

5HT SERIES

High Temperature Film & Foil

High Temperature Film & Foil Resonant Power Supply Capacitors

Specifically designed to meet higher ambient temperature requirements of resonant power circuits.



FEATURES

- Operation to 175°C
- Compact Configuration
- Direct Plug-in Spade Lugs
- Low ESL
- Low ESR
- High dv/dt
- High Peak Current

Specification Summary

Capacitance Range

0.010 μ F to 0.100 μ F

Capacitance Tolerance

Standard capacitance tolerance is $\pm 10\%$. Tolerance of $\pm 5\%$ is also available upon request.

Operating Temperature Range

-55°C to +175°C

Enclosure/Construction

High temperature film and foil potted in a thermo plastic housing.

Voltage Rating

400 VDC

230 VAC

Quality Control

Capacitors are tested 100% for:

- Capacitance
- Tolerance
- Dissipation Factor
- Dielectric withstanding voltage
- Insulation Resistance

Process and inspection data are maintained on file and available upon special request.

Environmental

Parameter	Method	Condition
Vibration	204	D
Shock	213	I
Humidity	106	-
Thermal Shock	107	F*
Life	108	F**

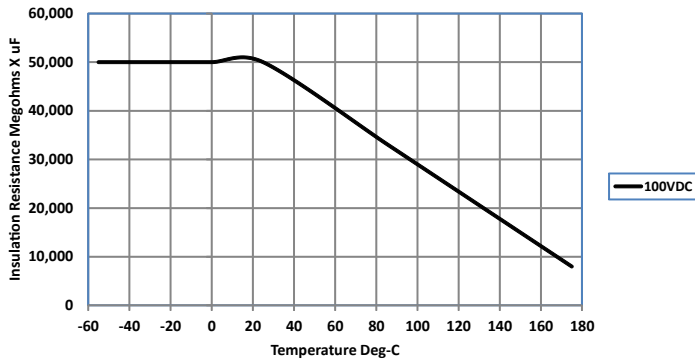
Reference MIL-STD-202

* The temperature at step 3 shall be set at 175°C instead of 150°C

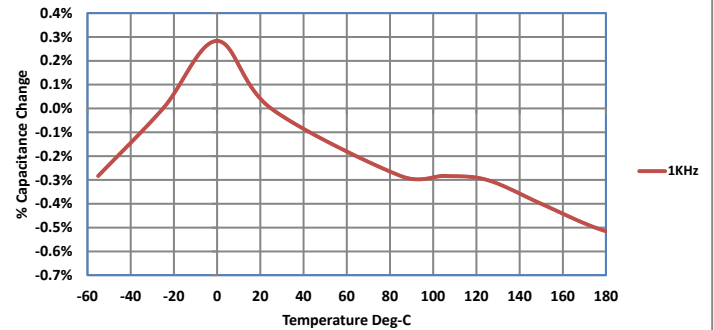
** Life test conditions: 133% of rated voltage at 175°C

Characteristics

SHT Insulation Resistance vs. Temperature



SHT Capacitance Change vs. Temperature at 1kHz Referenced to 25C



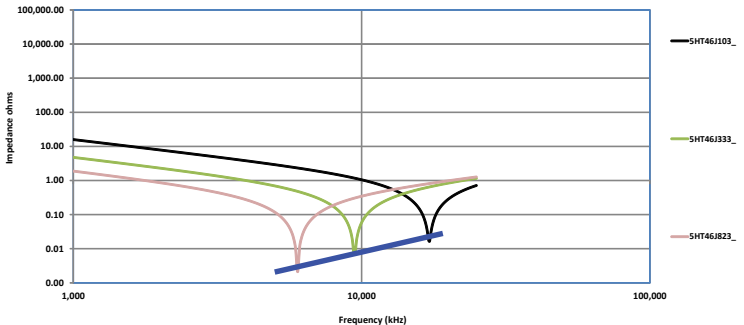
Dielectric Strength

Capacitors withstand a DC potential of 1.5 x rated voltage for one (1) minute without damage or breakdown. Test voltage is applied and discharged through a minimum resistance of 100 OHMS per volt minimum.

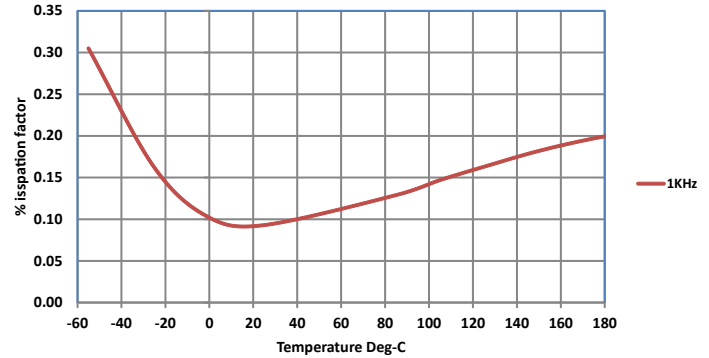
Dissipation Factor

When measured at the frequency specified for capacitance measurement, the dissipation factor will not exceed 0.05%.

SHT Impedance vs. Frequency



SHT Dissipation Factor vs. Temperature at 1kHz

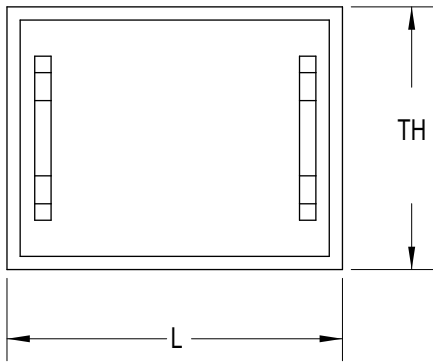


Detail Data

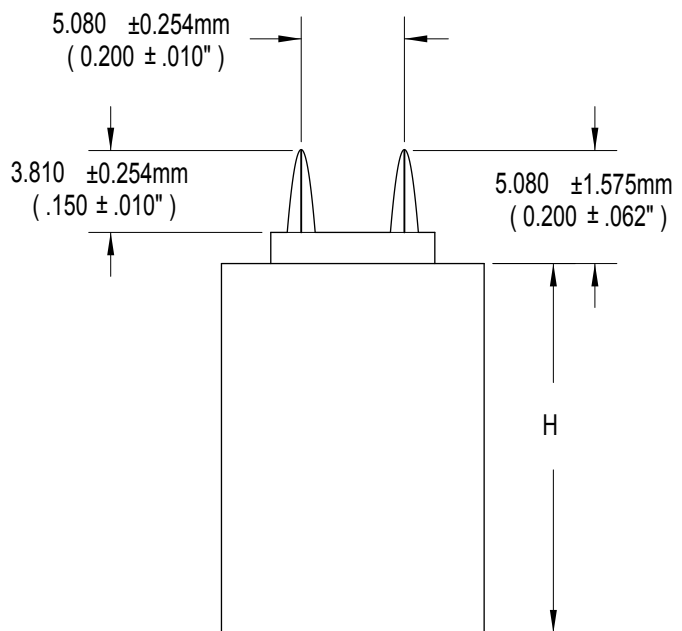
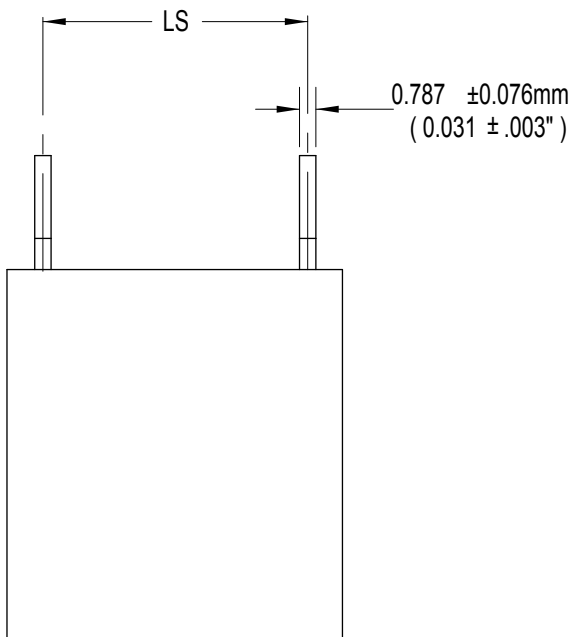
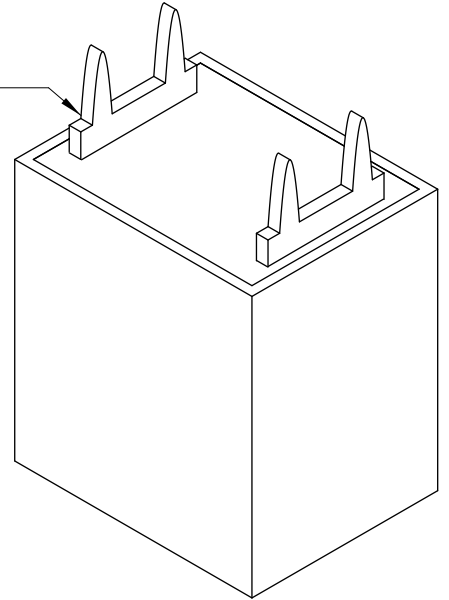
PART NUMBER	CAP μF	VOLTAGE VDC	VOLTAGE VAC	ESR (ohms) 100 kHz	100kHz (Arms)				dv/dt V/μs	I PEAK (AMPS)	ESL (nH)	Fres (MHz)
					25°C	75°C	125°C	175°C				
5HT46J103_	0.010	400	230	0.075	7.1	5.8	4.1	0.21	27,937	279	8.6	17.2
5HT46J123_	0.012	400	230	0.070	8.2	6.7	4.8	0.24	27,937	335	8.6	15.7
5HT46J153_	0.015	400	230	0.056	9.4	7.6	5.4	0.27	23,280	349	8.6	14.0
5HT46J183_	0.018	400	230	0.046	10.2	8.4	5.9	0.30	23,280	419	8.6	12.8
5HT46J223_	0.022	400	230	0.038	11.3	9.3	6.5	0.33	18,624	410	8.6	11.6
5HT46J273_	0.027	400	230	0.031	12.5	10.2	7.2	0.37	18,624	503	8.6	10.4
5HT46J333_	0.033	400	230	0.025	13.7	11.2	7.9	0.40	16,296	538	8.6	9.4
5HT46J393_	0.039	400	230	0.022	15.0	12.2	8.7	0.44	13,968	545	8.6	8.7
5HT46J473_	0.047	400	230	0.018	16.7	13.6	9.6	0.49	11,640	608	8.6	7.9
5HT46J563_	0.056	400	230	0.015	18.3	15.0	10.6	0.54	11,640	652	8.6	7.3
5HT46J683_	0.068	400	230	0.012	20.4	16.7	11.8	0.60	10,476	712	8.6	6.6
5HT46J823_	0.082	400	230	0.010	21.2	17.3	12.2	0.62	10,476	859	8.6	6.0
5HT46J104_	0.10	400	230	0.009	24.8	20.3	14.3	0.73	9,209	921	8.6	5.4

Mechanical Data

TH		H		L		LS	
in.	mm	in.	mm	in.	mm	in.	mm
± 0.010	± 0.254	max	max	± 0.010	± 0.254	± 0.010	± 0.254
0.500	12.700	0.730	18.542	0.645	16.383	0.500	12.700



PINS ARE $1.270 \pm .127\text{mm}$
 $(0.050 \pm .005\text{")}$
 TAPERED TO $0.889 \pm .076\text{mm}$
 $(0.035 \pm .003\text{")}$



Additional Information

This series is specifically designed to meet the challenges of high temperature environments in resonant power supplies with operation to 175°C. The 5HT series meets the critical requirements of series resonant power supplies for high current carrying capabilities at lower capacitance values.

How to Order

TYPE Polypropylene & Foil	→	5HT46
VOLTAGE J = 400VDC	→	J
CAPACITANCE IN PICO FARADS The first two digits are significant, the third represents the number of zeros	→	103
TOLERANCE K = ±10%. Tolerance of ±5% is also available upon request.	→	K

Marking And Date Code

All capacitors are marked with company initials "EC", corporate logo or EC trademark—in addition to type 5PT, capacitance, tolerance, rated DC working voltage and date code. The first two digits of the date code represent the year, the second two digits the week, i.e., 1252 is the 52nd week of 2012, 1202 is the second week of 2012.

Quality Assurance

Major emphasis is placed on quality assurance. EC is an ISO 9001 and AS9100 Certified Company. Raw material inspection and the use of SPC manufacturing procedures assure the highest quality standards. Procedures are fully described in the EC Quality Control Manual. Electronic Concepts will continue to advance the state-of-the-art by utilizing leading edge technology, compact capacitor designs and establishing reliability procedures.

Sales Offices

United States Headquarters

Electronic Concepts, Inc.
526 Industrial Way West
Eatontown, NJ 07724
Tel: 732-542-7880
Fax: 732-542-0524

email: sales@ecicaps.com
website: www.ecicaps.com

Distribution Center

Elcon Sales
542 Industrial Way West
Eatontown, NJ 07724
Tel: 732-380-0405
Fax: 732-380-0409

email: sales@elconsales.com

European Headquarters

Electronic Concepts Europe LTD
IDA Estate
Oughterard
Co. Galway
Ireland
tel: +353-91-552385,552432
fax: +353-91-552387

email: sales@ecicaps.ie
website: www.electronicconcepts.ie