

SMD – SURFACE MOUNT POLARIZED TYPES

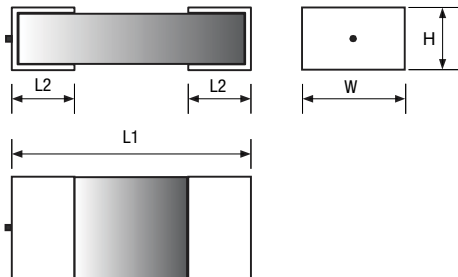
DCTC1

ELECTRICAL AND ENVIRONMENTAL CHARACTERISTICS

	DCTC1
Operating temperature	-55°C +125°C
Humidity	56 days
Capacitance range	0.1 µF - 100 µF
Tolerance	20%...10%
Voltage range	4 V...50 V
High surge current	no
MAXIMUM CAPACITANCE CHANGE	
-55°C	-12%
+85°C	+10%
+125°C	+15%
MAXIMUM DF	
+20°C	see table
-55°C	see table
+85°C	see table
+125°C	see table
MAXIMUM LEAKAGE CURRENT	
+20°C	see table
+85°C	see table
+125°C	see table
MAXIMUM ESR	
+20°C (100kHz)	-
MAXIMUM REVERSE VOLTAGE	
+20°C	15% U_R
+85°C	5% U_R
+125°C	1% U_R
MAXIMUM SURGE VOLTAGE	
+85°C	1.3 x U_R
+125°C	1.3 x U_C

DIMENSIONS (in mm)

Case code	IEC L1 x W	L1 ±0.4	W ±0.4	H ±0.4	L2 ±0.15
A	10.05	2.54	1.27	1.27	0.76
B	15.05	3.81	1.27	1.27	0.76
C	20.05	5.08	1.27	1.27	0.76
D	15.10	3.81	2.54	1.27	0.76
E	20.10	5.08	2.54	1.27	0.76
F	22.13	5.59	3.43	1.78	0.76
G	26.11	6.73	2.79	2.79	1.27
H	28.15	7.24	3.81	2.79	1.27



Polarity indication is given by anode tantalum wire protruding in the center of the positive end cap.
Terminal max. length: 0.38 mm

MARKING, PACKAGING, CONSTRUCTION: see general characteristics

SMD – SURFACE MOUNT POLARIZED TYPES

STANDARD RATINGS – ELECTRICAL CHARACTERISTICS

		DCTC1				
Capacitance 100Hz +20°C (μF)	Case Code	Maximum Leakage Current		Maximum DF 100Hz		
		+20°C (μA)	+85°C (μA) / +125°C (μA)*	+20°C (%)	-55°C / +85°C (%)	+125°C (%)
RATED VOLTAGE (+85°C) 4 V - CATEGORY VOLTAGE (+125°C) 2.5 V						
2.2	A	1.0	1.0	8	15	15
4.7	B	1.0	1.9	8	15	15
6.8	C	1.0	2.7	8	15	15
10	D	1.0	4.0	8	15	15
15	E	1.0	6.0	8	15	15
33	F	1.3	13.2	8	15	15
68	G	2.7	27.2	8	15	15
100	H	4.0	40.0	8	15	15
RATED VOLTAGE (+85°C) 6.3 V - CATEGORY VOLTAGE (+125°C) 4 V						
1.5	A	1.0	1.0	8	15	15
3.3	B	1.0	2.1	8	15	15
4.7	C	1.0	3.0	8	15	15
6.8	D	1.0	4.3	8	15	15
10	E	1.0	6.3	8	15	15
22	F	1.4	13.9	8	15	15
47	G	3.0	29.6	8	15	15
68	H	4.3	42.8	8	15	15
RATED VOLTAGE (+85°C) 10 V - CATEGORY VOLTAGE (+125°C) 6.3 V						
1	A	1.0	1.0	6	12	15
2.2	B	1.0	2.2	6	12	15
3.3	C	1.0	3.3	6	12	15
4.7	D	1.0	4.7	6	12	15
6.8	E	1.0	6.8	6	12	15
15	F	1.5	15.0	6	12	15
33	G	3.3	33.0	6	12	15
47	H	4.7	47.0	6	12	15
RATED VOLTAGE (+85°C) 16 V - CATEGORY VOLTAGE (+125°C) 10 V						
0.68	A	1.0	1.1	6	12	15
1.5	B	1.0	2.4	6	12	15
2.2	C	1.0	3.5	6	12	15
3.3	D	1.0	5.3	6	12	15
4.7	E	1.0	7.5	6	12	15
10	F	1.6	16.0	6	12	15
22	G	3.5	35.2	6	12	15
33	H	5.3	52.8	6	12	15
RATED VOLTAGE (+85°C) 20 V - CATEGORY VOLTAGE (+125°C) 13 V						
0.47	A	1.0	1.0	6	12	15
1	B	1.0	2.0	6	12	15
1.5	C	1.0	3.0	6	12	15
2.2	D	1.0	4.4	6	12	15
3.3	E	1.0	6.6	6	12	15
6.8	F	1.4	13.6	6	12	15
15	G	3.0	30.0	6	12	15
22	H	4.4	44.0	6	12	15
RATED VOLTAGE (+85°C) 25 V - CATEGORY VOLTAGE (+125°C) 16 V						
0.33	A	1.0	1.0	6	12	15
0.68	B	1.0	1.7	6	12	15
1	C	1.0	2.5	6	12	15
1.5	D	1.0	3.8	6	12	15
2.2	E	1.0	5.5	6	12	15
4.7	F	1.2	11.8	6	12	15
6.8	G	1.7	17.0	6	12	15
10	G	2.5	25.0	6	12	15
15	H	3.8	37.5	6	12	15
RATED VOLTAGE (+85°C) 40 V - CATEGORY VOLTAGE (+125°C) 25 V						
0.22	A	1.0	1.0	6	12	15
0.47	B	1.0	1.9	6	12	15
0.68	C	1.0	2.7	6	12	15
1	D	1.0	4.0	6	12	15
1.5	E	1.0	6.0	6	12	15
3.3	F	1.3	13.2	6	12	15
4.7	G	1.9	18.8	6	12	15
6.8	H	2.7	27.2	6	12	15
10	H	4.0	40.0	6	12	15

STANDARD RATINGS – ELECTRICAL CHARACTERISTICS

		DCTC1				
Capacitance 100Hz +20°C (μF)	Case Code	Maximum Leakage Current		Maximum DF		
		+20°C (μA)	+85°C (μA) / +125°C (μA)*	+20°C (%)	-55°C / +85°C (%)	+125°C (%)
RATED VOLTAGE (+85°C) 50 V - CATEGORY VOLTAGE (+125°C) 32 V						
0.1	A	1.0	1.0	6	12	15
0.15	A	1.0	1.0	6	12	15
0.22	B	1.0	1.1	6	12	15
0.33	B	1.0	1.7	6	12	15
0.47	C	1.0	2.4	6	12	15
0.68	D	1.0	3.4	6	12	15
1	E	1.0	5.0	6	12	15
1.5	F	1.0	7.5	6	12	15
2.2	F	1.1	11.0	6	12	15
3.3	G	1.7	16.5	6	12	15
4.7	H	2.4	23.5	6	12	15

* Measured with category voltage U_c @ +125°C.

TERMINATIONS

Terminations are made of Nickel, nickel plated, on which four plating finishes may be achieved:

STANDARD TERMINATION:

G: Gold plating for standard epoxy bonding & soldering paste

UPON REQUEST:

G+: Additional gold plating for ball-bonding or ultrasonic bonding

T: Tinning electrolytic (90% Sn - 10% Pb)

F: Tinning electrolytic (100% Sn)

PACKING

Standard: Bulk

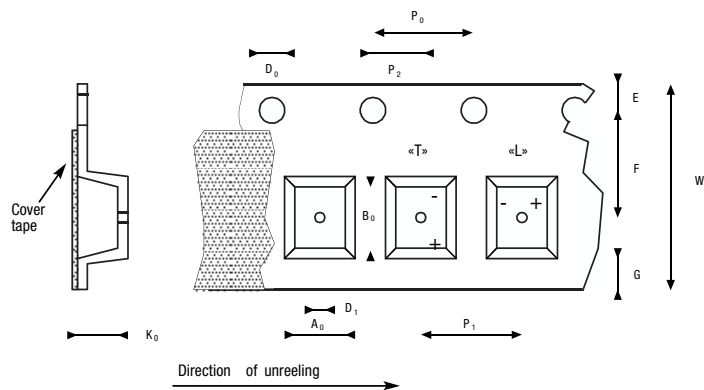
Optional: Tape & reel

When ordering add the suffix "R" just after the termination code.

HOW TO ORDER

Ex.: DCTC1E 1μF 10% 50V G R

TAPE AND REEL PACKAGING
(PER IEC 286-3)



TAPE DIMENSIONS (in mm)

W	E	F	P ₀	D ₀	D ₁	G	P ₁	P ₂
±0.3	±0.1	±0.05	±0.1	+0.1 -0	±0.1	min.	±0.1	±0.05
8.0	1.75	3.5	4.0	1.5	1.0	0.75	4/8	2.0
12.0	1.75	5.5	4.0	1.5	1.5	0.75	8.0	2.0
16.0	1.75	7.5	4.0	1.5	2.0	0.75	8.0	2.0

Notes: A₀ B₀ K₀ are defined by component size.
Reel diameter: 180 mm (nominal).
Diameter of central hole: 12.8 mm.

TAPE WIDTH, MAXIMUM PER REEL,
COMPONENTS POSITION AND PITCH (P₁)

Case code	Tape width (mm)	Quantity per Reel	Position	Pitch P ₁ (mm)
A	8.0	2800	T	4.0
B	8.0	1400	L	8.0
C	8.0	1400	L	8.0
D	8.0	1400	L	8.0
E	8.0	1400	L	8.0
F	12.0	1000	T	8.0
G	16.0	600	T	8.0
H	16.0	600	T	8.0

Note: the minimum quantity per reel is 50% of the above mentioned one.

COMPONENT POSITION

T = Transversal (+ termination away from the sprocket hole)
L = Longitudinal (+ termination in the direction of unreeling)