Mid-high Voltage Ceramic Capacitors

Disk type with lead
Safety standard approved

CD series

Issue date: October 2011

- 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.

TDK

Mid-high Voltage Ceramic Capacitors(Disk with Lead) Safety Standard Approved CD Series

Conformity to RoHS Directive

REINFORCED INSULATION TYPE/Operating temperature range: –25 to +105°C(UL standard: –25 to +85°C)
CLASS 2 HIGH DIELECTRIC

FEATURES

- Flame-resistant reinforced outer insulation prevents fires, electrical shock, and other potential hazards.
- Compliant with the safety standards of 11 countries.
- This ceramic capacitor meets European Class II (reinforced insulation) Safety Standards VDE, SEV, SEMKO, BS. Since it is rated at a withstand voltage of AC.4000V, it can be used in single-unit configurations within European Class II devices.
- This product is compatible with halogen-free external resin coating (we recommend halogen-free products as standard).

PRODUCT IDENTIFICATION

CD	12	-E	2GA	222	M	Y	N	S	A
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

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

CAPACITANCE TEMPERATURE CHARACTERISTICS AND TOLERANCE

Temperature characteristics	Test temperature range	Capacitance tolerance
B(±10%)	–25 to +85°C	K(±10%)
E(+20, –55%)	–25 to +85°C	M(±20%)

CAPACITANCE AND DIMENSIONS

Part No.		Capacitance temperature characteristics	Capacitance (pF)	Capacitance tolerance	Dimensions(mm)			
Halogen-free product	Current product				D max.	T max.	F	d
CD70-B2GA101KY□*SA	CD70-B2GA101KY□*S	B(±10%)	100	K(±10%)	7.0	7.0	10+2, –1	0.6±0.05
CD70-B2GA151KY□SA	CD70-B2GA151KY□S		150	K(±10%)	7.0	7.0	10+2, –1	0.6±0.05
CD85-B2GA221KY□SA	CD85-B2GA221KY□S		220	K(±10%)	8.5	7.0	10+2, –1	0.6±0.05
CD90-B2GA331KY□SA	CD90-B2GA331KY□S		330	K(±10%)	9.0	7.0	10+2, –1	0.6±0.05
CD90-B2GA391KY□SA	CD90-B2GA391KY□S		390	K(±10%)	9.0	7.0	10+2, –1	0.6±0.05
CD95-B2GA471KY□SA	CD95-B2GA471KY□S		470	K(±10%)	9.5	7.0	10+2, –1	0.6±0.05
CD75-E2GA681MY□SA	CD75-E2GA681MY□S	E(+20, –55%)	680	M(±20%)	7.5	7.0	10+2, –1	0.6±0.05
CD85-E2GA102MY□SA	CD85-E2GA102MY□S		1,000	M(±20%)	8.5	7.0	10+2, –1	0.6±0.05
CD10-E2GA152MY□SA	CD10-E2GA152MY□S		1,500	M(±20%)	10.0	7.0	10+2, –1	0.6±0.05
CD12-E2GA222MY□SA	CD12-E2GA222MY□S		2,200	M(±20%)	11.5	7.0	10+2, –1	0.6±0.05
CD14-E2GA332MY□SA	CD14-E2GA332MY□S		3,300	M(±20%)	13.5	7.0	10+2, –1	0.6±0.05
CD15-E2GA392MY□SA	CD15-E2GA392MY□S		3,900	M(±20%)	14.5	7.0	10+2, –1	0.6±0.05
CD16-E2GA472MY□SA	CD16-E2GA472MY□S		4,700	M(±20%)	15.5	7.0	10+2, –1	0.6±0.05

* □ : Lead shape symbol

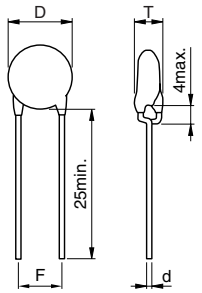
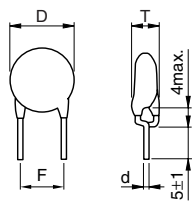
LIST OF STANDARD LEAD SHAPES

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

Example) TDK Product Name: **CD12-E2GA222MYNSA**

└N: Lead type (Vertical kink, Short)

Dimensions in mm

	Long lead	Short lead
	Symbol G	Symbol N
Vertical kink		

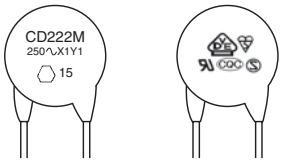
- We recommend using a vertical kink type.
- For bulk products, we recommend a short lead type with the symbol N.

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HALOGEN-FREE PRODUCT

MARKINGS

Item		Marking examples
1. Series	CD	
2. Nominal capacitance	222(2200pF)	
3. Capacitance tolerance	M(±20%)	
4. Rated voltage Eac	250V ∿ (AC.250V)	
5. Sub-class of safety performance	X1Y1	
6. TDK's logogram	⬡	
7. Date code	15 (2011.5)*	

(Marking position is reference.)

* 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.

INTERNATIONALLY CERTIFIED STATUS / IEC60384-14 EN60384-14 Approved

Safety standard	Standard No. of IEC	Standard No.	Temperature characteristics	Insulation sub-class	Rated voltage Eac(V)	Approval report No. Japan	Taiwan	Xiamen
BSI	IEC 60065	BS EN 60065	B, E	X1, Y1	250	KM37103	KM37103	KM37103
	IEC 60384-14	BS EN60384-14						
VDE	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	40029780	40029780	40029780
SEV	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	10.0121	10.0121	10.0121
SEMKO	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	912465	912465	912465
NEMKO	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	P09211658	P09211658	P09211658
DEMKO	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	315294-01	315294-01	315294-01
FIMKO	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	FI 25522	FI 25522	FI 25522
IMQ	IEC 60384-14	EN 60384-14	B, E	X1, Y1	250	V3691	V3691	V3691
SAA	IEC 60065	AS3250	B, E	—	400	CS6268	CS6268	CS6268
UL	—	UL 1414	B, E	(X, Y)	250	E37861	E37861	E37861
CSA	IEC 60384-14	CAN/CSA-E60384-14	B, E	(X, Y)	250	2278970 (LR 35801)	2278970 (LR 35801)	2278970 (LR 35801)
CQC	IEC 60384-14	GB-T 14472-1998	B, E	X1, Y1	250	CQC10001051611	CQC10001051638	CQC03001004816

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

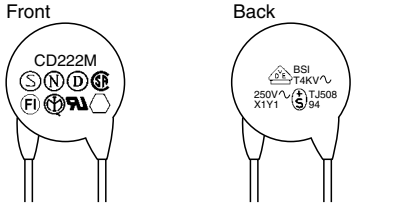
CURRENT PRODUCT

MARKINGS

Item	
1. Series	CD
2. Nominal capacitance	222(2200pF)
3. Capacitance tolerance	M(±20%)
4. Rated voltage Eac	250V ∿ (AC.250V)
5. Withstand voltage Eac	T4KV ∿ (AC.4kV)
6. Sub-class of safety performance	X1Y1
7. TDK's logogram	⬡
8. Date code	15 (2011.5)*
9. Regulatory body safety standards compliance markings	

Marking examples

Front Back



(Marking position of the monogram is reference.)

BSI (U.K.)	BSI	SEV (Switzerland)	TJ508	FIMKO (Finland)	FI	NEMKO (Norway)	N
SEMKO (Sweden)	S	UL (U.S.A.)		DEMKO (Denmark)	D	IMQ (Italy)	
VDE (Germany)		CSA (Canada)					

* 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).

INTERNATIONALLY CERTIFIED STATUS / IEC60384-14 EN60384-14 Approved

Safety standard	Standard No. of IEC	Standard No.	Temperature characteristics	Insulation sub-class	Rated voltage Eac(V)	Approval report No. Japan	Taiwan	Xiamen
BSI	IEC 60065	BS EN 60065	B, E	X1, Y1	250	226495	226495	226495
	IEC 60384-14	BS EN60384-14						
VDE	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	138526	138550	124321
SEV	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	09.0963	09.0963	09.0963
SEMKO	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	915564	915564	915396
NEMKO	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	P09211509	P09211509	P08209310
DEMKO	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	315180-01	315180-01	314712-02
FIMKO	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	FI 25452	FI 25452	FI 24307
IMQ	IEC 60384-14	EN60384-14	B, E	X1, Y1	250	V3691	V3691	V3691
SAA	IEC 60065	AS3250	B, E	—	400	6268	6268	6268
UL	—	UL 1414	B, E	(X, Y)	250	E37861	E37861	E37861
CSA	—	CSA C22.2 No.0 & No.1	B, E	(X, Y)	250	LR35801	LR65972	LR65972

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

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

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