Molded SMD Power Inductors – AMP Series

Operating Temp.: -55℃~+150℃ (Including self-heating)

FEATURES

- Metal material for large current and low loss
- Closed magnetic circuit design reduces leakage flux
- Halogen free, RoHS compliant
- AEC-Q200 verified

APPLICATIONS

- ADAS, Infotainment system
- LED lighting
- Airbag
- Internet of vehicle

PRODUCT IDENTIFICATION

AMP	0503	H	3R3	M	T	□□□
①	②	③	④	⑤	⑥	⑦

①	Type
AMP	Molded SMD Power Inductor

③	Feature Type
H	H Type

④	Nominal Inductance
Example	Nominal Value
3R3	3.3μH
100	10μH

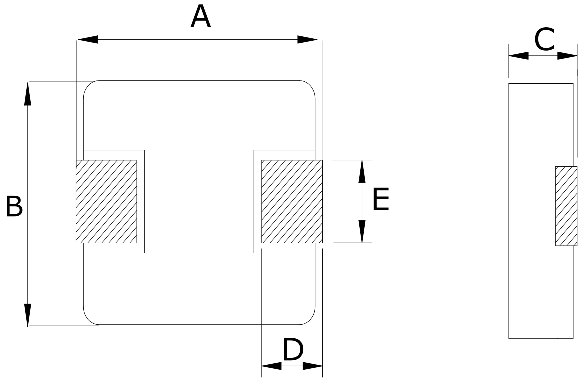
⑤	Inductance Tolerance
M	±20%

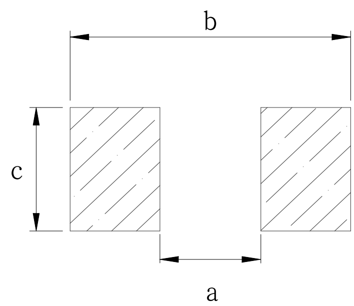
⑦	Design Code
□□□	Standard product is blank

②	External Dimensions (L×W×H) [mm]
0402	4.4×4.2×2.8
0503	5.6×5.2×2.8
0603	7.0×6.6×2.8
0605	7.0×6.6×4.8
0703	7.6×7.0×2.8
0705	7.6×7.0×5.2
1004	11.0×10.0×3.8
1005	11.0×10.0×5.8
1006	11.0×10.0×6.3
1204	13.5×12.6×4.3
1205	13.5×12.6×4.8
1206	13.5×12.6×6.2
1707	17.2×17.0×6.9

⑥	Packing
T	Tape & Reel

SHAPE AND DIMENSIONS





Recommended Land Pattern

Unit: mm

Series	A	B	C	D	E	a	b	c
AMP0402H	4.4±0.4	4.2±0.2	1.8±0.2	0.8±0.2	2.0±0.3	2.2ref.	5.2ref.	2.3ref.
AMP0503H	5.6±0.4	5.2±0.2	2.8±0.2	1.2±0.2	2.2±0.3	2.2ref	6.4ref	2.5ref.
AMP0603H	7.0±0.3	6.6±0.2	2.8±0.2	1.6±0.3	3.0±0.3	3.0ref	8.0ref	3.5ref
AMP0605H	7.0±0.3	6.6±0.2	4.8±0.2	1.6±0.3	3.0±0.3	3.0ref	8.0ref	3.5ref
AMP0703H	7.6±0.5	7.0±0.4	2.8±0.2	2.0±0.3	3.0±0.3	3.0ref	8.6ref	3.5ref
AMP0705H	7.6±0.5	7.0±0.4	5.2±0.2	2.0±0.3	3.0±0.3	3.0ref	8.6ref	3.5ref
AMP1004H	11.0±0.5	10.0±0.3	3.8±0.2	2.0±0.5	3.0±0.3	5.8ref	12.0ref	3.5ref
AMP1005H	11.0±0.5	10.0±0.3	5.2±0.2	2.2±0.5	4.5±0.3	5.8ref.	12.0ref.	5.0ref.
AMP1006H	11.0±0.5	10.0±0.3	6.3±0.2	2.2±0.5	4.5±0.3	5.8ref.	12.0ref.	5.0ref.
AMP1204H	13.5±0.5	12.6±0.3	4.3±0.2	2.0±0.5	4.7±0.3	8.3ref.	14.5ref.	5.5ref.
AMP1205H	13.5±0.5	12.6±0.3	4.8±0.2	2.0±0.5	5.0±0.3	8.3ref	14.5ref	5.5ref
AMP1206H	13.5±0.5	12.6±0.3	6.2±0.2	2.0±0.5	5.0±0.3	8.3ref	14.5ref	5.5ref
AMP1707H	17.2±0.5	17.0±0.30	6.9±0.3	2.5±0.5	12.0±0.3	11.0ref	18.2ref	12.8ref.

SPECIFICATIONS

AMP0402H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0402HR10MT	0.10±20%	4.0	3.3	22	27	15	
AMP0402HR22MT	0.22±20%	7.0	6.0	17	22	12	
AMP0402HR33MT	0.33±20%	11	8.0	9.0	12	10	
AMP0402HR47MT	0.47±20%	14	9.4	8.0	10	9.0	
AMP0402HR56MT	0.56±20%	16	12	7.5	9.4	7.8	
AMP0402HR68MT	0.68±20%	18	12.6	7.4	9.2	7.8	
AMP0402H1R0MT	1.0±20%	27	22	6.0	7.5	6.0	50
AMP0402H1R2MT	1.2±20%	28	24	5.8	7.3	5.8	
AMP0402H1R5MT	1.5±20%	46	31	5.7	7.1	5.2	
AMP0402H2R2MT	2.2±20%	58	48	5.6	7.0	4.2	
AMP0402H3R3MT	3.3±20%	87	70	3.4	4.2	3.4	
AMP0402H4R7MT	4.7±20%	105	90	2.4	3.0	3.2	
AMP0402H5R6MT	5.6±20%	170	134	2.3	2.8	2.5	

SPECIFICATIONS

AMP0402H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0402H6R8MT	6.8±20%	175	137	2.0	2.5	2.4	50
AMP0402H100MT	10±20%	282	235	1.8	2.3	1.8	

AMP0503H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0503HR10MT	0.10±20%	3	2.6	26	30	18	50
AMP0503HR15MT	0.15±20%	3.8	3.2	20	25	16	
AMP0503HR20MT	0.20±20%	4.2	3.6	19	24	14	
AMP0503HR33MT	0.33±20%	5.5	4.8	14.4	18	13	
AMP0503HR47MT	0.47±20%	8.5	7.0	12	15	11	
AMP0503HR68MT	0.68±20%	12	10	10	13	9.0	
AMP0503H1R0MT	1.0±20%	14	11	9.6	12	8.5	
AMP0503H1R2MT	1.2±20%	16	13.6	7.6	9.5	8.0	
AMP0503H1R5MT	1.5±20%	25	17	7.2	9.0	7.2	
AMP0503H2R2MT	2.2±20%	29	23	5.6	7.0	6.4	
AMP0503H3R3MT	3.3±20%	38	30	4.8	6.0	5.5	
AMP0503H4R7MT	4.7±20%	60	54	3.7	4.6	4.0	
AMP0503H6R8MT	6.8±20%	90	81	2.9	3.6	3.2	
AMP0503H100MT	10±20%	125	112	2.8	3.5	2.8	
AMP0503H150MT	15±20%	170	153	2.0	2.2	2.0	

AMP0603H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0603HR10MT	0.10±20%	1.7	1.4	52	65	28	50
AMP0603HR22MT	0.22±20%	3	2.6	27.2	34	20	
AMP0603HR33MT	0.33±20%	3.5	3	20	25	18.5	
AMP0603HR47MT	0.47±20%	4.1	3.5	16	20	18	
AMP0603HR56MT	0.56±20%	4.5	3.8	14.4	18	16.5	
AMP0603HR68MT	0.68±20%	5.8	5	13.6	17	15	
AMP0603HR82MT	0.82±20%	6.7	5.7	12.8	16	13	
AMP0603H1R0MT	1.0±20%	8	6.8	12	15	11.5	
AMP0603H1R5MT	1.5±20%	12.1	10	9.6	12	10	

SPECIFICATIONS

AMP0603H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0603H2R2MT	2.2±20%	15	13	9.2	11.6	9.5	50
AMP0603H3R3MT	3.3±20%	22	19	7.6	9.5	7.0	
AMP0603H4R7MT	4.7±20%	33	28	7.2	9.0	6.0	
AMP0603H5R6MT	5.6±20%	44	38	6.4	8.0	5.2	
AMP0603H6R8MT	6.8±20%	48	41	6.0	7.6	5.0	
AMP0603H8R2MT	8.2±20%	68	58	4.4	5.5	4.2	
AMP0603H100MT	10±20%	70	60	4.4	5.5	4.0	
AMP0603H150MT	15±20%	120	100	3.2	4.0	2.5	
AMP0603H220MT	22±20%	170	145	2.8	3.5	2.5	
AMP0603H330MT	33±20%	270	230	2.4	3.0	2.0	
AMP0603H470MT	47±20%	411	350	2.0	2.5	1.4	

AMP0605H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0605HR47MT	0.47±20%	3.9	3.3	16.8	21	18	50
AMP0605HR68MT	0.68±20%	4.5	3.8	14.4	18	16.5	
AMP0605H1R0MT	1.0±20%	6.6	5.6	12.8	16	13	
AMP0605H1R5MT	1.5±20%	10	8.5	10.4	13	10.5	
AMP0605H2R2MT	2.2±20%	12.5	11	8.8	11	9.0	
AMP0605H3R3MT	3.3±20%	22	19	8.0	10	7.5	
AMP0605H4R7MT	4.7±20%	29	25	7.7	9.6	6.0	
AMP0605H6R8MT	6.8±20%	41	35	6.6	8.2	5.8	
AMP0605H8R2MT	8.2±20%	48	41	6.4	8.0	5.5	
AMP0605H100MT	10±20%	53	45	6.0	7.5	4.8	
AMP0605H150MT	15±20%	90	77	3.2	4.0	3.2	
AMP0605H220MT	22±20%	140	119	3.1	3.9	2.8	
AMP0605H330MT	33±20%	190	162	3.0	3.7	2.4	
AMP0605H470MT	47±20%	230	196	2.08	2.6	2.1	

AMP0703H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0703H1R0MT	1.0±20%	6.6	5.6	17.6	22	14	50

SPECIFICATIONS

AMP0703H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0703H1R5MT	1.5±20%	10	8.4	15.2	19	11	50
AMP0703H2R2MT	2.2±20%	16	13	12	15	9	
AMP0703H3R3MT	3.3±20%	23	19	10.4	13	7.5	
AMP0703H4R7MT	4.7±20%	41	35	8.8	11	5.6	
AMP0703H6R8MT	6.8±20%	44	37	6.8	8.5	5.2	
AMP0703H100MT	10±20%	68	59	5.3	6.6	4.2	

AMP0705H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP0705H1R0MT	1.0±20%	4.8	4.4	20	25	15.8	50
AMP0705H1R5MT	1.5±20%	7.0	5.8	17	21	13.6	
AMP0705H2R2MT	2.2±20%	11.0	9.2	15	19	10.8	
AMP0705H3R3MT	3.3±20%	16.6	13.8	13	17	8.9	
AMP0705H4R7MT	4.7±20%	21.6	18.8	10	13	7.6	
AMP0705H6R8MT	6.8±20%	27.5	23.9	8.8	11	6.8	
AMP0705H8R2MT	8.2±20%	34.8	29.5	8.2	10.2	6.0	
AMP0705H100MT	10±20%	42.0	36.0	8.0	10	5.6	
AMP0705H150MT	15±20%	72.5	61.4	5.5	6.9	4.2	
AMP0705H220MT	22±20%	85.2	71.0	3.6	4.6	3.6	
AMP0705H330MT	33±20%	132	110	4.2	5.2	3.2	
AMP0705H470MT	47±20%	194	162	3.2	4.0	2.6	
AMP0705H560MT	56±20%	226	192	2.8	3.3	2.4	
AMP0705H680MT	68±20%	265	225	2.5	3.0	2.2	
AMP0705H101MT	100±20%	340	310	2.0	2.4	1.9	

AMP1004H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1004HR15MT	0.15±20%	0.65	0.55	60	75	43	100
AMP1004HR22MT	0.22±20%	1.00	0.85	48	60	35	
AMP1004HR30MT	0.30±20%	1.10	0.94	36	45	33	
AMP1004HR33MT	0.33±20%	1.10	0.94	36	45	33	
AMP1004HR36MT	0.36±20%	1.20	1.02	36	45	32	

SPECIFICATIONS

AMP1004H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1004HR47MT	0.47±20%	1.70	1.45	32	40	28	100
AMP1004HR56MT	0.56±20%	1.80	1.53	26.4	33	26	
AMP1004HR68MT	0.68±20%	2.20	1.9	24	30	24.5	
AMP1004HR80MT	0.80±20%	2.70	2.30	23.2	29	22	
AMP1004H1R0MT	1.0±20%	3.30	2.81	22.4	28	20	
AMP1004H1R5MT	1.5±20%	4.20	3.57	19.2	24	18	
AMP1004H2R2MT	2.2±20%	7.5	6.5	14.4	18	13.5	
AMP1004H3R3MT	3.3±20%	11.8	10.0	12.8	16	10.5	
AMP1004H4R7MT	4.7±20%	20.0	17.0	10.4	13	8.5	
AMP1004H6R8MT	6.8±20%	25.0	21.3	9.6	12	7.5	
AMP1004H100MT	10±20%	30.0	25.5	6.8	8.5	6.9	
AMP1004H150MT	15±20%	45.0	38.3	5.6	7.0	5.6	
AMP1004H220MT	22±20%	66.0	56.1	5.0	6.2	4.5	
AMP1004H330MT	33±20%	100	87	3.8	4.8	3.6	
AMP1004H470MT	47±20%	145	123	3.1	3.5	3.1	
AMP1004H680MT	68±20%	195	166	2.4	3.0	2.6	
AMP1004H820MT	82±20%	285	242	2.3	2.8	2.3	
AMP1004H101MT	100±20%	340	289	2.1	2.3	2.1	

AMP1005H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1005HR68MT	0.68±20%	2.45	2.08	30	36	27	100
AMP1005H1R0MT	1.0±20%	2.88	2.44	27	32	25	
AMP1005H1R5MT	1.5±20%	4.37	3.7	23	27	21	
AMP1005H2R2MT	2.2±20%	4.9	4.1	20	25	20	
AMP1005H2R5MT	2.5±20%	6.8	5.2	18	22	16	
AMP1005H3R3MT	3.3±20%	7.4	6.0	16	20	15	
AMP1005H4R7MT	4.7±20%	10	8.4	14	18	13.5	
AMP1005H6R8MT	6.8±20%	15	12	12.5	15.6	11	
AMP1005H100MT	10.0±20%	26	22	10	13	8.4	
AMP1005H150MT	15±20%	31	26	7.5	9.2	7.6	
AMP1005H220MT	22±20%	53	45	7.0	8.8	5.8	
AMP1005H330MT	33±20%	78	66	6.1	7.6	4.8	
AMP1005H470MT	47±20%	104	88	4.8	6.0	4.0	
AMP1005H101MT	100±20%	242	205	3.0	3.8	2.4	

SPECIFICATIONS

AMP1006H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1006H1R5MT	1.5±20%	3.9	3.3	20	26	19.5	100
AMP1006H4R7MT	4.7±20%	9.0	7.5	15	20	15	
AMP1006H6R8MT	6.8±20%	13	10.5	14	18	11	
AMP1006H150MT	15±20%	37	31	8.5	10.5	6.5	
AMP1006H220MT	22±20%	49	41.0	6.5	8.2	5.5	

AMP1204H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1204HR10MT	0.10±20%	0.59	0.40	80	90	43	100

AMP1205H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	Typ.
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1205HR68MT	0.68±20%	1.55	1.33	40	48	33	100
AMP1205HR82MT	0.82±20%	1.67	1.37	31.2	39	30	
AMP1205H3R3MT	3.3±20%	7.00	5.95	20.8	26	14	
AMP1205H4R7MT	4.7±20%	9.00	7.65	16	20	12.5	
AMP1205H6R8MT	6.8±20%	18.0	15.3	15.2	19	9.5	
AMP1205H8R2MT	8.2±20%	20.0	17.0	14.4	18	9.0	
AMP1205H100MT	10±20%	22.0	18.7	12	15	8.2	
AMP1205H150MT	15±20%	33.0	28.1	8.8	11	7.0	
AMP1205H220MT	22±20%	50.0	43.0	8.0	10	5.5	
AMP1205H330MT	33±20%	68.0	58.0	6.4	8	4.4	
AMP1205H470MT	47±20%	88.0	75.0	4.8	6	3.5	

SPECIFICATIONS

AMP1206H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	100KHz/1V
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1206HR47MT	0.47±20%	1.3	1.0	62	76	45	100
AMP1206HR68MT	0.68±20%	1.8	1.4	44	55	36.5	
AMP1206H1R0MT	1.0±20%	2.3	1.8	34	42	34	
AMP1206H1R5MT	1.5±20%	2.47	2.1	27	34	27	
AMP1206H2R2MT	2.2±20%	4.2	3.6	22	25	22	
AMP1206H3R3MT	3.3±20%	6.5	5.5	19.2	24	18	
AMP1206H4R7MT	4.7±20%	8.6	7.3	18.5	22	16	
AMP1206H5R6MT	5.6±20%	10	8.5	18	21	15	
AMP1206H6R8MT	6.8±20%	11.8	10	17	20	13.5	
AMP1206H8R2MT	8.2±20%	14	12	16	19	12.5	
AMP1206H100MT	10±20%	16.5	12.8	14	17	12	
AMP1206H150MT	15±20%	26	22	9.5	12	9.5	
AMP1206H220MT	22±20%	37.7	32	8	10	7	
AMP1206H330MT	33±20%	52	44	7.2	9	6	
AMP1206H470MT	47±20%	73	59	5.4	6.8	5.4	
AMP1206H680MT	68±20%	105	90	4.8	6	4.2	
AMP1206H820MT	82±20%	140	120	3.7	4.7	3.5	
AMP1206H101MT	100±20%	160	135	3.5	4.5	3.5	

AMP1707H Series

Part Number	Inductance	DC Resistance		Saturation Current		Heat Rating Current	Withstanding Voltage
	100KHz/1V	Max.	Typ.	Max.	Typ.	Typ.	100KHz/1V
Units	μH	mΩ		A		A	VDC
Symbol	L	DCR		Isat		Irms	/
AMP1707H1R0MT	1.0±20%	1.60	1.30	38	48	40	100
AMP1707H1R5MT	1.5±20%	2.20	1.80	36	45	36	
AMP1707H2R2MT	2.2±20%	2.50	2.13	27.2	34	29	
AMP1707H3R3MT	3.3±20%	3.60	3.10	24	30	23	
AMP1707H4R7MT	4.7±20%	4.75	4.04	22	28	21	
AMP1707H6R8MT	6.8±20%	7.50	6.38	17.6	22	15	
AMP1707H8R2MT	8.2±20%	8.70	7.40	16	20	14	
AMP1707H100MT	10±20%	9.90	8.42	15.2	19	13	
AMP1707H150MT	15±20%	17.0	14.5	11.6	14.5	10	
AMP1707H220MT	22±20%	23.0	19.6	9.2	11.5	8.5	
AMP1707H330MT	33±20%	37.0	31.5	8.0	10	7.0	
AMP1707H470MT	47±20%	47.0	40.0	7.2	9.0	6.0	
AMP1707H680MT	68±20%	76	68	6.4	8.0	4.6	
AMP1707H101MT	100±20%	106	90	4.0	5.0	4.0	

Note: ※ 1: Rated current: Isat(Max) or Irms(Max), whichever is smaller.

※ 2: Saturation Current: Typ. Value, DC current at which the inductance drops approximately 30% from its value without current;

※ 3: Heat Rating Current: DC current that causes an approximate ΔT of 40°C from 20°C ambient.

The part temperature (ambient + temp. rise) should not exceed 150 °C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.