

# PRODUCT INFORMATION PACKET

**marathon®**  
Motors

Model No: SCA2502A4121GAA001

Catalog No: SCA2502A4121GAA001

TerraMAX® Cast Iron Motor, 335 HP, 3 Ph, 50 Hz, 380/660 V, 1500 RPM, 355M Frame, TEFC



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**RegalRexnord**

### Nameplate Specifications

|                        |               |                            |                             |
|------------------------|---------------|----------------------------|-----------------------------|
| Output HP              | 335 Hp        | Output KW                  | 250.0 kW                    |
| Frequency              | 50 Hz         | Voltage                    | 380/660 V                   |
| Current                | 448.8 A       | Speed                      | 1490 rpm                    |
| Service Factor         | 1             | Phase                      | 3                           |
| Efficiency             | 95.1 %        | Power Factor               | 0.89                        |
| Duty                   | S1            | Insulation Class           | F                           |
| Frame                  | 355M          | Enclosure                  | Totally Enclosed Fan Cooled |
| Thermal Protection     | No Protection | Ambient Temperature        | 40 °C                       |
| Drive End Bearing Size | 6322          | Opp Drive End Bearing Size | 6322                        |
| UL                     | No            | CSA                        | No                          |
| CE                     | Yes           | IP Code                    | 55                          |
| Number of Speeds       | 1             | Efficiency Class           | IE2                         |

### Technical Specifications

|                       |               |                       |                |
|-----------------------|---------------|-----------------------|----------------|
| Electrical Type       | Squirrel Cage | Starting Method       | Direct On Line |
| Poles                 | 4             | Rotation              | Bi-Directional |
| Mounting              | B5            | Motor Orientation     | Horizontal     |
| Drive End Bearing     | C3            | Opp Drive End Bearing | C3             |
| Frame Material        | Cast Iron     | Shaft Type            | Keyed          |
| Overall Length        | 1542 mm       | Frame Length          | 1010 mm        |
| Shaft Diameter        | 95 mm         | Shaft Extension       | 170 mm         |
| Assembly/Box Mounting | Top           |                       |                |
| Outline Drawing       | 0235501831    | Connection Drawing    | 8442000085     |

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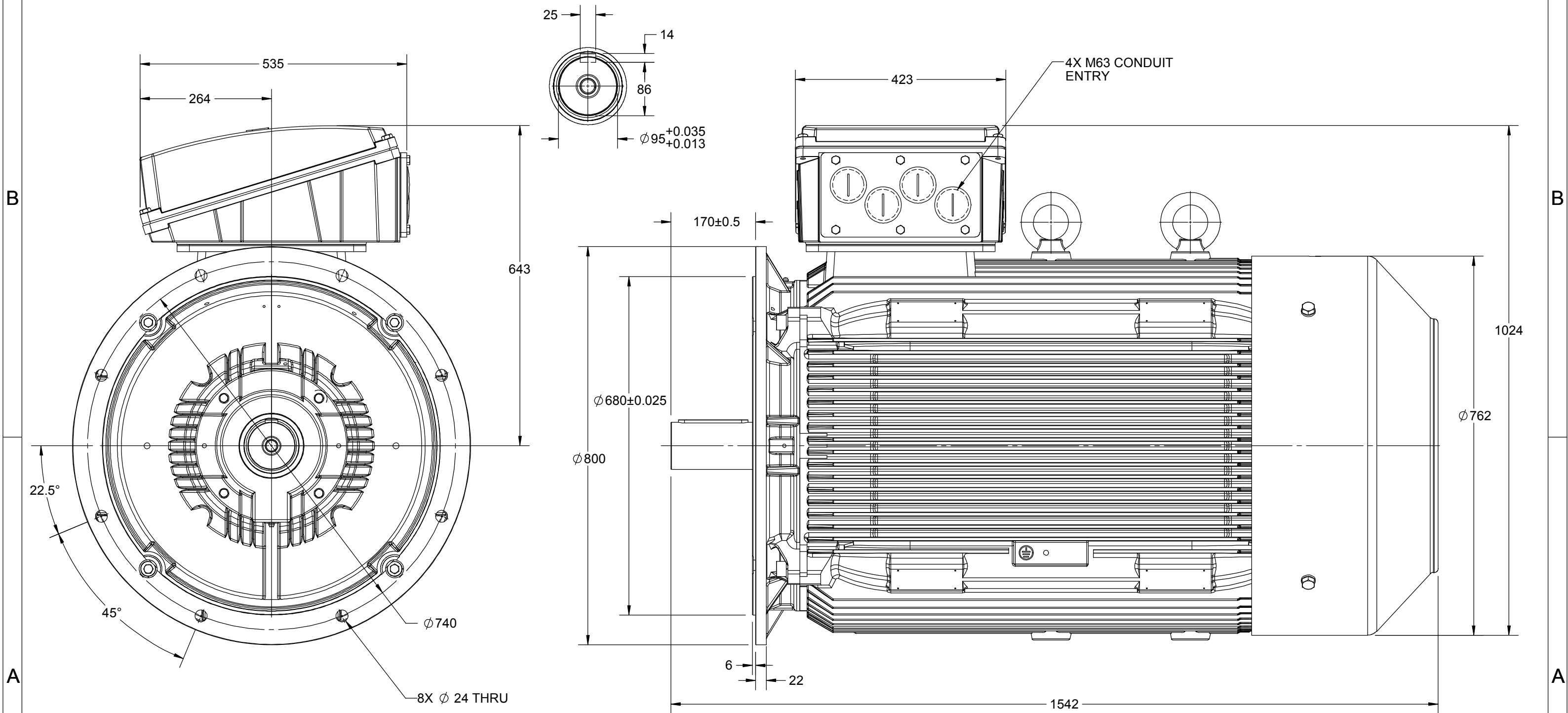
4

3

2

1

# OUTLINE



|  |                    |                    |  |                           |  |           |                              |                 |
|--|--------------------|--------------------|--|---------------------------|--|-----------|------------------------------|-----------------|
| DRAWING REVISION<br>B  | REVISION BY<br>NIV | DATE<br>08/05/2019 |  | DRAWN BY<br>JOY           | <div>marathon™<br/>Motors</div>          |           |                              |                 |
| ECO<br>ECO-0165600   | APPROVED BY<br>SR  | DATE<br>08/05/2019 |  | DATE<br>18/07/2014        |  |           |                              |                 |
| ECO DESCRIPTION<br>MODEL UPDATED   |                    |                    |  | APPROVED BY<br>SBD        | DESCRIPTION                              |           |                              |                 |
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|  |                    |                    |  | REFERENCE                 | MATERIAL                                 |           | PROCESS/FINISH               |                 |
|  |                    |                    |  | THIRD ANGLE<br>PROJECTION |  | SIZE<br>B | DRAWING NUMBER<br>0235501831 | SHEET<br>1 OF 1 |

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|  |                    |                    |
|--|--------------------|--------------------|
| DRAWING REVISION<br>A                  | REVISION BY<br>SN  | DATE<br>13/01/2017 |
| ECO<br>ECO-0116390                     | APPROVED BY<br>SBD | DATE<br>13/01/2017 |
| ECO DESCRIPTION<br>NEW DRAWING RELEASE |                    |                    |

| GEOMETRIC TOLERANCE |         |      |
|---------------------|---------|------|
| LINEAR DIM          | >0~6    | ±0.1 |
|                     | >6~30   | ±0.2 |
|                     | >30~120 | ±0.3 |



# NOTES:

1. PRESSURE-SENSITIVE ADHESIVE COATED PAPER ON THE BACK OF SELF-ADHESIVE.
2. AT THE END OF YELLOW, WORDS, SYMBOLS, LETTERS ARE BLACK, BORDER IS BLACK.
3. THE TOLERANCE OF THE LINEAR SIZE OF THE TOLERANCE WITHOUT THE TOLERANCE BY THE TABLE.

8WD.442.2017

|  |                        |  |  |  |                              |  |                 |
|--|------------------------|--|--|--|------------------------------|--|-----------------|
|  | DRAWN BY<br>SN         |  | Regal Beloit America, Inc.                   |  |                              |  |                 |
|  | DATE<br>16/12/2016     |  |  |  |                              |  |                 |
|  | APPROVED BY<br>SBD     |  | DESCRIPTION<br><b>CONN DIAGRAM-NAMEPLATE</b> |  |                              |  |                 |
|  | DATE<br>16/12/2016     |  |  |  |                              |  |                 |
|  | REFERENCE              |  | MATERIAL                                     |  | PROCESS/FINISH               |  |                 |
|  | THIRD ANGLE PROJECTION |  | SIZE<br>A                                    |  | DRAWING NUMBER<br>8442000085 |  | SHEET<br>1 OF 1 |

**Model No.** SCA2502A4121GAA001

| U<br>(V) | Δ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[Nm] | IE<br>Class | % EFF at __ load |      |      |      | PF at __ load |      |      | I <sub>A</sub> /I <sub>N</sub><br>[pu] | T <sub>A</sub> /T <sub>N</sub><br>[pu] | T <sub>K</sub> /T <sub>N</sub><br>[pu] |
|----------|---------------|-----------|-----------|-----------|----------|------------|-----------|-------------|------------------|------|------|------|---------------|------|------|--|--|--|
| 380/660  | Δ             | 50        | 250       | 335       | 448.8    | 1490       | 1601.35   | IE2         | -                | 95.1 | 95.1 | 95.7 | 0.89          | 0.88 | 0.83 | 6.5                                    | 1.9                                    | 2.5                                    |
|          |               |           |           |           |          |            |           |             |                  |      |      |      |               |      |      |  |  |  |

|                                  |                             |   |   |
|----------------------------------|-----------------------------|---|---|
| Motor type                       | SCA                         | Degree of protection                      | IP 55                                       |
| Enclosure                        | TEFC                        | Mounting type                             | IM B5                                       |
| Frame Material                   | Cast Iron                   | Cooling method                            | IC 411                                      |
| Frame size                       | 355M                        | Motor weight - approx.                    | 1717 kg                                     |
| Duty                             | S1                          | Gross weight - approx.                    | 1762 kg                                     |
| Voltage variation *              | ± 10%                       | Motor inertia                             | 8.4434 kgm <sup>2</sup>                     |
| Frequency variation *            | ± 5%                        | Load inertia                              | Customer to Provide                         |
| Combined variation *             | 10%                         | Vibration level                           | 2.8 mm/s                                    |
| Design                           | N                           | Noise level ( 1meter distance from motor) | 82 dB(A)                                    |
| Service factor                   | 1.0                         | No. of starts hot/cold/Equally spread     | 2/3/4                                       |
| Insulation class                 | F                           | Starting method                           | DOL   |
| Ambient temperature              | -20 to +40 °C               | Type of coupling                          | Direct                                      |
| Temperature rise (by resistance) | 80 [ Class B ] K            | LR withstand time (hot/cold)              | 15/30 s                                     |
| Altitude above sea level         | 1000 meter                  | Direction of rotation                     | Bi-directional                              |
| Hazardous area classification    | NA                          | Standard rotation                         | Clockwise form DE                           |
| Zone classification              | NA                          | Paint shade                               | RAL 5014                                    |
| Gas group                        | NA                          | Accessories                               |   |
| Temperature class                | NA                          | Accessory - 1                             | -   |
| Rotor type                       | Aluminum Die cast           | Accessory - 2                             | -   |
| Bearing type                     | Anti-friction ball          | Accessory - 3                             | -   |
| DE / NDE bearing                 | 6322 C3 / 6322 C3           | Terminal box position                     | TOP   |
| Lubrication method               | Regreasable                 | Maximum cable size/conduit size           | 1R x 3C x 300mm <sup>2</sup> /4 x M63 x 1.5 |
| Type of grease                   | CHEVRON SRI-2 or Equivalent | Auxiliary terminal box                    | Available on Request                        |

I<sub>A</sub>/I<sub>N</sub> - Locked Rotor Current / Rated Current

T<sub>K</sub>/T<sub>N</sub> - Breakdown Torque / Rated Torque

T<sub>A</sub>/T<sub>N</sub> - Locked Rotor Torque / Rated Torque

**NOTE**

All performance values at rated voltage and frequency.

All performance parameters are subjected to standard tolerance as per IEC 60034-1

\* Voltage, Frequency and combine variation are as per IEC60034-1

Technical data are subject to change. There may be discrepancies between calculated and name plate values.

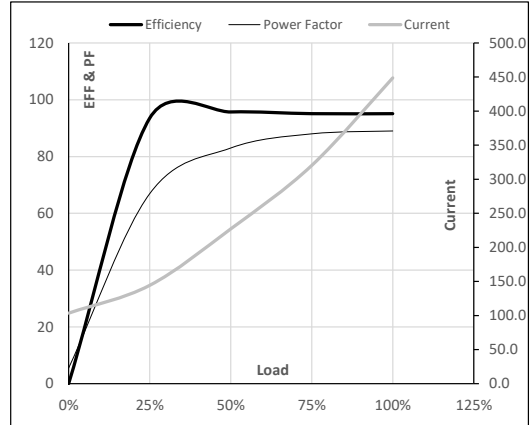
| Efficiency | Europe | China                 | India | Aus/Nz | Brazil | Global IEC    |
|------------|--------|-----------------------|-------|--------|--------|---------------|
| Standards  | -      | GB 18613-2012 Grade 2 | -     | -      | -      | IEC: 60034-30 |

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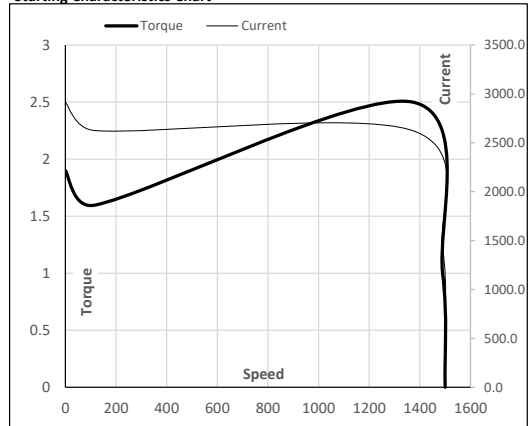
| Enclosure | U<br>(V) | $\Delta$ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[RPM] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg-m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 380/660  | $\Delta$             | 50        | 250       | 335       | 448.8    | 1490       | 163.29     | 1601.35   | IE2         | 40          | S1   | 1000             | 8.4434                          | 1717           |

**Motor Load Data**

| Load Point   |       | NL    | 1/4FL | 1/2FL | 3/4FL  | FL     | 5/4FL |
|--------------|-------|-------|-------|-------|--------|--------|-------|
| Current      | A     | 103.5 | 144.3 | 227.1 | 320.2  | 448.8  |       |
| Torque       | Nm    | 0.0   | 398.3 | 797.8 | 1198.8 | 1601.4 |       |
| Speed        | r/min | 1500  | 1498  | 1495  | 1493   | 1490   |       |
| Efficiency   | %     | 0.0   | 93.5  | 95.7  | 95.1   | 95.1   |       |
| Power Factor | %     | 5.5   | 66.9  | 83.0  | 88.0   | 89.0   |       |

**Performance vs Load Chart**

**Motor Speed Torque Data**

| Load Point |       | LR     | P-Up   | BD     | Rated | NL    |
|------------|-------|--------|--------|--------|-------|-------|
| Speed      | r/min | 0      | 115    | 1371   | 1490  | 1500  |
| Current    | A     | 2917.0 | 2625.3 | 1414.7 | 448.8 | 103.5 |
| Torque     | pu    | 1.9    | 1.6    | 2.5    | 1     | 0     |

**Starting Characteristics Chart**

**NOTE** Refer data sheet for applicable standard and tolerances on performance parameters

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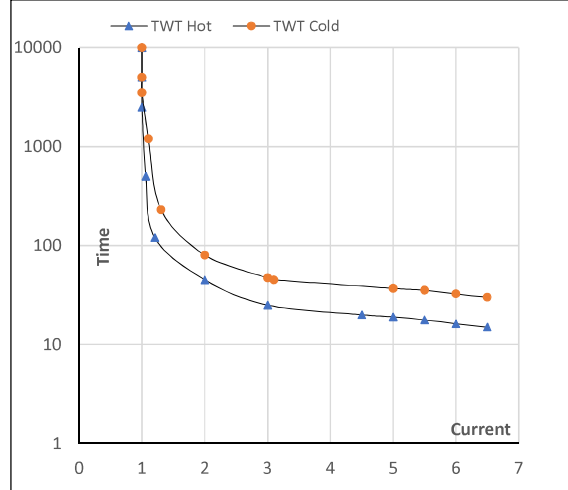
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**Model No.** SCA2502A4121GAA001

| Enclosure | U<br>(V) | $\Delta$ / Y<br>Conn | f<br>[Hz] | P<br>[kW] | P<br>[hp] | I<br>[A] | n<br>[rpm] | T<br>[kgm] | T<br>[Nm] | IE<br>Class | Amb<br>[°C] | Duty | Elevation<br>[m] | Inertia<br>[kg·m <sup>2</sup> ] | Weight<br>[kg] |
|-----------|----------|----------------------|-----------|-----------|-----------|----------|------------|------------|-----------|-------------|-------------|------|------------------|---------------------------------|----------------|
| TEFC      | 380/660  | $\Delta$             | 50        | 250       | 335       | 448.8    | 1490       | 163.29     | 1601.35   | IE2         | 40          | S1   | 1000             | 8.4434                          | 1717           |

**Motor Speed Torque Data**

| Load     | FL      | $I_1$ | $I_2$ | $I_3$ | $I_4$ | $I_5$ | LR  |
|----------|---------|-------|-------|-------|-------|-------|-----|
| TWT Hot  | s 10000 | 45    | 25    | 23    | 19    | 18    | 15  |
| TWT Cold | s 10000 | 80    | 47    | 46    | 37    | 36    | 30  |
| Current  | pu      | 1     | 2     | 4     | 5     | 5.5   | 6.5 |

**Thermal Characteristics Chart**

**NOTE** Refer data sheet for applicable standard and tolerances on performance parameters

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