



Description

- Halogen Free
- 125°C maximum total temperature operation
- 2.7 x 2.2 x 1.2mm maximum surface mount package
- Powder iron core material
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- Inductance range from 0.47μH to 4.7μH
- Current range from 1.8 to 7.2 Amps
- Frequency range up to 5MHz
- RoHS compliant

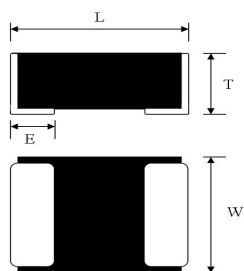
Applications

- Voltage Regulator Module (VRM)
- Multi-phase regulators
- Point-of-load modules
- Smart phone POL modules
- SSD modules
- Notebook regulators
- Battery power systems
- Graphics cards
- Data networking and storage systems

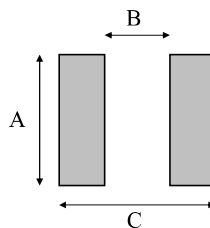
Environmental Data

- Storage temperature range: -50°C to +125 °C
- Operating temperature range: -40°C to +125°C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020D compliant

Dimensions -mm



L [mm]	W [mm]	T [mm]	E [mm]
2.5±0.2	2.0±0.2	1.2 max.	0.6±0.3



A [mm]	B [mm]	C [mm]
2.0	1.2	2.8.

Electrical spec

HEKOFLY Part Number	Li [μH] Initial inductance	RDC [mΩ] DC Resistance		Isat [A] Saturation Current		Irms [A] Heat Rating Current	
		Typical	Maximum	Typical	Maximum	Typical	Maximum
MCT252012-R47M	0.47	21	25	5.30	4.95	4.60	4.18
MCT252012-R68M	0.68	29	35	5.00	4.63	3.70	3.36
MCT252012-1R0M	1.0	41	49	4.40	4.04	3.50	3.18
MCT252012-1R5M	1.5	64	77	3.20	2.91	2.50	2.27
MCT252012-2R2M	2.2	85	98	3.00	2.73	2.27	2.06
MCT252012-3R3M	3.3	125	150	2.10	1.80	2.00	1.80
MCT252012-4R7M	4.7	196	235	1.90	1.58	1.61	1.40

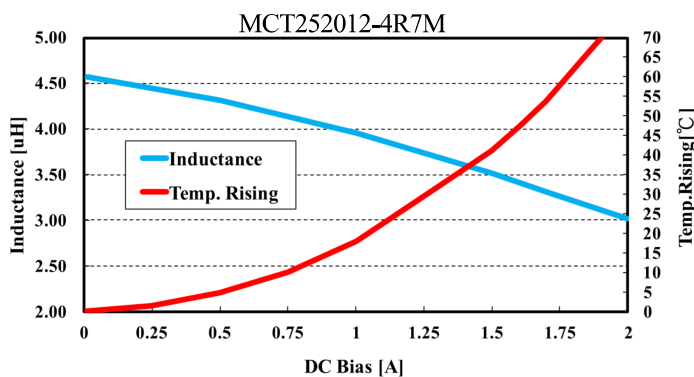
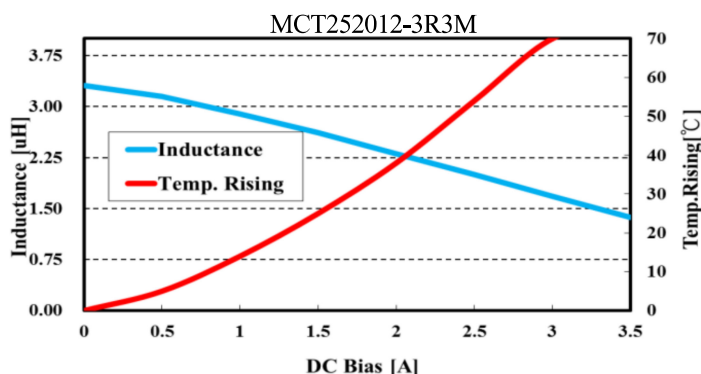
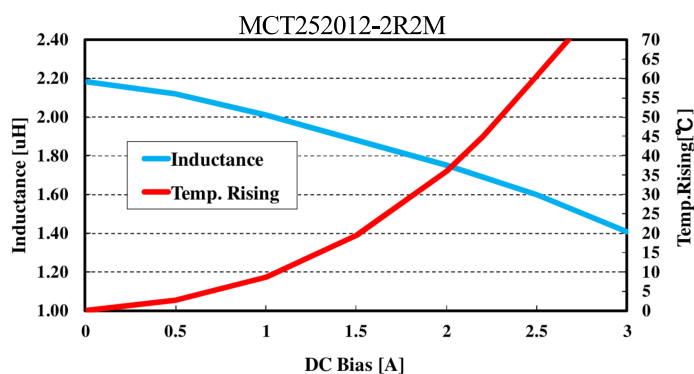
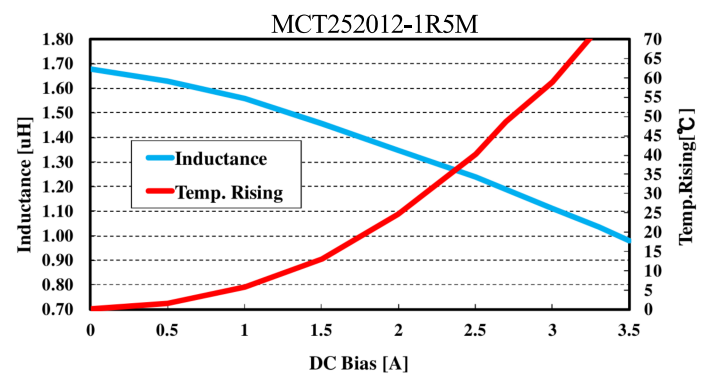
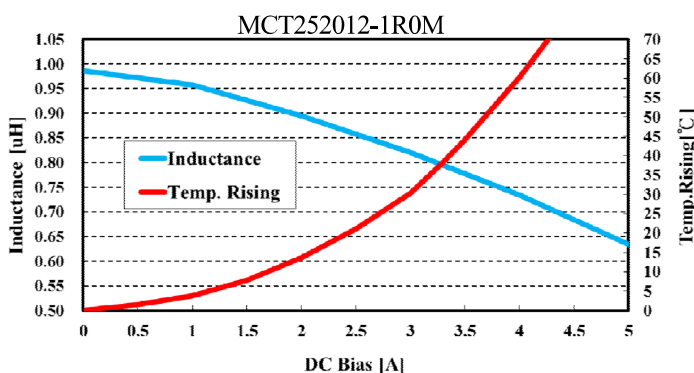
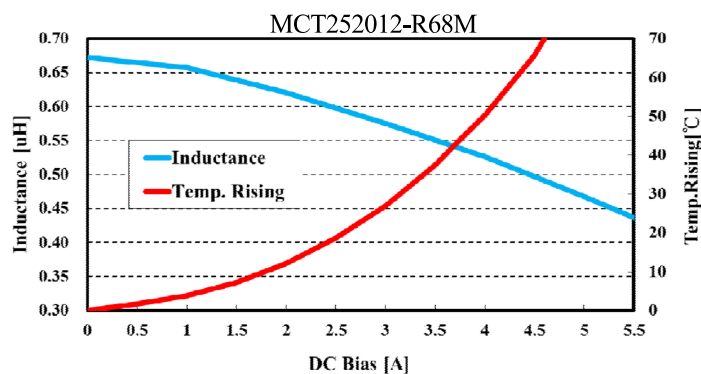
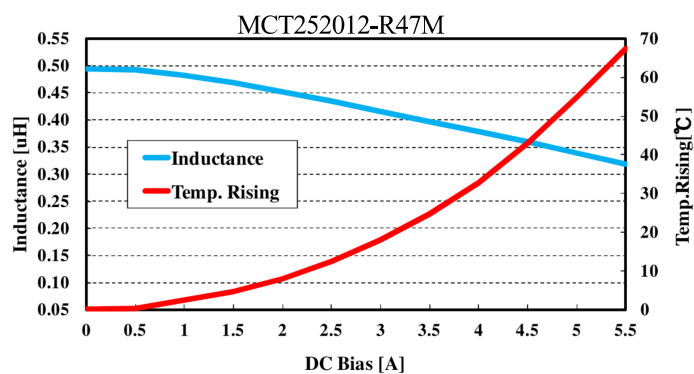
1.Open Circuit Inductance (OCL) Test Parameters: 1MHz, 0.25Vrms, 0.0A_{dc}, @ +25 °C.

2.Full Load Inductance (FLL) Test Parameters: 1MHz, 0.25Vrms, Isat @ +25 °C.

3.Irms: DC current for an approximate temperature rise of 40 °C without core loss. Derating is necessary for AC currents. PCB layout, trace thickness and width, air-flow and proximity of other heat generating components will affect the temperature rise. It is recommended that the temperature of the part not exceed 125 °C under worst case operating conditions verified in the end application.

4.Isat: Peak current for approximately 30% roll off at +25 °C.

Electrical curve



Recommended Soldering Conditions

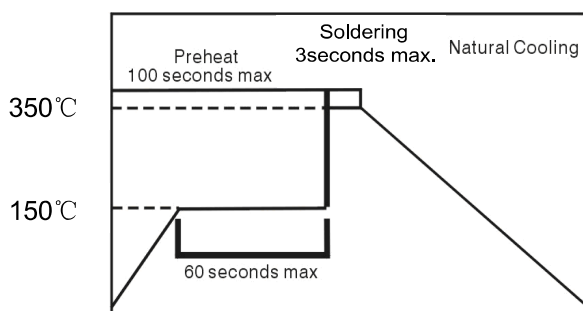
Product can be applied to flow and reflow soldering.

(1) Flux, Solder

- ① Use rosin-based flux. Don't use highly acidic flux with halide content exceeding 0.2wt% (chlorine conversion value).
- ② Use Sn solder.

(2) Flow soldering conditions

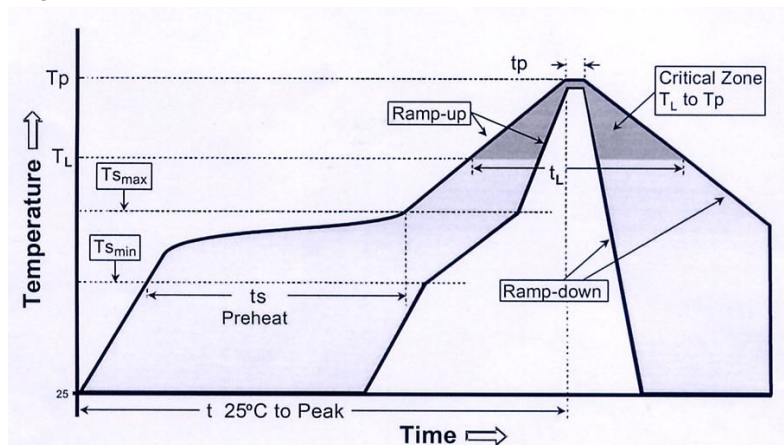
- ① Pre-heating should be in such a way that the temperature difference between solder and product surface is limited to 150°C max. Cooling into solvent after soldering also should be in such a way that temperature difference is limited to 100°C max. Unwrought pre-heating may cause cracks on the product, resulting in the deterioration of products quality.
- ② Standard soldering profile.



Pre-heating	150°C, 1 minute min
Peak	350°C, 3 seconds max

(3) Reflow soldering conditions

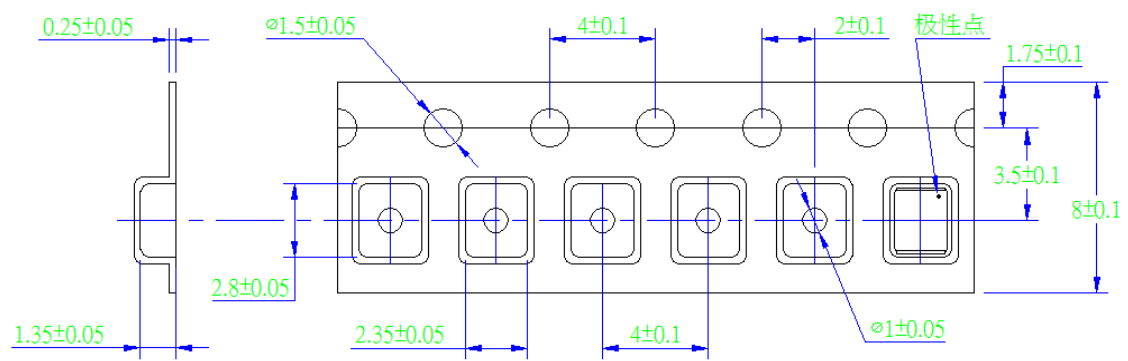
Reflow curve



Profile Feature		Lead-Free Assembly
Average Ramp-Up Rate (Ts max. to Tp)		3°C /second max.
Preheat	Temperature Min (Ts min.)	150 °C
	Temperature Max (Ts max.)	200 °C
	Time (ts min to ts max.)	60-180 seconds
Time maintained above	Temperature (TL)	217 °C
	Time (tL)	60-150 seconds
Peak/Classification Temperature (Tp)		260 °C
Peak/Classification Time (Tp)		3-4 seconds
Time within 5 °C of actual Peak Temperature (Tp)		20-40 seconds
Ramp-Down Rate		6 °C/second max.
Time 25 °C to Peak Temperature		8 minutes max.

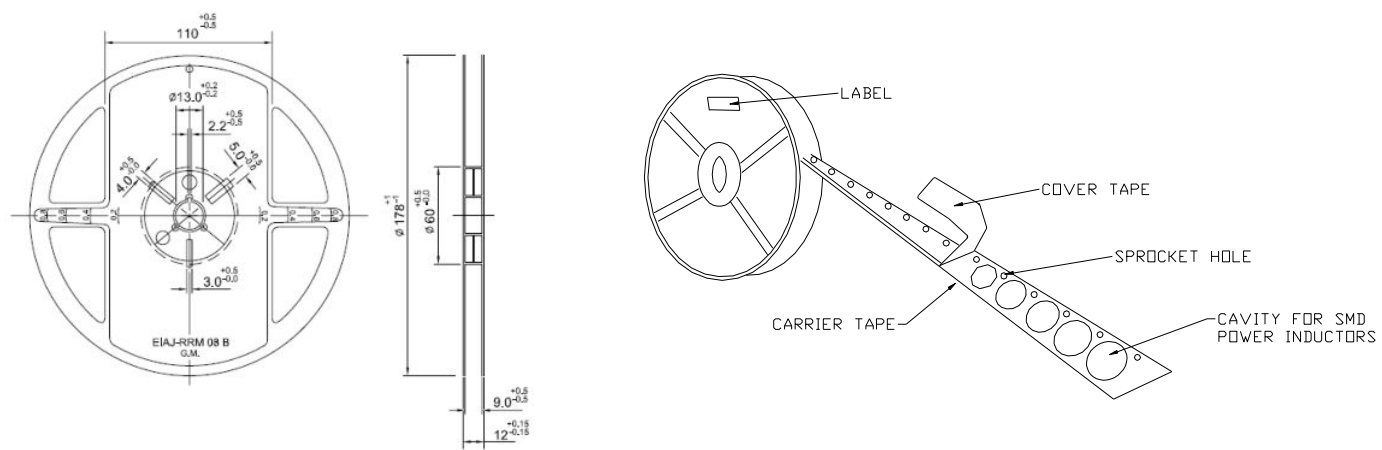
Note 1: All temperatures refer to topside of the package, measured on the package body surface.

Packaging Information - mm

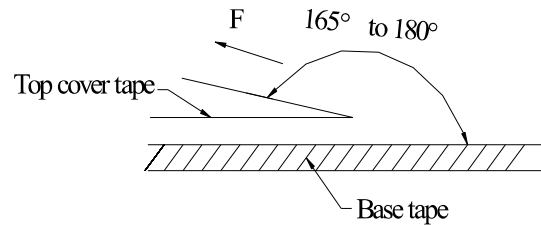


Dimension of reel (Unit: mm)

Taping figure and drawing direction



The peel force of top cover tape shall be between 0.1N to 1.0N



Room Temp. (°C)	Room Humidity (%)	Room aim (hpa)	Peel Speed Mm/min
5-35	45-85	860-1060	300

Packaging quantities:3000PCS/Reel.