222M		
3. Capacitance tolerance	М	±20%	$\begin{pmatrix} 440 \sim X1 \\ 300 \sim Y2 \end{pmatrix}$		
4. Rated voltage Eac	440~X1	X1: AC.440V	$\bigtriangleup 29$		
	300~Y2	Y2: AC.300V			
5. TDK's logogram	\bigcirc	Production base code	Н Н		
6. Date code	29	2012.9*			
7. Applications	_	For use in automobiles	(Marking position is reference.)		
	(Underscore below date of production)				

* Year and month of production: last digit of year + month denoted by 1, 2, 3, 4, 5, 6, 7, 8, 9, O (October), N (November), or D (December). * The expression has become simplified due to a revision in the standards.

CERTIFIED STATUS OF VARIOUS COUNTRIES

Safety	Standard Na	Temperature	Insulation	Datad valtage	Approval report No.		
standard	standard No.	characteristics	sub-class	Haleu vollage	Taiwan	Xiamen	
BSI	BS EN60384-14		X1, Y2		KM37103	KM37103	
VDE	EN 60384-14				40017930	40017930	
SEV	EN 60384-14				12.0263	12.0263	
SEMKO	EN 60384-14				1125249	1125249	
NEMKO	EN 60384-14				P12215336	P12215336	
DEMKO	EN 60384-14			X1: AC.440V	D-01153	D-01153	
FIMKO	EN 60384-14			Y2: AC.300V	FI 27399	FI 27399	
IMQ	EN 60384-14				V3692	V3692	
SAA	AS3250				CS6268	CS6268	
UL	UL 60384-14				E37861	E37861	
CSA	CAN/CSA-E60384-14	_			1785515	1785515	
CQC	GB/T14472-1998				CQC12001082619	CQC10001052862	

• Certificate numbers shall be changed owing to the revisions of the related standards.

TAPING DIMEMSIONS VERTICAL KINK LEAD TYPE



Itom	Cumba	Dimensions(mm)			Pomorko
Item	Symbo	V1	V2	V3	Remarks
Body diameter	D	Depends on the	ne specification	of each product.	
Body thickness	Т	Depends on the	ne specification	of each product.	
Lead-wire diameter	ød	0.6±0.05	0.6±0.05	0.6±0.05	
Pitch of component	Р	12.7±1.0	15.0±1.0	30.0±1.0	Including the slant of body
Feed hole pitch	Po	12.7±0.3	15.0±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	3.75±0.7	
Feed hole center to component center	P2	6.35±1.3	7.5±1.3	7.5±1.3	
Lead-to lead distance	F	5+0.8, -0.2	7.5±0.8	7.5±0.8	Measuring point is bottom kink
Component alignment	Δh	0±2.0	0±2.0	0±2.0	Including the slanting body due to bending lead-wire
Tape width	W	18.0+1.0, -0.5	5 18.0+1.0, -0.5	18.0+1.0, -0.5	
Adhesive tape width	Wo	10.0min.	10.0min.	10.0min.	
Hole position	W1	9.0±0.5	9.0±0.5	9.0±0.5	
Adhesive tape position	W2	4.0max.	4.0max.	4.0max.	Adhesive tape do not stick out the tape
Bottom of kink from tape center	Ho	16.0+1.5, -0.5	5 16.0+1.5, -0.5	6 16.0+1.5, -0.5	
Height of body from tape center	H1	46.0max.	46.0max.	46.0max.	
Lead-wire protrusion	l	1.0max.	1.0max.	1.0max.	
Feed hole diameter	Do	4.0±0.2	4.0±0.2	4.0±0.2	
Total tape thickness	t	0.6±0.3	0.6±0.3	0.6±0.3	Including adhesive tape
Length of snipped lead	L	11.0max.	11.0max.	11.0max.	
Coating on lead	С	4.0max.	4.0max.	4.0max.	
Height of kink	А	4.0max.	4.0max.	4.0max.	Measuring point is bottom kink
Spring action	S	2.0max.	2.0max.	2.0max.	

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

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