High Voltage Ceramic Capacitors

HT/HU Types - Type I

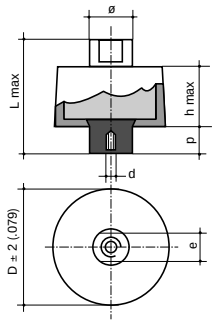
FEATURES

- Disc capacitor, type I
- Low reactive power
- High stability vs temperature
- No capacitance change vs voltage
- Two available versions:
  - HT: Molded type with connections
  - HU: Uncoated type without connections (silvered ceramic)

APPLICATIONS

- High voltage coupling
- High voltage tuning

TYPES AND DIMENSIONS

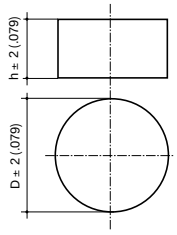
Style	Type/Size	Dimensions millimeters (inches) D	L	h	∅	d (ISO)	p	e	Tightening torque S (m.daN)
	HT 30	25.5 (1.004)	50 (1.969)	30 (1.180)	8 (0.315)	5 (0.197)	9 (0.354)	7 (0.276)	0.3
	HT 40	38 (1.500)	50 (1.969)	30 (1.180)	8 (0.315)	5 (0.197)	9 (0.354)	7 (0.276)	0.3
	HT 60	56 (2.205)	55 (2.165)	35 (1.378)	12 (0.472)	8 (0.315)	13 (0.512)	10 (0.394)	1

Important: HT type

In order to improve capacitor mounting, connections ends are designed with two flats. Thus, tightening torque is only applied on the screw (consult chart above for torque "S" value).

Hardware supplied for capacitor mounting

2 x screws TCB M5 L8 or TCB M8 L12 according to Ø
2 x washers

	HU 30	22 (0.866)	_
	HU 40	30 (1.180)	_
	HU 60	42 (1.654)	_

Height h: Depending on capacitance please consult us

Important: HU type

Handling of uncoated types must be done under strict cleanliness conditions.

TABLE OF VALUES

Type	Rated capacitance C_R (pF)	Rated voltage V_R (kV)	Test voltage V_E (kV / 50 Hz)	Capacitance vs temperature TC (ppm/°C)
HT/HU30A	4.7-5.6	17	25	+100 ±100
HT/HU30A	6.8	10	15	
HT/HU40A	8.2	17	25	
HT/HU40A	10-15	10	15	
HT/HU60A	18-22	17	25	
HT/HU60A	27-47	10	15	
HT/HU30H	10	17	25	-33 ±60
HT/HU30H	12	10	15	
HT/HU40H	15-22	17	25	
HT/HU40H	27-33	10	15	
HT/HU60H	39-47	17	25	
HT/HU60H	56-100	10	15	
HT/HU30T	22	10	15	-470 ±160
HT/HU40T	27-33	17	25	
HT/HU40T	39-56	10	15	
HT/HU60T	68-82	17	25	
HT/HU60T	100-150	10	15	
HT/HU30U	22-27	17	25	-750 ±250
HT/HU30U	33-39	10	15	
HT/HU40U	47-56	17	25	
HT/HU40U	68-100	10	15	
HT/HU60U	120-150	17	25	
HT/HU60U	180-270	10	15	

MARKING

- Reference (HT)
- Capacitance, tolerance
- Rated voltage

ELECTRICAL CHARACTERISTICS

• Climatic category	-55 +85°C, 21 days damp heat
• Rated voltage (DC voltage + HF peak)	10 kV or 17 kV
• Test voltage (V_{rms}/50 Hz)	15 kV or 25 kV
• Dissipation factor C ≤50pF C >50pF	 tg δ ≤ 20.10^{-4} tg δ ≤ $20\left(\frac{15}{C}+0.7\right).10^{-4}$
• Temperature coefficient	TC = +100 to -750 ppm/°C depending on capacitance value
• Tolerances and associated series	±1pF (F) ±10% (K) ±20% (M) C < 10pF E 12 E 6

High Voltage Ceramic Capacitors

How To Order

ORDERING CODE

HP40	E	3	0102	M	— —
Type/Size	Class	Voltage	Capacitance (EIA code)	Tolerance	Suffix

Type/Size

High Voltage Radial-leaded Discs

09
12
HZ 16
20
22

Coated Discs

HT 30
HD 40
HR 60

30
HP 40
50
60

Uncoated Discs

HU 30
HE 40
HS 60

Rods

HB 30
HF 40
60

Class

Type I

A = P 100
C = NP0
H = N33
T = N470
U = N750
V = N1500

Type II

E = N4700
N = N10000
W = +22 -56%
X = +22 -82%

Voltage

1000 V: L
1600 V: M
2000 V: N
2500 V: P
3000 V: Q
4000 V: R
5000 V: S
6000/6300 V: T
8000/9000 V: U
10,000 V: V
12,500 V: W
15/16 kV: X
20/25 kV: Y
30 kV: 3
40 kV: 4
50 kV: 5

For the following types whose class or voltage is not specified but inferred by the type, the size and the value: write 0 (zero) in the 5th (class) or 6th digit case (voltage).

Class not specified

HD
HE
HR
HS
HB
HF

Voltage not specified

HT
HU
HB
HF

Capacitance (EIA code)

Capacitance expressed by 2 significant figures

1st digit: 0 (zero)

2nd and 3rd digits: the 2 significant figures of the capacitance value.

4th digit:

- for values ≥ 10pF and ≤ 990µF: the number of ZEROS to be added to the capacitance values
- for values ≥ 1pF and ≤ 9.9pF: the figure 9 signifying that the capacitance value is to be multiplied by 0.1

Examples: 1000pF: 0102
8.2pF: 0829

Capacitance expressed by 3 significant figures

1st, 2nd and 3rd digits: the 3 significant figures of the capacitance value.

4th digit:

- for values > 100pF and ≤ 999 µF: the number of ZEROS to be added to the capacitance value
- for values > 10pF and < 100pF: the figure 9 signifying that the capacitance value is to be multiplied by 0.01.
- for values > 1pF and ≤ 10pF: the figure 8 signifying that the capacitance value is to be multiplied by 0.01.

Examples: 196pF: 1960
47.2pF: 4729
8.28pF: 8288

Tolerance

C < 10pF	Code
± 1pF	F
± 2pF	G

C ≥10pF	Code
±5%	J
±10%	K
±20%	M
-20 +50%	S
-20 +80%	Z

Suffix

--
PY
WH

NOTE: Special drawing number

If customer requirements differ from the standard type, the codification of the product is modified as follows:

5th, 6th digit: –
7th digit: H for high voltage types
8th, 9th, 10th digit: drawing number
11th digit: –
12th, 13th digit: two digits number for revised edition number

High Voltage Ceramic Capacitors

Marking - Packaging - Identification

MARKING

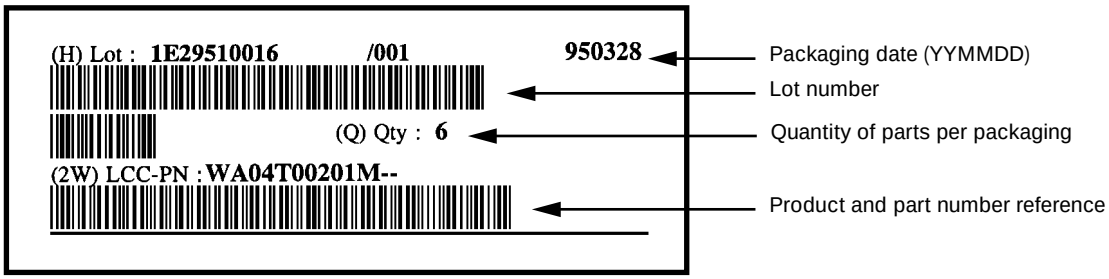
Each part is marked with the following indications:

- Logo
- Reference
- Rated capacitance (EIA code)
- Tolerance on capacitance (EIA code)
- Rated voltage

IDENTIFICATION - TRACEABILITY

On the packaging of all shipped capacitors, you will find a bar code label (code 39). This label gives systematic information on the type of product, part number, lot number, packing date and quantity.

An example is given below:



This information allows traceability of the entire manufacturing process, from critical raw materials to shipment. This is extremely useful for any information request, customer complaint or product return.

CROSS REFERENCES PREVIOUS REFERENCES / NEW REFERENCES

High Voltage	
Previous Reference	**New Reference**
HT030 ... 060	HT30 ... 60
HT030D ... 060D	HU30 ... 60
HTD230 ... 360	HD30 ... 60
HTD230D ... 360D	HE30 ... 60
HTX230 ... 360	HR30 ... 60
HTX230D ... 360D	HS30 ... 60
HTZ130 ... 160	HB30 ... 60
HTZ131 ... 161	HF30 ... 60