

Molded Power Inductor High Current Low DCR

PIM- 1580BA2 series

MERITEK

FEATURE

- High Current, Low DCR, High Efficiency
- Soft Saturation
- Minimized acoustic and leakage flux noise.
- Shielded and compact construction design
- Application: Note PC Power System, incl. IMVP-6, DC/DC Converter,



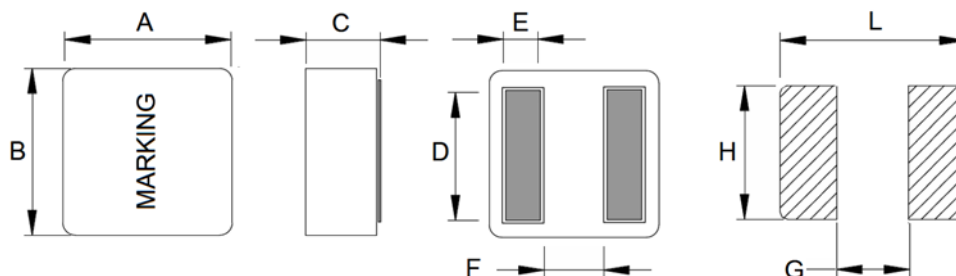
ELECTRICAL CHARACTERISTICS

| Item | Inductance (μH) | Tolerance (%) | DCR Typ. (mΩ) | DCR Max. (mΩ) | I _{SAT} Typ. (A) | I _{RMS} (A) | |
|----------------|-----------------|---------------|---------------|---------------|---------------------------|----------------------|-----------|
| | | | | | | 20°C Rise | 40°C Rise |
| PIM2R0M1580BA2 | 2.0 | ±20% | 1.92 | 2.21 | 57.0 | 29.5 | 40.0 |
| PIM2R2M1580BA2 | 2.2 | ±20% | 2.15 | 2.48 | 55.0 | 28.0 | 37.0 |
| PIM3R0M1580BA2 | 3.0 | ±20% | 2.50 | 3.00 | 46.0 | 26.0 | 34.5 |
| PIM4R2M1580BA2 | 4.2 | ±20% | 3.90 | 4.68 | 38.0 | 20.5 | 27.0 |
| PIM4R7M1580BA2 | 4.7 | ±20% | 4.30 | 5.16 | 37.0 | 20.0 | 26.5 |
| PIM5R3M1580BA2 | 5.3 | ±20% | 4.45 | 5.34 | 35.0 | 19.5 | 26.0 |
| PIM6R2M1580BA2 | 6.2 | ±20% | 5.40 | 6.50 | 34.0 | 17.0 | 23.0 |
| PIM7R2M1580BA2 | 7.2 | ±20% | 6.00 | 7.20 | 32.0 | 15.0 | 21.0 |
| PIM8R2M1580BA2 | 8.2 | ±20% | 6.60 | 7.92 | 28.0 | 13.0 | 19.0 |
| PIM100M1580BA2 | 10.0 | ±20% | 8.00 | 9.60 | 24.0 | 11.0 | 16.0 |
| PIM150M1580BA2 | 15.0 | ±20% | 12.50 | 15.00 | 21.0 | 10.0 | 13.0 |
| PIM220M1580BA2 | 22.0 | ±20% | 19.30 | 23.20 | 19.0 | 9.0 | 12.0 |

Note:

1. Inductance test under 100KHz, 0.1V
2. All test data referenced to 25°C ambient
3. I_{SAT} based on inductance change (ΔL/L0: ≤30%) approximately
4. Operating temperature: -40°C ~ +125°C (Including Self-temperature rise)

DIMENSIONS



(Unit: mm)

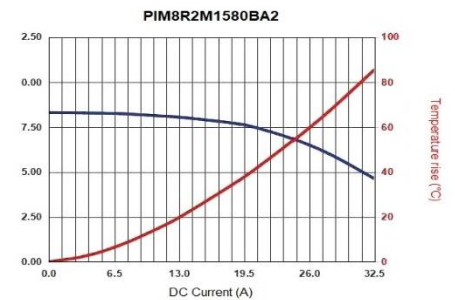
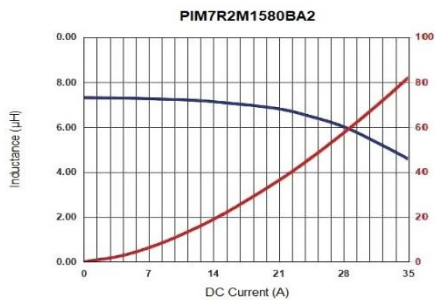
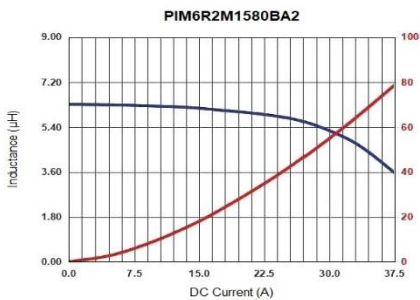
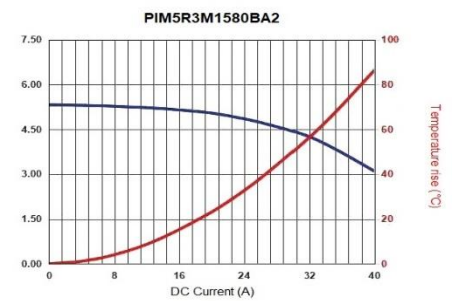
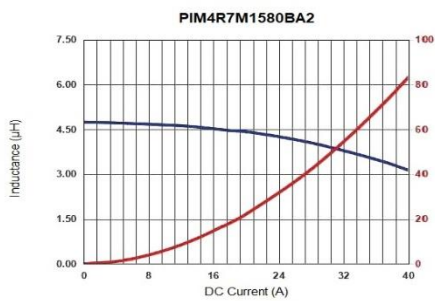
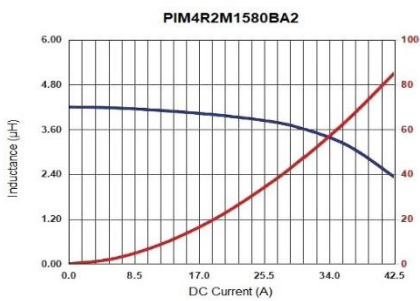
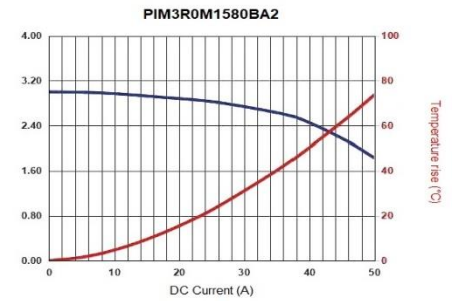
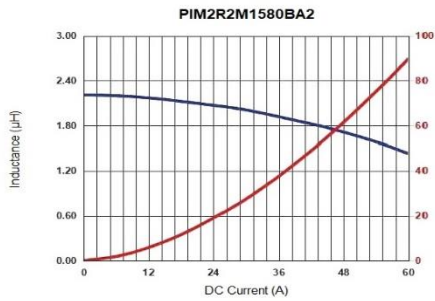
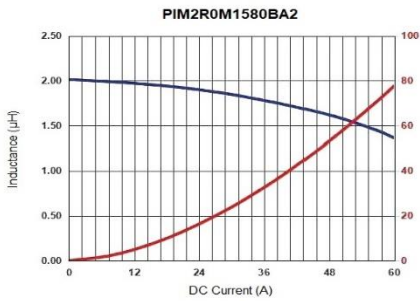
| Size Code | A | B | C | D | E | F | H | G | L |
|-----------|----------|----------|---------|----------|---------|---------|----------|---------|----------|
| 1580B | 17.5±0.3 | 16.5±0.3 | 7.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |

Molded Power Inductor High Current Low DCR

PIM- 1580BA2 series

MERITEK

CRARACTERISTIC CURVES



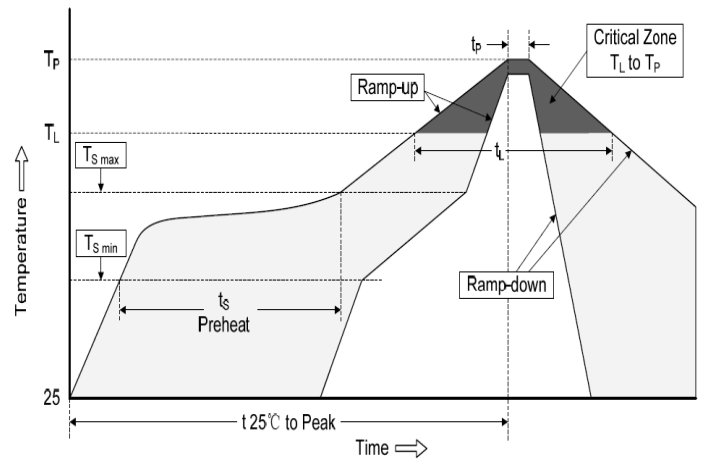
Molded Power Inductor High Current Low DCR

PIM- 1580BA2 series

MERITEK

RECOMMENDED SOLDERING PROFILES

| Reflow Condition | | |
|--|-------------------------------|-----------------|
| Pre Heat | Temp. Min $T_{s(min)}$ | 150°C |
| | Temp. Max $T_{s(max)}$ | 200°C |
| | Time (min. to max.) (t_s) | 60~120 seconds |
| Average ramp up rate $T_{s(max)}$ to T_L | | 3°C/second max. |
| Average ramp up rate T_L to peak | | 3°C/second max. |
| Reflow | Temp. (T_L) | 217°C |
| | Time (min. to max.) (t_L) | 60~150 seconds |
| Peak Temperature (T_P) | | 245°C |
| Time within 5°C of actual peak Temperature (t_p) | | 10 seconds |
| Ramp-down Rate | | 6°C/second max. |
| Reflow Times | | 3 times max. |



PART NUMBERING SYSTEM

PIM (1) 2R0 (2) M (3) 1580B (4) A2 (5)

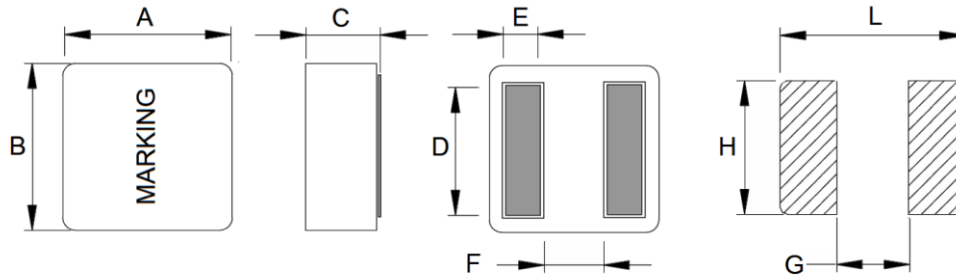
| No | item | Code | Description |
|-----|----------------|-------|--|
| (1) | Meritek Series | PIM | Power Inductor Series High Current Molded Type |
| (2) | Inductance | 2R0 | 2R0: 2.0μH R47: 0.47μR, 2R2: 2.2μR, 100: 10μR |
| (3) | Tolerance | M | M: ±20% +20% ~ -20% |
| (4) | Size Code | 1580B | 1580B: 17.5 x 7.7mm Width x Height (mm) |
| (5) | Internal Code | A2 | High Current Low RDC Type Internal control or project reference |

Molded Power Inductor High Current Low DCR

PIM- 1580BA2 series

MERITEK

DIMENSIONS – PIM-A2 series



(Unit: mm)

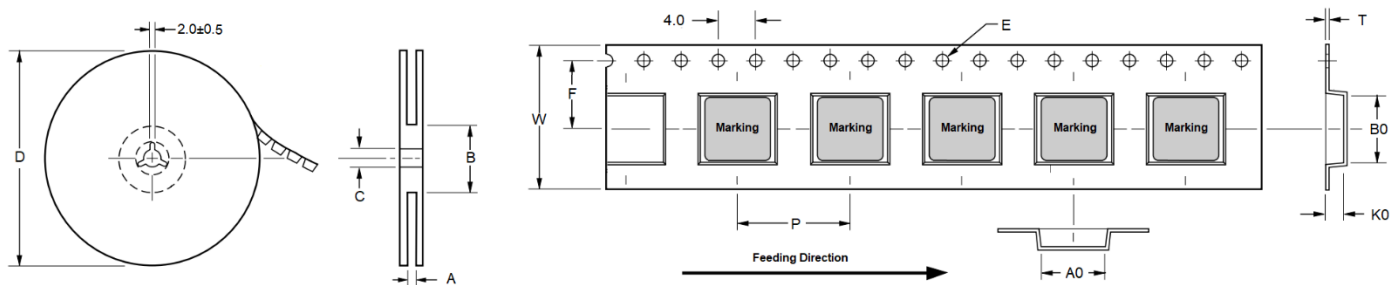
| Size Code | A | B | C | D | E | F | H | G | L |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|---------|----------|
| 0420A/R | 4.1±0.2 | 4.1±0.2 | 1.9±0.2 | 3.4±0.3 | 0.88±0.2 | 1.6±0.25 | 3.4 ref | 1.4 ref | 3.8 ref |
| 0420B/L | 4.4±0.2 | 4.4±0.2 | 1.9±0.2 | 3.4±0.3 | 0.88±0.2 | 1.6±0.25 | 3.4 ref | 1.4 ref | 3.8 ref |
| 0430R | 4.1±0.25 | 4.1±0.25 | 2.8±0.2 | 3.4±0.3 | 0.88±0.2 | 1.6±0.25 | 3.4 ref | 1.4 ref | 3.8 ref |
| 0430L | 4.4±0.2 | 4.4±0.2 | 2.8±0.2 | 3.4±0.3 | 0.88±0.2 | 1.6±0.25 | 3.4 ref | 1.4 ref | 3.8 ref |
| 0520A | 5.5±0.2 | 5.3±0.2 | 1.9±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0520B | 6.0±0.2 | 5.7±0.2 | 1.9±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0530A | 5.5±0.2 | 5.3±0.2 | 2.9±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0530B | 6.0±0.2 | 5.7±0.2 | 2.9±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0550R | 5.5±0.2 | 5.3±0.2 | 4.8±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0550L | 6.0±0.2 | 5.7±0.2 | 4.8±0.2 | 4.3±0.3 | 1.1±0.2 | 2.3±0.25 | 4.5 ref | 2.0 ref | 4.7 ref |
| 0630A | 6.6±0.2 | 6.4±0.2 | 2.9±0.2 | See Table | 1.4±0.2 | 2.6±0.25 | 5.8 ref | 2.5 ref | 5.6 ref |
| 0630B | 7.2±0.2 | 6.9±0.2 | 2.9±0.2 | See Table | 1.4±0.2 | 2.6±0.25 | 5.6 ref | 2.5 ref | 5.6 ref |
| 0640B | 7.2±0.2 | 6.9±0.2 | 3.8±0.2 | See Table | 1.4±0.2 | 2.6±0.25 | 5.6 ref | 2.5 ref | 5.6 ref |
| 0650A | 6.6±0.2 | 6.4±0.2 | 4.8±0.2 | See Table | 1.4±0.2 | 2.6±0.25 | 5.8 ref | 2.5 ref | 5.6 ref |
| 0650B | 7.2±0.2 | 6.9±0.2 | 4.8±0.2 | See Table | 1.4±0.2 | 2.6±0.25 | 5.6 ref | 2.5 ref | 5.6 ref |
| 0660R | 6.6±0.2 | 6.4±0.2 | 5.8±0.2 | 5.3±0.3 | 1.4±0.2 | 2.6±0.25 | 5.6 ref | 2.5 ref | 5.6 ref |
| 0660B/L | 7.2±0.2 | 6.9±0.2 | 5.8±0.2 | 5.3±0.3 | 1.4±0.2 | 2.6±0.25 | 5.6 ref | 2.5 ref | 5.6 ref |
| 0720A | 7.80±0.25 | 7.60±0.20 | 1.85±0.2 | 6.2±0.3 | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0720B | 8.4±0.3 | 8.0±0.3 | 1.85±0.2 | See Table | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0730A | 7.80±0.25 | 7.60±0.20 | 2.90±0.2 | See Table | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0730B | 8.4±0.3 | 8.0±0.3 | 2.9±0.2 | See Table | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0750A | 7.80±0.25 | 7.80±0.25 | 4.80±0.2 | 6.2±0.3 | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0750B | 8.4±0.3 | 8.0±0.3 | 4.8±0.2 | 6.2±0.3 | 1.75±0.2 | 3.15±0.25 | 7.4 ref | 2.8 ref | 7.2 ref |
| 0770A | 7.80±0.25 | 7.80±0.25 | 6.70±0.30 | See Table | 1.75±0.20 | 3.15±0.25 | 7.8 ref | 2.8 ref | 6.7 ref |
| 0770B | 8.4±0.3 | 8.0±0.3 | 6.7±0.3 | See Table | 1.75±0.2 | 3.15±0.25 | 7.8 ref | 2.8 ref | 6.7 ref |
| 0880B | 8.9±0.3 | 8.5±0.3 | 7.7±0.3 | 6.9±0.4 | 1.8±0.2 | 3.5±0.3 | 8.0 ref | 2.7 ref | 7.8 ref |
| 1010B | 11.9±0.3 | 11.0±0.3 | 9.7±0.3 | See Table | 2.4±0.2 | 4.4±0.3 | 10.5 ref | 3.7 ref | 12.0 ref |
| 1031L | 11.9±0.3 | 11.0±0.30 | 2.9±0.2 | 9.0±0.5 | 2.4±0.2 | 4.4±0.3 | 10.5 ref | 3.7 ref | 13.0 ref |
| 1060B | 11.9±0.3 | 11.0±0.3 | 5.7±0.3 | See Table | 2.4±0.2 | 4.5±0.3 | 10.5 ref | 3.7 ref | 11.0 ref |
| 1580A | 16.5±0.3 | 15.5±0.3 | 7.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |
| 1580B | 17.5±0.3 | 16.5±0.3 | 7.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |
| 1510A | 16.5±0.3 | 15.5±0.3 | 9.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |
| 1510B | 17.5±0.3 | 16.5±0.3 | 9.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |
| 1513A | 16.5±0.3 | 15.5±0.3 | 12.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |
| 1513B | 17.5±0.3 | 16.5±0.3 | 12.7±0.3 | 13.2±0.5 | 3.2±0.2 | 7.0±0.3 | 15.0 ref | 6.0 ref | 15.0 ref |

Molded Power Inductor High Current Low DCR

PIM- 1580BA2 series

MERITEK

PACKAGING DIMENSION



| Size Code | Reel Dimension (mm) | | | | Tape Dimensions (mm) | | | | | | | | Qty 13" |
|-----------|---------------------|-----------|-----------|-----|----------------------|-----------|-----------|-----------|------------|------------|------------|-----------|------------|
| | A +2/-0 | B ±2.0 | C ±0.5 | D | W ±0.3 | F ±0.1 | P ±0.1 | E ±0.1 | A0 ±0.1 | B0 ±0.1 | K0 ±0.1 | T ±0.1 | |
| 0420 | 12.4 | 100 | 13 | 330 | 12.0 | 5.5 | 8.0 | 1.5 | 4.7 | 4.7 | 2.3 | 0.35 | 3000 |
| 0430 | 12.4 | 100 | 13 | 330 | 12.0 | 5.5 | 8.0 | 1.5 | 4.7 | 4.7 | 3.3 | 0.35 | 2000 |
| 0520 | 12.4 | 100 | 13 | 330 | 12.0 | 5.5 | 8.0 | 1.5 | 6.4 | 6.1 | 2.3 | 0.35 | 3000 |
| 0530 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 8.0 | 1.5 | 6.4 | 6.1 | 3.3 | 0.35 | 2000 |
| 0550 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 8.0 | 1.5 | 6.4 | 6.1 | 5.3 | 0.35 | 1500 |
| 0630 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 7.6 | 7.3 | 3.3 | 0.35 | 1000 |
| 0640 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 7.6 | 7.3 | 4.3 | 0.35 | 800 |
| 0650 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 7.6 | 7.3 | 5.3 | 0.35 | 800 |
| 0660 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 7.6 | 6.3 | 6.3 | 0.35 | 750 |
| 0720 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 8.8 | 8.4 | 2.3 | 0.35 | 2000 |
| 0730 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 8.8 | 8.4 | 3.3 | 0.35 | 1500 |
| 0750 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 8.8 | 8.4 | 5.3 | 0.35 | 800 |
| 0770 | 16.4 | 100 | 13 | 330 | 16.0 | 7.5 | 12.0 | 1.5 | 8.8 | 8.4 | 7.3 | 0.35 | 700 |
| 0880 | 24.4 | 100 | 13 | 330 | 24.0 | 7.5 | 16.0 | 1.5 | 9.4 | 8.9 | 8.5 | 0.35 | 450 |
| 1060 | 24.4 | 100 | 13 | 330 | 24.0 | 11.5 | 16.0 | 1.5 | 12.4 | 11.5 | 6.3 | 0.35 | 500 |
| 1010 | 24.4 | 100 | 13 | 330 | 24.0 | 11.5 | 16.0 | 1.5 | 12.4 | 11.5 | 10.3 | 0.35 | 300 |
| 1031 | 24.4 | 100 | 13 | 330 | 24.0 | 11.5 | 16.0 | 1.5 | 12.4 | 11.5 | 3.3 | 0.35 | 1000 |
| 1580 | 32.4 | 100 | 13 | 330 | 32.0 | 14.2 | 24.0 | 1.5 | 18.0 | 17.0 | 8.5 | 0.50 | 200 |
| 1510 | 32.4 | 100 | 13 | 330 | 32.0 | 14.2 | 24.0 | 1.5 | 18.0 | 17.0 | 10.5 | 0.50 | 150 |
| 1513 | 32.4 | 100 | 13 | 330 | 32.0 | 14.2 | 24.0 | 1.5 | 18.0 | 17.0 | 13.6 | 0.50 | 100 |

*Specifications subject to change without notice.