

XKH SERIES

DUAL DIELECTRIC CAPACITORS

SURFACE MOUNT CAPACITORS SPECIFICALLY DESIGNED FOR EXPLODING FOIL INITIATOR (EFI) & EXPLODING BRIDGE WIRE (EBW) APPLICATIONS

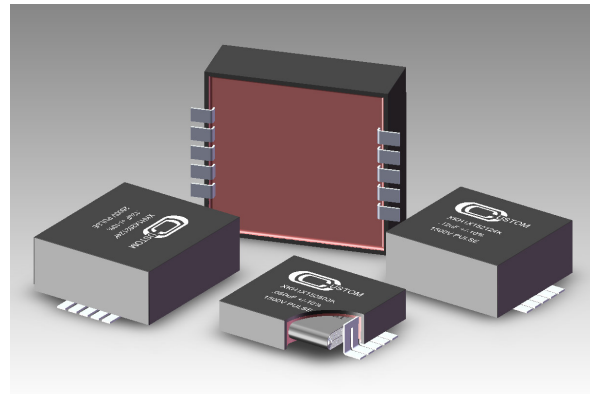
- ◆ 1500V, 2500V and 3500V Ratings
- ◆ Capacitance .050 μ F to .15 μ F
- ◆ High Peak Current
- ◆ Exceptional Thermal Stability
- ◆ Fully Encapsulated Surface Mount Packaging
- ◆ Extremely Low Inductance
- ◆ Reduced Footprint

EFI & EBW circuit designers like their capacitors compact, reliable and easy to install. With these goals in mind, we aimed to develop the ultimate line of EFI & EBW capacitors.

Focusing on making **XKH SERIES** as compact and reliable as possible, using our proven dual dielectric (Mica/PET) construction, we developed a series of very compact capacitor elements that offer superior thermal stability ($\Delta C/C^\circ$), exceptional dielectric integrity and first-class pulse current capability. To maintain a smaller and consistent footprint, we elected to parallel two windings for the higher capacitance models rather than use one large winding.

Our next focus was to create an easy-to-install package that offered outstanding environmental protection while maintaining low inductance. It was clear that a surface mount package (SMP) was the way to go so we developed the H Type SMP. This new package offers consistent case sizes for easy handling and substantial multi-leg leads to minimize inductance and allow for solder inspection.

Each voltage rating is offered in a single footprint. Only height varies with capacitance, making it a



snap for circuit designers to experiment with different capacitances.

The entire assembly is completely sealed in a UL-94V compliant case and potting combination. The H Type SMP packaging method provides superior mechanical protection and forms an exceptional moisture barrier while adding little to the overall unit volume.

The XKH SERIES addresses the EFI/ EBW circuit designer's need for a selection of SMP high performance capacitors.

AS9100 / ISO 9001:2000 CERTIFIED



CUSTOM ELECTRONICS, INC.

87 Browne Street, Oneonta NY 13820
Phone: 1-607-432-3880 or 1-877-RELY-CEI



SPECIFICATIONS

XKH SERIES

QUALITY

Custom Electronics maintains an AS9100 / ISO 9001:2000 quality system. Our dedication to quality is a prime reason for our success in the high voltage industry. Every product manufactured by Custom Electronics passes through one of the toughest QC systems in the industry. Because product quality and reliability is of the highest importance, we have ensured that our engineering and manufacturing procedures conform to the following Commercial and Military specifications:

- ANSI/NCSS Z540-1
(Formerly MIL-C-45662)
- J-STD-001

CONSTRUCTION

Dual Dielectric (Mica/PET) with Extended Foil

CASE

Thermoset Box with Epoxy Fill

LEADS

.015 thick Copper, Multi-Leg Surface Mount, Plated or Tinned

MARKING

All capacitors are marked with the Company Logo, Part Number, Capacitance, Rated Voltage, Tolerance and Date Code (YYWW).

ENVIRONMENTAL TESTING

These products comply with MIL-STD-202

TEST	METHOD	CONDITION
Vibration	204	D
Shock	213	I
Humidity	103	B
Thermal Shock	107	B

ELECTRICAL TESTING

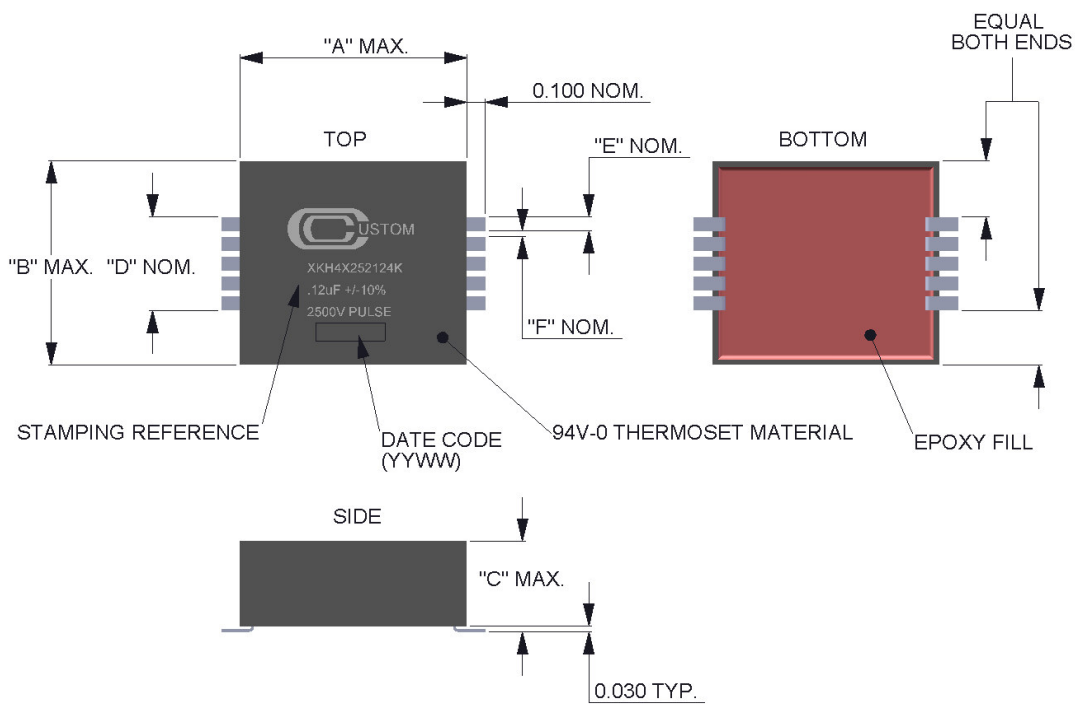
All Capacitors are 100% Tested for the Following:

- ◆ Capacitance Tolerance (25°C, 1kHz)
- ◆ Dissipation Factor (25°C, 1kHz)
- ◆ Dielectric Withstand Voltage 25°C

Capacitors are Sample Tested for the Following:

- ◆ Insulation Resistance (25°C)
- ◆ ESR (25°C)

PACKAGE DETAILS



- ◆ Package dimensions are provided in the following Product Guide Table

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PRODUCT GUIDE

XKH SERIES

PART NUMBER	RoHS	Cap. (μF)	Toler. (%)	WVDC (V)	DIELECTRIC WITHSTAND (V)	Package Dimensions					
						A (Max) (Inches)	B (Max) (Inches)	C (Max) (Inches)	D (Nom) (Inches)	E (Nom) (Inches)	F (Nom) (Inches)
XKH4X152503K	-R	0.050	10	1500	1800	1.060	1.000	0.285	0.500	0.076	0.030
XKH4X152753K	-R	0.075	10	1500	1800	1.060	1.000	0.335	0.500	0.076	0.030
XKH4X152104K	-R	0.100	10	1500	1800	1.060	1.000	0.425	0.500	0.076	0.030
XKH4X152124K	-R	0.120	10	1500	1800	1.060	1.000	0.475	0.500	0.076	0.030
XKH4X152154K	-R	0.150	10	1500	1800	1.060	1.000	0.525	0.500	0.076	0.030
XKH4X252503K	-R	0.050	10	2500	3000	1.210	1.090	0.285	0.500	0.076	0.030
XKH4X252753K	-R	0.075	10	2500	3000	1.210	1.090	0.345	0.500	0.076	0.030
XKH4X252104K	-R	0.100	10	2500	3000	1.210	1.090	0.425	0.500	0.076	0.030
XKH4X252124K	-R	0.120	10	2500	3000	1.210	1.090	0.485	0.500	0.076	0.030
XKH4X252154K	-R	0.150	10	2500	3000	1.210	1.090	0.545	0.500	0.076	0.030
XKH4X352503K	-R	0.050	10	3500	4200	1.475	1.375	0.310	0.750	0.110	0.050
XKH4X352753K	-R	0.075	10	3500	4200	1.475	1.375	0.380	0.750	0.110	0.050
XKH4X352104K	-R	0.100	10	3500	4200	1.475	1.375	0.470	0.750	0.110	0.050
XKH4X352124K	-R	0.120	10	3500	4200	1.475	1.375	0.540	0.750	0.110	0.050

NOTES:

1. When ordering, add the suffix "-R" to the base PART NUMBER for  RoHS compliant product.
2. Custom designs available if you can't find a part number that suits your needs exactly.



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CHARACTERISTICS

XKH SERIES

RATINGS

OPERATING TEMPERATURE RANGE

-65°C to +85°C

INSULATION RESISTANCE

Minimum of 5,000 MΩ x μF or 100,000 MΩ (whichever is less) @ +25°C and -55°C

Minimum of 100 MΩ x μF or 1000 MΩ (whichever is less) @ +85°C.

DIELECTRIC WITHSTANDING VOLTAGE

150% of WVDC, T=+25°C

DISSIPATION FACTOR

Maximum of 0.7% @ -65°C, f=1kHz

Maximum of 0.5% @ +25°C, f=1kHz

Maximum of 0.5% @ +85°C, f=1kHz

THERMAL CAPACITANCE CHANGE

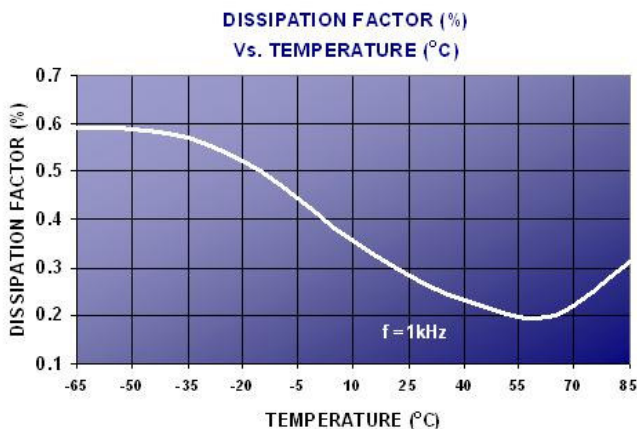
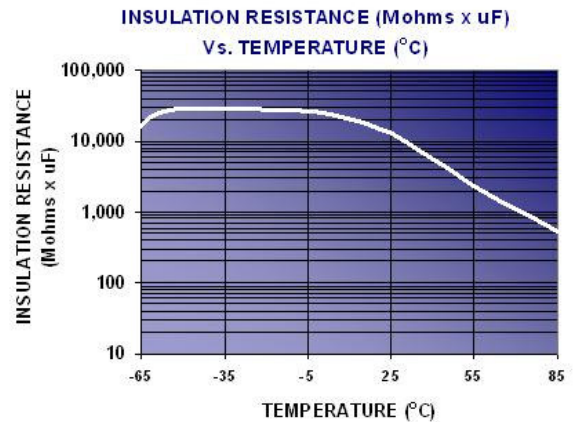
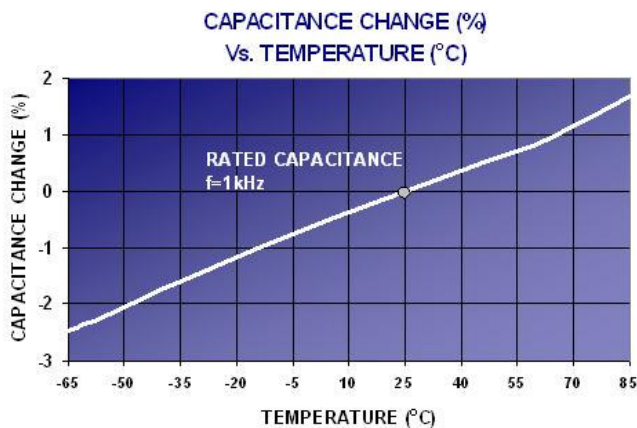
Maximum of -5.0% @ -65°C, f=1kHz

Maximum of +5.0% @ +85°C, f=1kHz

CAPACITANCE TOLERANCE

Tolerance of +/-10%, T=+25°C, f=1kHz

TYPICAL PERFORMANCE CURVES



The information contained in this document is believed to be reliable and accurate at the time of release. However, in an effort to continually improve our products and their related documentation, Custom Electronics, Inc. reserves the right to change the contents of this document without notification.

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