



# SM5018 Series



## 1. Features:

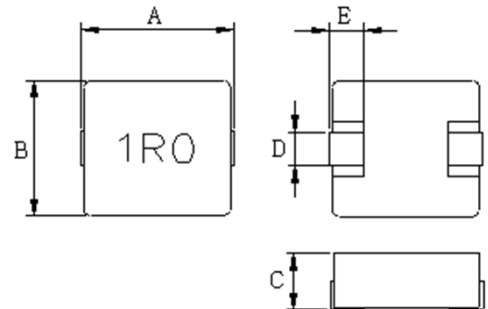
- 12,7x13.9mm foot Print, 5.0mm Max. height SMD Power Inductor for high frequency application.
- Inductance range from 0.10uH to 15uH.
- High saturation current characteristics by distributed gapped metal dust core.
- Ideal for portable device, computers servers, storage device, workstations, VGA card, Telecommunication Equipment, voltage-regulator modules & High Density DC to DC converter Board.
- Working Frequency up to 5Mhz.
- Tape & Reel Quantity: 250 piece per 13 inches reel.
- Operating Temperature Range -55°C to + 150°C.



## 2. Electrical Characteristics:

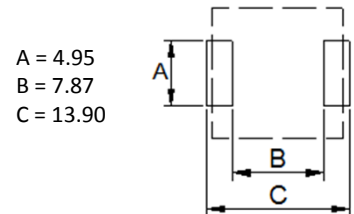
ITG Part Number	OCL Inductance (uH) $\pm 20\%$	DCR (m $\Omega$ ) Typ.	DCR (m $\Omega$ ) Max.	I <sub>rms</sub> (AMP)	I <sub>sat</sub> (AMP)
SM5018-R10MHF	0.10	0.50	0.60	55.0	118.0
SM5018-R22MHF	0.22	0.70	0.80	51.0	110.0
SM5018-R33MHF	0.33	1.00	1.10	42.0	80.0
SM5018-R47MHF	0.47	1.10	1.30	38.0	65.0
SM5018-R56MHF	0.56	1.27	1.50	36.0	55.0
SM5018-R68MHF	0.68	1.40	1.70	34.0	54.0
SM5018-R82MHF	0.82	1.90	2.30	31.0	53.0
SM5018-1R0MHF	1.00	2.10	2.50	29.0	50.0
SM5018-1R5MHF	1.50	3.40	4.10	23.0	48.0
SM5018-1R8MHF	1.80	4.10	4.90	19.0	40.0
SM5018-2R2MHF	2.20	4.60	5.50	20.0	32.0
SM5018-3R3MHF	3.30	7.69	9.20	15.0	32.0
SM5018-4R7MHF	4.70	12.49	15.00	12.0	27.0
SM5018-5R6MHF	5.60	13.75	16.50	11.50	22.0
SM5018-6R8MHF	6.80	15.40	18.50	11.0	21.0
SM5018-8R2MHF	8.20	18.89	22.50	9.5	18.0
SM5018-100MHF	10.00	21.40	25.50	9.0	16.0
SM5018-150MHF	15.00	27.50	33.00	8.0	14.0

## 3. Mechanical Dimensions (unit: mm):



A $\pm$	B $\pm$	C	D $\pm$	E $\pm$
0.50	Max	Max	0.50	0.30
13.20	12.90	5.00	3.50	2.30

Recommended PCB Layout  
(unit in mm)



### Notes:

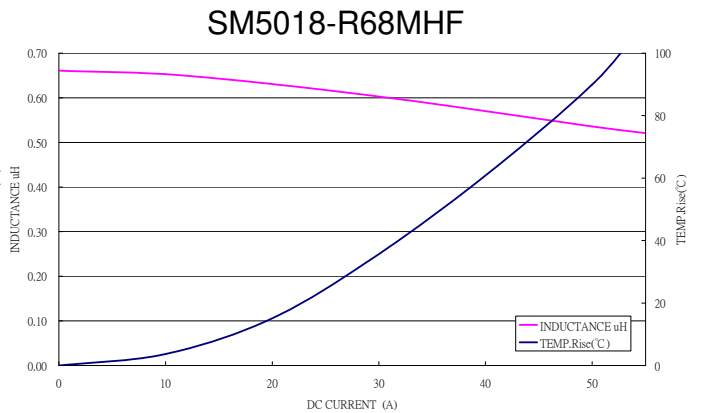
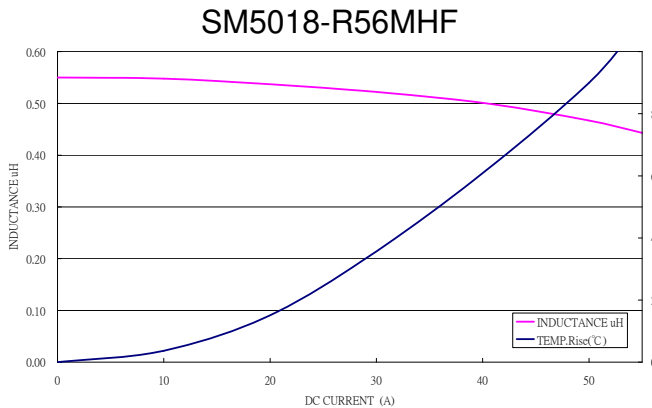
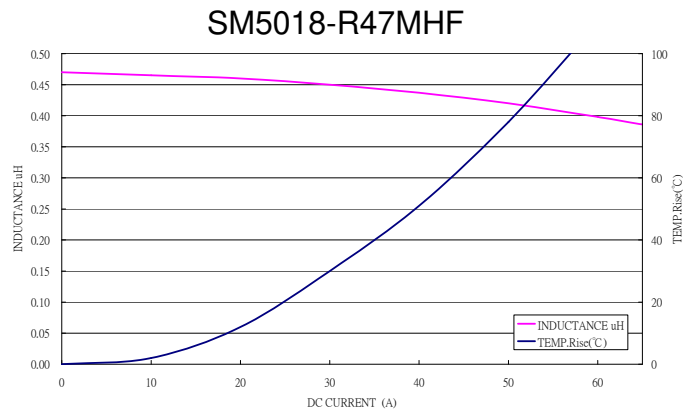
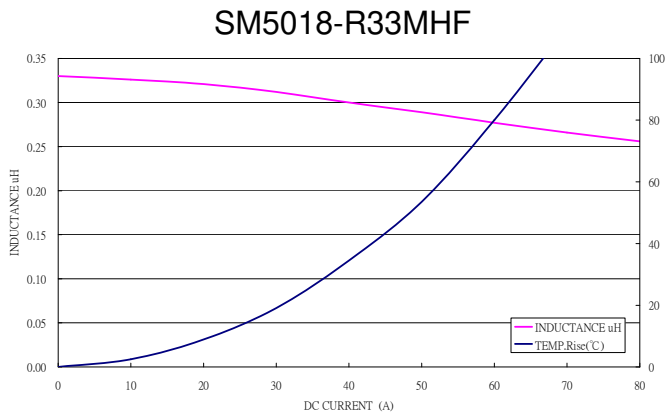
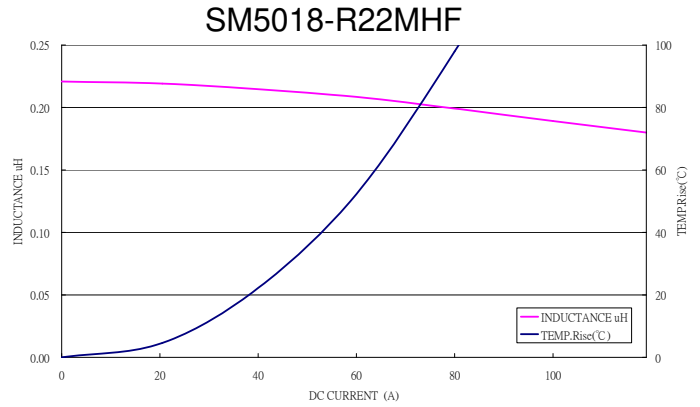
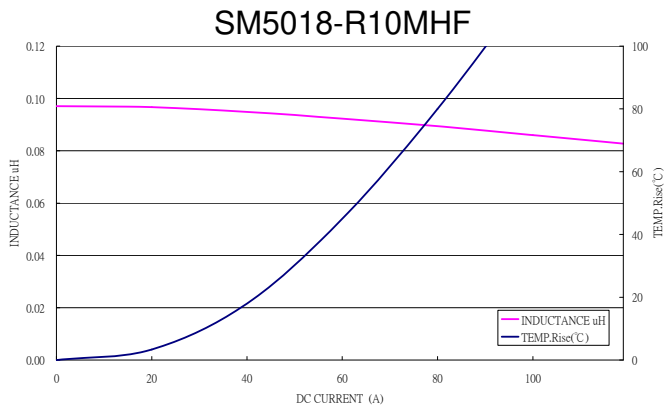
- 1) Open Circuit Inductance(OCL) and L@ I<sub>rms</sub> and L @I<sub>sat</sub> are measured at: 100KHz, 1.0V ;(Ta=25°C).
- 2) I<sub>sat</sub>: DC current that causes inductance to drop approximately by 20% from OCL ;(Ta=25°C).
- 3) I<sub>rms</sub>: DC current for an approximate temperature rise of 40°C without core loss. Derating is necessary for AC currents, PCB pad layout, trace thickness and width, air-flow and proximity of other heat generating components will affect the temperature rise. It is recommended the part temperature not exceed 125°C under worst case operating conditions verified in the end application.
- 4) Inductance vs. DC Current vs. Temperature Curve, please see the next pages for more detail information.



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## 4. Inductance vs. Current vs. Temperature



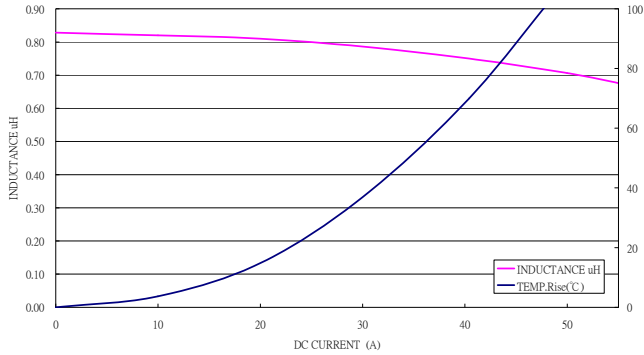


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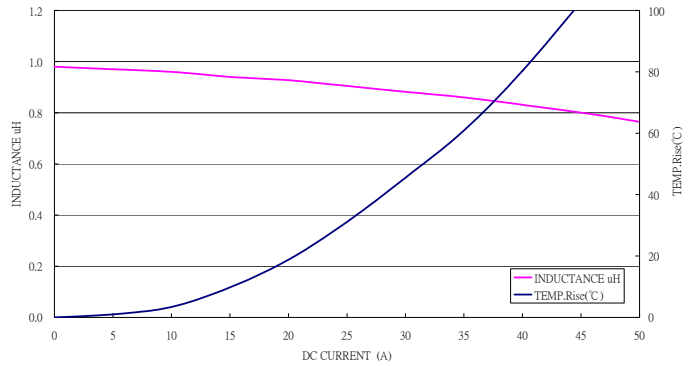


## 4. Inductance vs. Current vs. Temperature

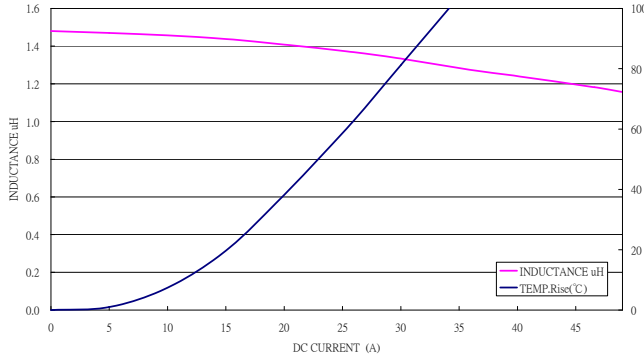
SM5018-R82MHF



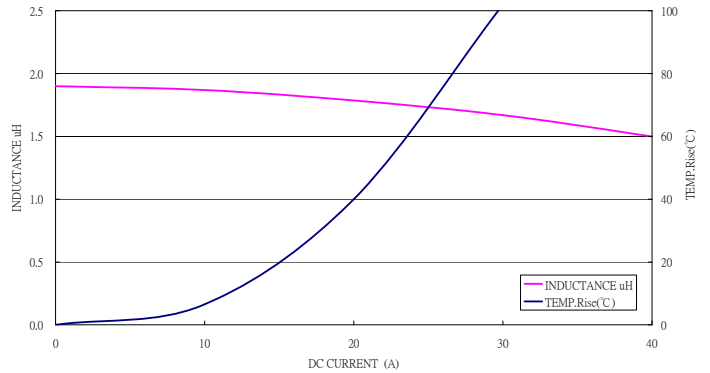
SM5018-1R0MHF



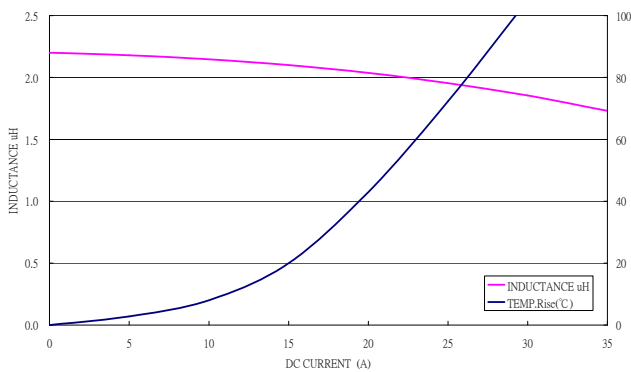
SM5018-1R5MHF



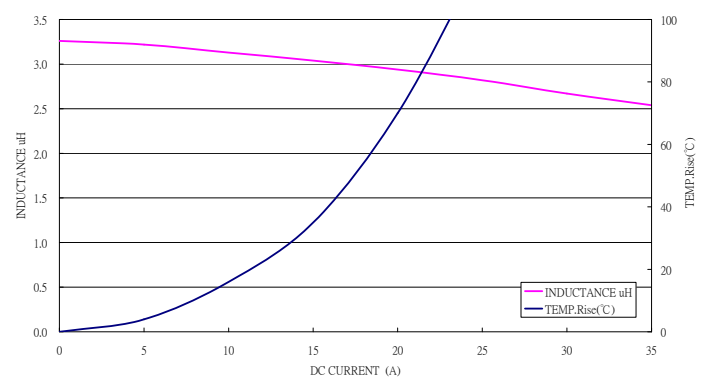
SM5018-1R8MHF



SM5018-2R2MHF



SM5018-3R3MHF



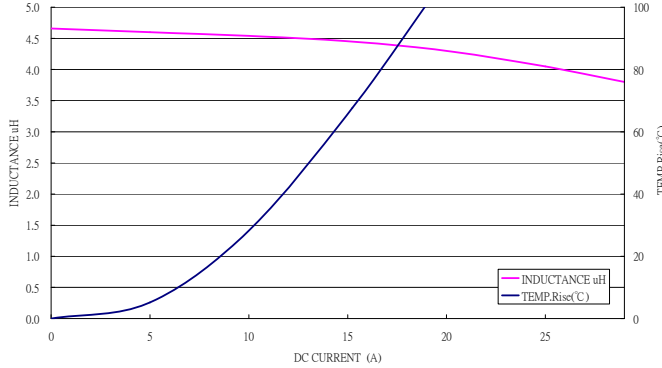


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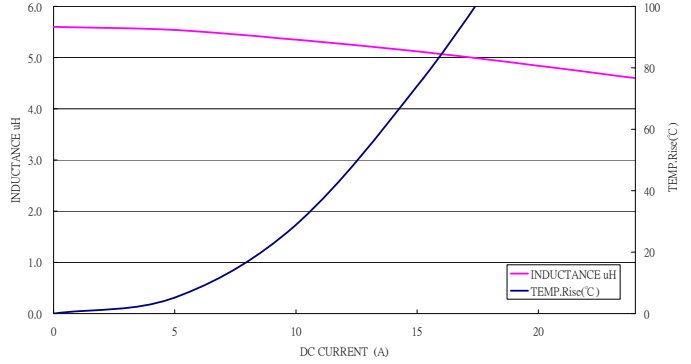


## 4. Inductance vs. Current vs. Temperature

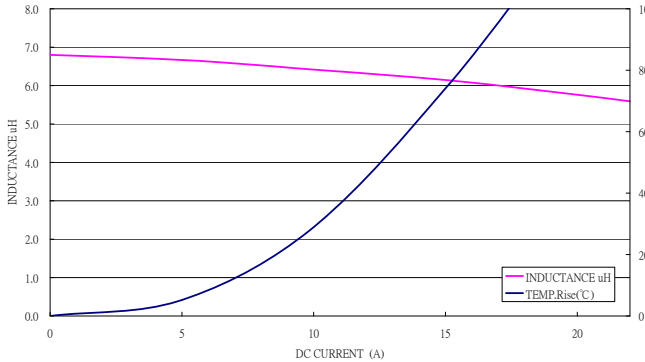
SM5018-4R7MHF



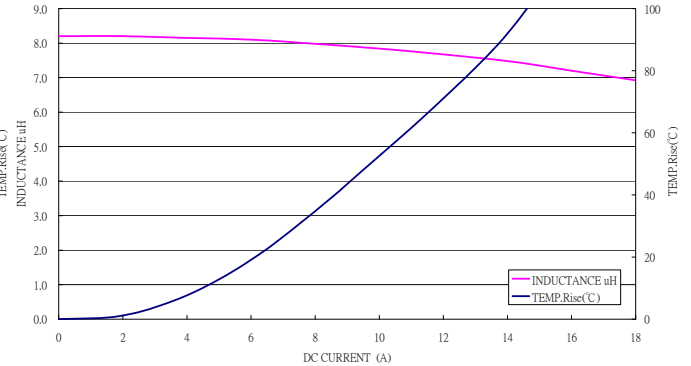
SM5018-5R6MHF



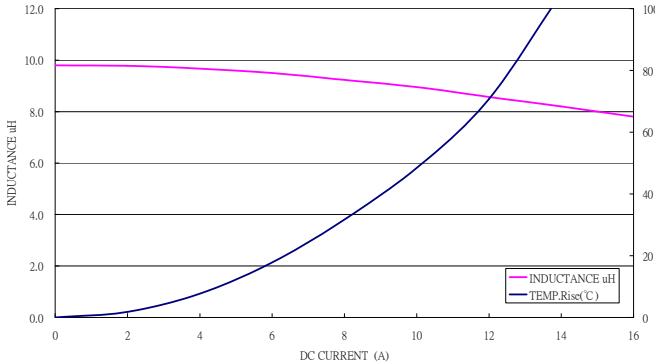
SM5018-6R8MHF



SM5018-8R2MHF



SM5018-100MHF



SM5018-150MHF

