**High Voltage Shielded Power Inductors**

**XEL4012V**

**XEL4014V**

- Extremely low DCR and ultra low AC losses for high switching frequencies (2 to 5 MHz)
- Superior current handling with soft saturation characteristics
- Can withstand high current spikes
- High-voltage rating of 120 V—50% higher than the standard series. Learn more about Voltage Ratings for Inductors
- AEC-200 Grade 1 (–40°C to +125°C)

**Core material** Composite

**Environment** RoHS compliant, halogen free

**Terminations** RoHS compliant, tin-silver over copper.

**Weight** 0.11 g

**Operating Voltage:** 0 – 120 V

**Ambient Temperature:** –4°C to +125°C with (40°C) Irms current.

**Maximum Part Temperature:** +165°C (ambient + temp rise). Derating.

**Storage Temperature:** Component: –55°C to +165°C.

**Resistance to soldering heat:** Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

**Moisture Sensitivity Level (MSL):** 1 (unlimited floor life at <30°C / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF):** 0.48 per billion hours / 2.08E+09 hours, calculated per Telcordia SR-332

**PCB washing:** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

**Part number**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH) typ max</th>
<th>DCR (mOhms) max</th>
<th>SRF typ (MHz)</th>
<th>Isat (A)</th>
<th>Irms (A)</th>
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<tbody>
<tr>
<td>XEL4012V-920NE_</td>
<td>92 ±30% 5.2 5.7 279 24.0</td>
<td>11.5 16.5</td>
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<tr>
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<td>330 ±20% 16.5 18.4 80 11.6</td>
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<td>XEL4014V-561ME_</td>
<td>560 ±20% 20.3 22.8 70 9.8</td>
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1. When ordering, please specify packaging code:

   XEL4014V-781ME

   **Packaging:** C = 7” machine-ready reel. EIA-481 embossed plastic tape. Quantities less than full reel available: in tape (not machine ready) or with leader and trailer ($25 charge).

2. Inductance tested at 1 MHz, 0.1 Vrms, 0 Adc.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using Agilent/HP 4395A or equivalent.

5. DC current at which the inductance drops 30% (typ) from its value without current. Click for temperature derating information.

6. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.

7. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

**Irms Testing**

Irms testing was performed on 0.75 inch wide × 0.25 inch thick copper traces in still air.

Temperature rise is highly dependent on many factors including pcb land pattern, trace size, and proximity to other components. Therefore temperature rise should be verified in application conditions.

Additional information:

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- Can withstand high current spikes
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**L vs Current**

- **XEL4012V-221**
- **XEL4014V-221**
- **XEL4014V-331**
- **XEL4014V-561**
- **XEL4014V-781**

**L vs Frequency**

- **XEL4012V-920**
- **XEL4014V-221**
- **XEL4014V-331**
- **XEL4014V-561**
- **XEL4014V-781**

**Recommended Land Pattern**

- **Dash number**
- **Indicates direction of terminals and start (short) lead. Connect high dv/dt here for lowest EMI.**

**Packaging**

- XEL4012V 1500/7″ reel; 5000/13″ reel
- XEL4014V 1000/7″ reel; 4000/13″ reel

Dimensions are in inches / mm.