

SERIES: F2D5-2580 | DESCRIPTION: HIGH CURRENT POWER INDUCTORS

FEATURES

- Ferrite core
- Moisture Sensitivity: Level (MSL) 1
- Small volume, high current, low magnetic loss, low ESR, small parasitic capacitance
- Operating temperature -40°C to 125°C



| MODEL | Inductance (Lo) typ [μH] | Tolerance typ [± %] | DC Resistance (DCR) max [mΩ] | Saturation Current (Isat) typ [A] | Temperature Rise Current (Irms) typ [A] |
|----------------|-----------------------------------|---------------------------|---------------------------------------|--|--|
| F2D5-2580-1R5M | 1.50 | 20 | 2.00 | 60.0 | 28.0 |
| F2D5-2580-3R3M | 3.30 | 20 | 3.00 | 38.0 | 26.0 |
| F2D5-2580-4R7M | 4.70 | 20 | 3.00 | 30.0 | 26.0 |
| F2D5-2580-6R8M | 6.80 | 20 | 3.70 | 23.0 | 23.0 |
| F2D5-2580-100M | 10.0 | 20 | 5.60 | 20.0 | 18.0 |
| F2D5-2580-150M | 15.0 | 20 | 8.76 | 15.5 | 15.0 |
| F2D5-2580-220M | 22.0 | 20 | 8.76 | 11.5 | 15.0 |
| F2D5-2580-330M | 33.0 | 20 | 8.76 | 8.50 | 15.0 |
| F2D5-2580-560M | 56.0 | 20 | 8.76 | 4.30 | 15.0 |

- Notes:
- Referenced ambient temperature 25°C
 - Test Condition: 100 kHz, 0.1 Vrms
 - Saturation Current - Isat: The actual value of DC current (A) when the Inductance decrease 30% of its initial value.
Temperature Rise Current - Irms: The actual value of DC current (A) when the Temperature rise is ΔT 40°C ($T_a = 25^\circ\text{C}$)
 - Operating temperature range includes self-temperature rise.
 - Important Reminder: The product temperature can be influenced by various factors such as circuit design, component placement, PCB size and thickness, and the cooling system. Please ensure to verify the product temperature in its final application.

PART NUMBER KEY

F2D5 - 2580 - XXX X

Type / Product Series
F2D5-2580 = High Current Power Inductors

Inductance *
1R0 = 1.0 μH

Inductance Tolerance
M = ±20%

* Note: Inductance expressed by three figures. The unit is micro henry (μH). The first and second figures are significant digits, the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R" (3R8 = 3.8 μH). In that case, all figures are significant digits.

SAFETY AND COMPLIANCE

| Parameter | Compliant |
|-----------|--|
| RoHS | Compliance with ROHS, Reach compliant and Halogen Free |

ENVIROMENTAL

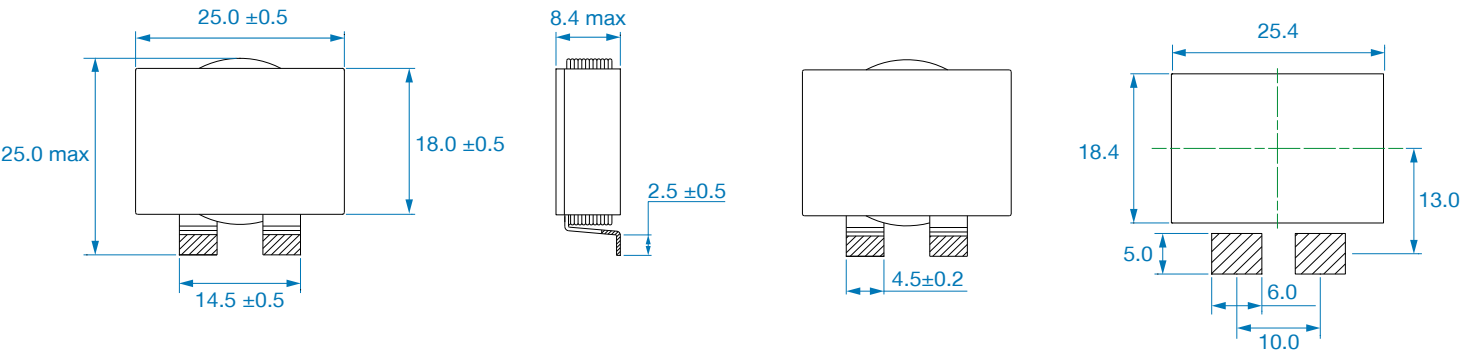
| Parameter | Conditions | Min | Typ | Max | Units |
|-----------------------|---------------------------------------|-----|-----|-----|-------|
| Operating temperature | Including coils self-temeprature rise | -40 | | 125 | °C |
| Storage temperature | | -40 | | 125 | °C |

MECHANICAL

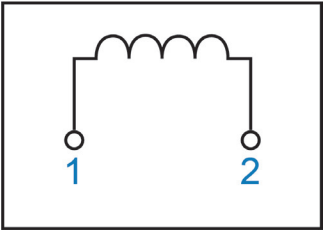
| Parameter | Conditions | Min | Typ | Max | Units |
|---------------|-------------------|-----|-----|-----|-------|
| Core material | Ferrite | | | | |
| Dimensions | 25.0 x 25.0 x 8.4 | | | | mm |

MECHANICAL DRAWING

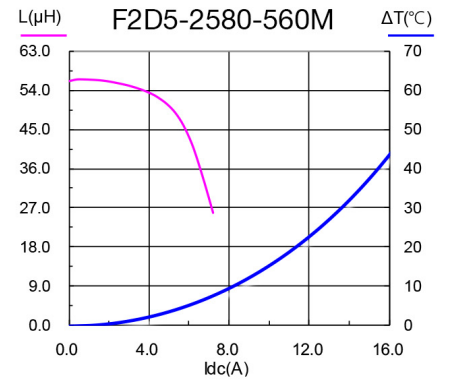
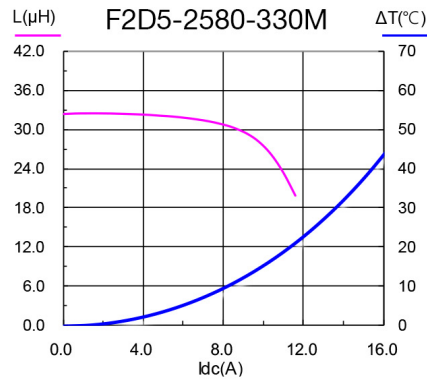
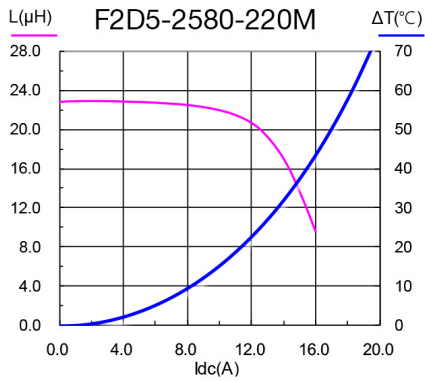
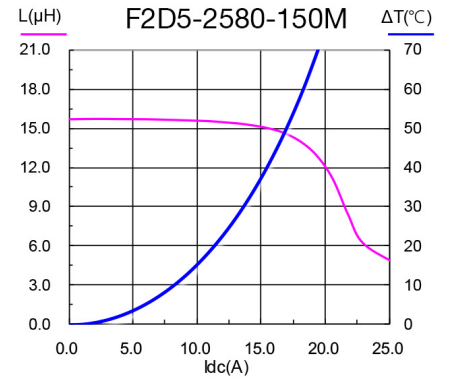
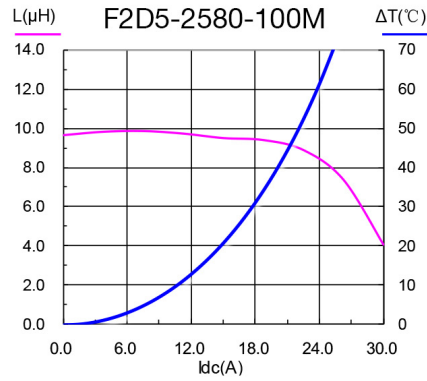
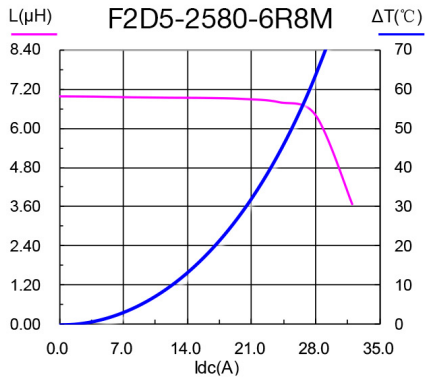
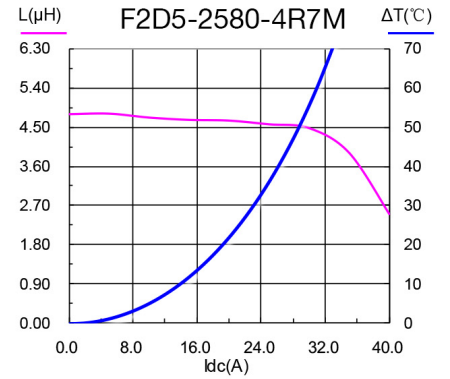
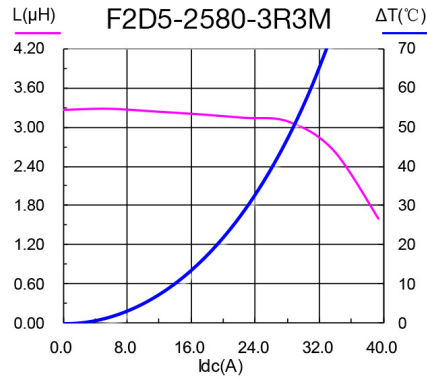
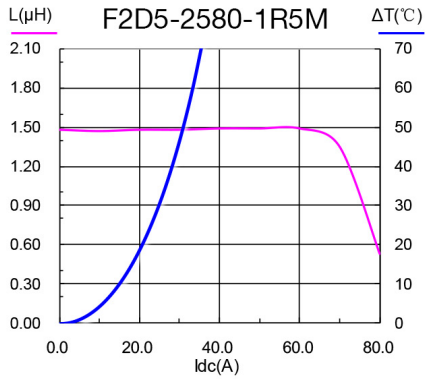
Units: mm



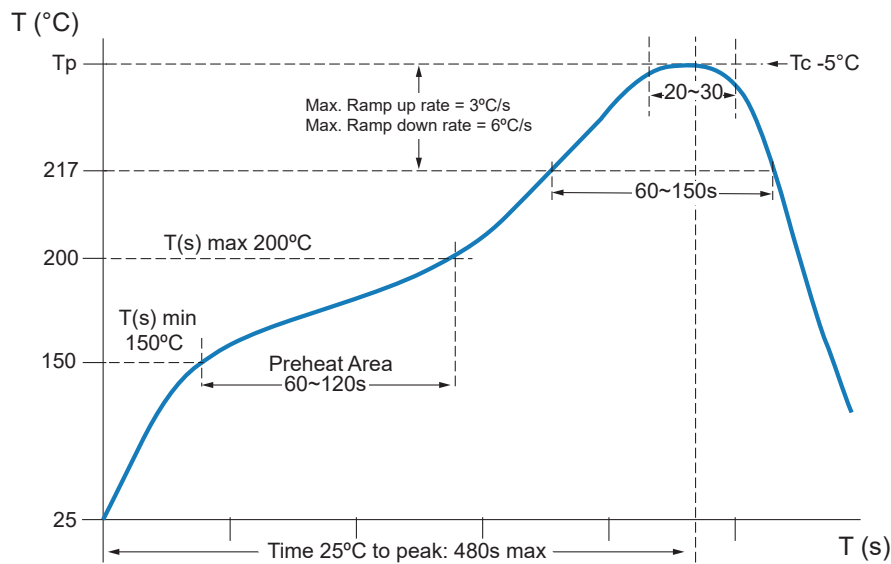
ELECTRICAL DIAGRAM



PERFORMANCE CURVES



REFLOW SOLDERING TEMPERATURE CURVE

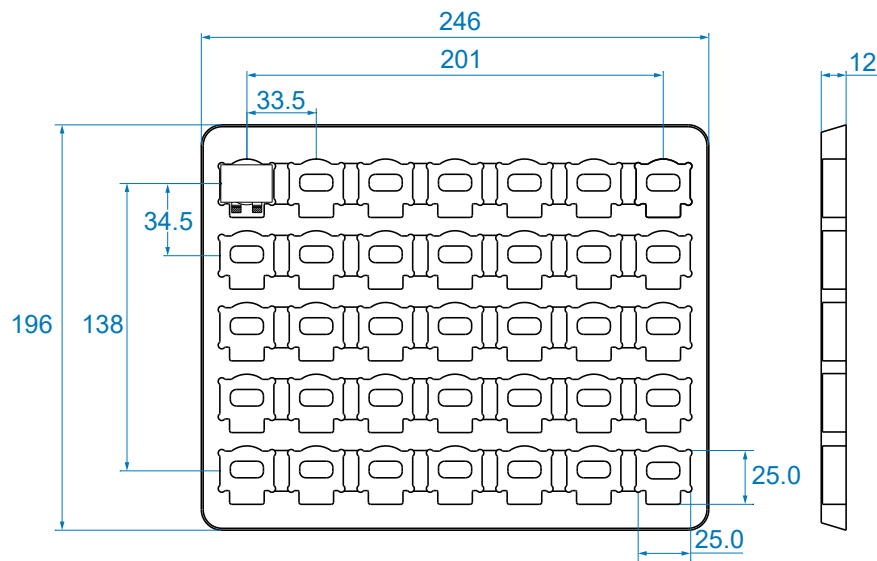


CLASSIFICATION OF PEAK PACKAGE BODY TEMPERATURE

| | Package Thickness | Package Volume | | |
|------------------|-------------------|-----------------------|----------------------------|------------------------|
| | | < 350 mm ³ | 350 ~ 2000 mm ³ | > 2000 mm ³ |
| PB-Free Assembly | < 1.6 mm | 260 °C | 260 °C | 260 °C |
| | 1.6 ~ 2.5 mm | 260 °C | 250 °C | 245 °C |
| | ≥ 2.5 mm | 250 °C | 245 °C | 245 °C |

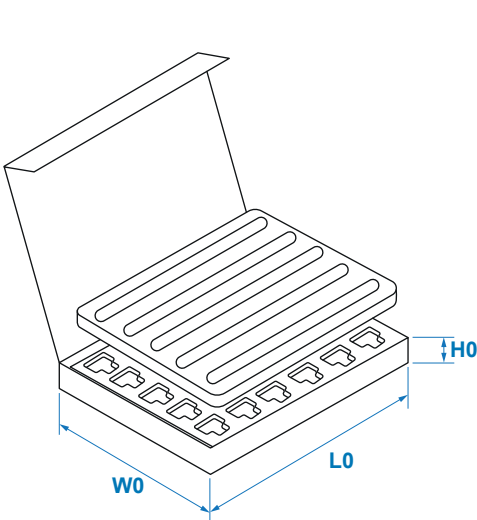
QUANTITY PER TRAY & PACKING INFORMATION

Units: mm

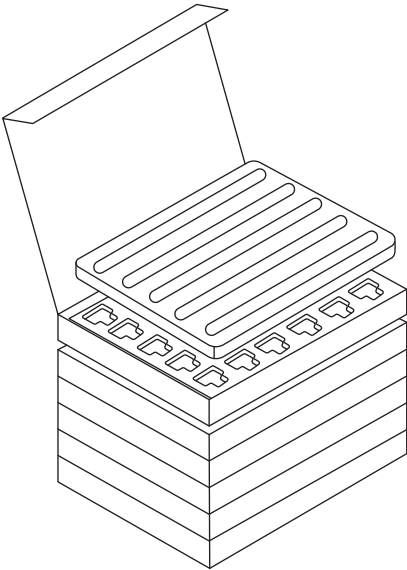


PACKAGING DIMENSIONS (mm)

| Product Series | L0 | W0 | H0 | L | W | H |
|----------------|-----|-----|----|-----|-----|-----|
| F2D5-2580 | 265 | 205 | 30 | 275 | 232 | 261 |



INSIDE BOX



OUTSIDE CARTON

QUANTITY PER PACKAGE

| Product Series | Pcs per Tray | Qty of Trays | Qty of Inner Carton | Pcs per Outside Carton |
|----------------|--------------|--------------|---------------------|------------------------|
| F2D5-2580 | 35 | 2 | 8 | 560 |

REVISION HISTORY

| Rev. | Description | Date |
|------|-----------------|------------------|
| 1 | initial release | November/22/2024 |

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.