

Product Portfolio – SMPCB Carbonyl series

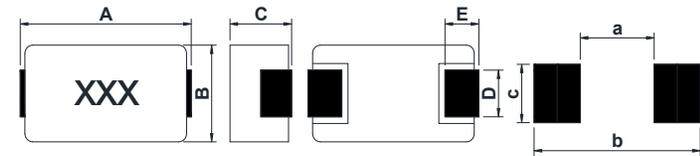
- **SMPCB- Rectangle Size design Molding Inductors for Electronic- power rail**

Features-

- **SMPCB Carbonyl** Series High Current Shielded Power Inductors.
- Halogen Free & ROHS compliant.
- Operating temperature: -55°C~+125°C
- Low profile and low DCR
- Frequency range up to 5MHz

Test Noted-

- 1). All test data is referenced to 25°C ambient.
- 2). Inductance Tolerance $\pm 20\%$.
- 3). Test Condition: 100KHz, 1.0Vrms.
- 4). Rated current: Isat or Irms, whichever is smaller.
- 5). Isat: DC current at which the inductance drops approximate 30% TYP from its value without current.
- 6). Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ\text{C}$) from 25°C ambient.
- 7). **Absolute maximum voltage 30VDC**



| series | A | B | C | D | E | a | b | c |
|-------------|----------|---------|---------|---------|---------|--------|---------|--------|
| SMPCB1063 | 10.1±0.5 | 5.5±0.5 | 3.00MAX | 2.8±0.5 | 2.2±0.5 | 4.8TYP | 10.8TYP | 3.5TYP |
| SMPCB1064 | 10.1±0.5 | 5.5±0.5 | 4.00MAX | 2.8±0.5 | 2.2±0.5 | 4.8TYP | 10.8TYP | 3.5TYP |
| SMPCB1065 | 10.1±0.5 | 5.5±0.5 | 5.00MAX | 2.8±0.5 | 2.2±0.5 | 4.8TYP | 10.8TYP | 3.5TYP |
| SMPCB1073 | 10.1±0.5 | 7.0±0.5 | 3.00MAX | 2.5±0.5 | 2.2±0.5 | 5.5TYP | 12.5TYP | 3.5TYP |
| SMPCB1074 | 10.1±0.5 | 7.0±0.5 | 4.00MAX | 2.5±0.5 | 2.2±0.5 | 5.5TYP | 12.5TYP | 3.5TYP |
| SMPCB1075 | 10.1±0.5 | 7.0±0.5 | 5.00MAX | 2.5±0.5 | 2.2±0.5 | 5.5TYP | 12.5TYP | 3.5TYP |
| SMPCB1084 | 11.3±0.5 | 8.3±0.5 | 4.00MAX | 4.4±0.5 | 2.2±0.5 | 5.0TYP | 12.5TYP | 5.0TYP |
| SMPCB1085 | 11.3±0.5 | 8.3±0.5 | 5.00MAX | 4.4±0.5 | 2.2±0.5 | 5.0TYP | 12.5TYP | 5.0TYP |
| SMPCB1087 | 11.3±0.5 | 8.3±0.5 | 7.00MAX | 4.4±0.5 | 2.2±0.5 | 5.0TYP | 12.5TYP | 5.0TYP |
| SMPCB1174 | 11.2±0.5 | 7.2±0.5 | 4.00MAX | 2.8±0.5 | 2.2±0.5 | 5.0TYP | 12.5TYP | 5.0TYP |
| SMPCB1175 | 11.2±0.5 | 7.2±0.5 | 5.00MAX | 2.8±0.5 | 2.2±0.5 | 5.0TYP | 12.5TYP | 5.0TYP |
| SMPCB130830 | 12.8±0.5 | 8.0±0.5 | 3.00MAX | 3.5±0.5 | 2.5±0.5 | 6.0TYP | 14.5TYP | 5.0TYP |
| SMPCB130840 | 12.8±0.5 | 8.0±0.5 | 4.00MAX | 3.5±0.5 | 2.5±0.5 | 6.0TYP | 14.5TYP | 5.0TYP |
| SMPCB130850 | 12.8±0.5 | 8.0±0.5 | 5.00MAX | 3.5±0.5 | 2.5±0.5 | 6.0TYP | 14.5TYP | 5.0TYP |
| SMPCB1685 | 17.0±0.5 | 8.7±0.5 | 5.00MAX | 4.0±0.5 | 3.0±0.5 | 9.0TYP | 18.0TYP | 5.5TYP |

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| Part No. | Inductance | DC Resistance | | Saturation Current | Heating Rating Current |
|------------------|---------------|---------------|------|--------------------|------------------------|
| | L (μH) ±20% | DCR (mΩ) | | Isat (A) | Irms (A) |
| | @100KHz, 1.0V | Max. | Typ. | Typ. | Typ. |
| SMPCB1063-R12MT | 0.12 | 1.04 | 0.90 | 70.0 | 35.0 |
| SMPCB1063-R15MT | 0.15 | 1.04 | 0.90 | 60.0 | 35.0 |
| SMPCB1064-R10MT | 0.10 | 0.75 | 0.60 | 120.0 | 45.0 |
| SMPCB1064-R12MT | 0.12 | 0.75 | 0.60 | 100.0 | 40.0 |
| SMPCB1064-R15MT | 0.15 | 0.75 | 0.60 | 80.0 | 35.0 |
| SMPCB1064-R18MT | 0.18 | 0.75 | 0.60 | 60.0 | 30.0 |
| SMPCB1064-R36MT | 0.36 | 1.60 | 1.40 | 50.0 | 24.0 |
| SMPCB1065-R24MT | 0.24 | 1.05 | 0.86 | 60.0 | 37.0 |
| SMPCB1065-R33MT | 0.33 | 1.60 | 1.40 | 50.0 | 30.0 |
| SMPCB1073-R12MT | 0.12 | 0.70 | 0.60 | 70.0 | 40.0 |
| SMPCB1074-R15MT | 0.15 | 0.65 | 0.55 | 75.0 | 55.0 |
| SMPCB1074-R22MT | 0.22 | 0.82 | 0.71 | 50.0 | 32.0 |
| SMPCB1074-R22MTB | 0.22 | 0.95 | 0.86 | 50.0 | 32.0 |
| SMPCB1075-R10MT | 0.10 | 0.70 | 0.60 | 100.0 | 44.0 |
| SMPCB1075-R12MT | 0.12 | 0.52 | 0.45 | 100.0 | 45.0 |
| SMPCB1075-R12MTB | 0.12 | 0.70 | 0.60 | 90.0 | 44.0 |
| SMPCB1075-R15MT | 0.15 | 0.52 | 0.45 | 85.0 | 42.0 |
| SMPCB1075-R15MTB | 0.15 | 0.70 | 0.60 | 85.0 | 42.0 |
| SMPCB1075-R22MT | 0.22 | 0.70 | 0.60 | 60.0 | 35.0 |
| SMPCB1075-R22MTB | 0.22 | 1.05 | 0.91 | 60.0 | 35.0 |
| SMPCB1075-R30MT | 0.30 | 1.27 | 1.10 | 50.0 | 30.0 |
| SMPCB1075-R33MT | 0.33 | 1.65 | 1.45 | 55.0 | 28.0 |
| SMPCB1075-R47MT | 0.47 | 1.65 | 1.45 | 50.0 | 25.0 |
| SMPCB1084-R15MT | 0.15 | 0.52 | 0.45 | 75.0 | 45.0 |
| SMPCB1084-R15MTB | 0.15 | 0.80 | 0.62 | 90.0 | 45.0 |
| SMPCB1084-R20MT | 0.20 | 0.52 | 0.45 | 70.0 | 45.0 |
| SMPCB1084-R22MT | 0.22 | 0.80 | 0.62 | 70.0 | 40.0 |
| SMPCB1085-R10MT | 0.10 | 0.52 | 0.45 | 80.0 | 45.0 |
| SMPCB1085-R15MT | 0.15 | 0.52 | 0.45 | 75.0 | 45.0 |
| SMPCB1085-R20MT | 0.20 | 0.80 | 0.62 | 75.0 | 45.0 |
| SMPCB1085-R22MT | 0.22 | 0.80 | 0.62 | 75.0 | 45.0 |

1. Absolute maximum voltage **30VDC** In production process test @100VDC Impulse Winding

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| Part No. | Inductance | DC Resistance | | Saturation Current | Heating Rating Current |
|-------------------|---------------|---------------|------|--------------------|------------------------|
| | L (μH) ±20% | DCR (mΩ) | | Isat (A) | Irms (A) |
| | @100KHz, 1.0V | Max. | Typ. | Typ. | Typ. |
| SMPCB1085-R30MT | 0.30 | 0.85 | 0.70 | 75 | 45 |
| SMPCB1087-R42MT | 0.42 | 0.86 | 0.75 | 55 | 45 |
| SMPCB1087-R47MT | 0.47 | 0.86 | 0.75 | 50 | 45 |
| SMPCB1174-R10MT | 0.10 | 0.50 | 0.43 | 120 | 40 |
| SMPCB1174-R15MT | 0.15 | 0.50 | 0.43 | 70 | 40 |
| SMPCB1174-R22MT | 0.22 | 0.75 | 0.65 | 60 | 30 |
| SMPCB1174-R33MT | 0.33 | 1.21 | 1.05 | 45 | 35 |
| SMPCB1175-R15MT | 0.15 | 0.50 | 0.43 | 75 | 40 |
| SMPCB1175-R22MT | 0.22 | 0.70 | 0.60 | 70 | 40 |
| SMPCB1175-R33MT | 0.33 | 0.95 | 0.82 | 60 | 35 |
| SMPCB130830-R22MT | 0.22 | 0.90 | 0.80 | 50 | 35 |
| SMPCB130840-R10MT | 0.10 | 0.50 | 0.40 | 120 | 50 |
| SMPCB130840-R12MT | 0.12 | 0.50 | 0.40 | 100 | 45 |
| SMPCB130840-R15MT | 0.15 | 0.60 | 0.50 | 90 | 48 |
| SMPCB130840-R22MT | 0.22 | 0.60 | 0.50 | 80 | 45 |
| SMPCB130840-R30MT | 0.30 | 0.95 | 0.83 | 60 | 40 |
| SMPCB130840-R33MT | 0.33 | 0.95 | 0.83 | 60 | 35 |
| SMPCB130840-R47MT | 0.47 | 1.40 | 1.15 | 50 | 32 |
| SMPCB130850-R10MT | 0.10 | 0.50 | 0.40 | 130 | 50 |
| SMPCB130850-R15MT | 0.15 | 0.50 | 0.40 | 110 | 50 |
| SMPCB130850-R22MT | 0.22 | 0.60 | 0.50 | 100 | 45 |
| SMPCB130850-R33MT | 0.33 | 0.75 | 0.65 | 70 | 35 |
| SMPCB130850-R47MT | 0.47 | 1.20 | 1.00 | 60 | 30 |
| SMPCB130850-1R0MT | 1.00 | 2.55 | 2.20 | 33 | 23 |
| SMPCB1685-R21MT | 0.21 | 0.60 | 0.52 | 120 | 52 |
| SMPCB1685-R33MT | 0.33 | 0.70 | 0.59 | 100 | 48 |
| SMPCB1685-R47MT | 0.47 | 1.00 | 0.82 | 80 | 42 |
| SMPCB1685-R68MT | 0.68 | 1.20 | 1.02 | 70 | 40 |

1. Absolute maximum voltage **30VDC** In production process test @100VDC Impulse Winding

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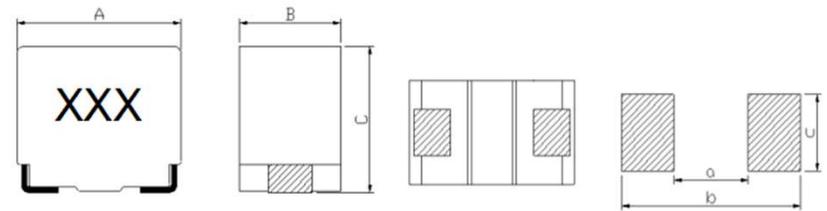
- **SMPCB- Vertical design** Molding Inductors for Electronic- power rail

Features-

- **SMPCB Carbonyl** Series High Current Shielded Power Inductors.
- Halogen Free & ROHS compliant.
- Operating temperature: -55°C~+125°C
- Low profile and low DCR
- Frequency range up to 3MHz

Test Noted-

- 1). All test data is referenced to 25°C ambient.
- 2). Inductance Tolerance $\pm 20\%$.
- 3). Test Condition: 100KHz, 1.0Vrms.
- 4). Rated current: Isat or Irms, whichever is smaller.
- 5). Isat: DC current at which the inductance drops approximate 30% TYP from its value without current.
- 6). Irms: DC current that causes the temperature rise ($\Delta T = 40^\circ\text{C}$) from 25°C ambient.
- 7). **Absolute maximum voltage 30VDC**



| series | A | B | C | a | b | c |
|-----------|------------|-----------|-----------|---------|----------|---------|
| SMPCB107T | 11.20±0.30 | 6.80±0.40 | 9.80±0.20 | 5.00TYP | 12.00TYP | 3.50TYP |

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| Part No. | Inductance | DC Resistance | | Saturation Current | Heating Rating Current |
|-----------------|------------------------|-------------------|-------|----------------------|------------------------|
| | L (μ H) \pm 20% | DCR ($m\Omega$) | | I _{sat} (A) | I _{rms} (A) |
| | @100KHz, 1.0V | Max. | Typ. | Typ. | Typ. |
| SMPCB107T-R11MT | 0.11 | 0.418 | 0.405 | 125 | 55 |
| SMPCB107T-R15MT | 0.15 | 0.418 | 0.405 | 120 | 55 |
| SMPCB107T-R22MT | 0.22 | 0.748 | 0.665 | 100 | 37 |
| SMPCB107T-R30MT | 0.30 | 0.957 | 0.880 | 90 | 40 |
| SMPCB107T-R33MT | 0.33 | 0.957 | 0.880 | 90 | 40 |
| SMPCB107T-R40MT | 0.40 | 0.693 | 0.625 | 65 | 40 |

1. Absolute maximum voltage **30VDC** In production process test @100VDC Impulse Winding
2. **75VDC types**. Adding the suffix "H" to the part number signifies a product intended for high-voltage applications. @200VDC Impulse Winding Test