

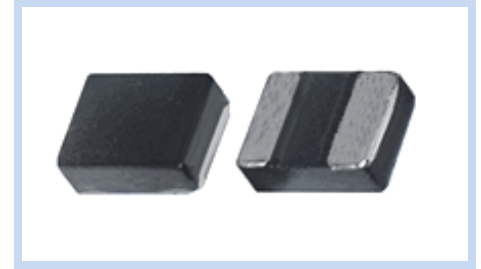
# SMD Power Inductor High Current Molded Type

SIM06-08AE series

MERITEK

## FEATURE

- High Saturation Current, Low DCR, High Efficiency
- Low Acoustic Noise and Shielded Construction Design
- High Resolution in EMC Protection
- Application: DC/DC Converters, Smart Phone, PAD, Power Supply



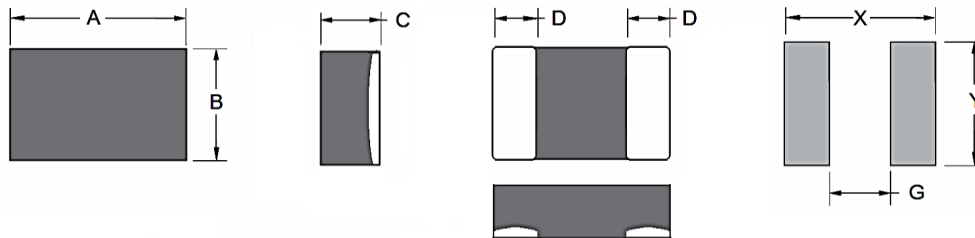
## ELECTRICAL CHARACTERISTICS

Part Number	Inductance ( $\mu\text{H}$ )	Tolerance (%)	I <sub>rms</sub> (A)		I <sub>sat</sub> (A)		DCR (m $\Omega$ )	
			Typ	Max	Typ	Max	Typ	Max
SIM06R24M08AE	0.24	$\pm 20\%$	6.5	5.5	7.7	6.7	18.0	20.5
SIM06R33M08AE	0.33	$\pm 20\%$	5.7	5.2	7.0	6.2	21.0	26.0
SIM06R47M08AE	0.47	$\pm 20\%$	5.3	4.7	6.0	5.3	28.0	32.0
SIM06R68M08AE	0.68	$\pm 20\%$	4.0	3.4	5.0	4.4	44.0	50.0
SIM061R0M08AE	1.00	$\pm 20\%$	3.6	3.2	4.4	3.8	49.0	59.0
SIM061R5M08AE	1.50	$\pm 20\%$	2.6	2.3	3.0	2.7	80.0	96.0
SIM062R2M08AE	2.20	$\pm 20\%$	2.3	2.0	2.65	2.45	130.0	150.0

Notes:

1. Test frequency: Ls:100KHz/1.0V.
2. Heat Rating Current (I<sub>rms</sub>) will cause the temperature rise approximately  $\Delta T$  of 40°C.
3. Saturation Current (I<sub>sat</sub>) will cause L<sub>0</sub> to drop approximately 30%.
4. Operating Temperature: -40 ~ +125°C (Including self-temperature rise)

## DIMENSIONS



(Unit: mm)

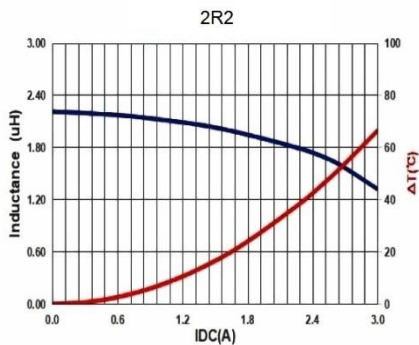
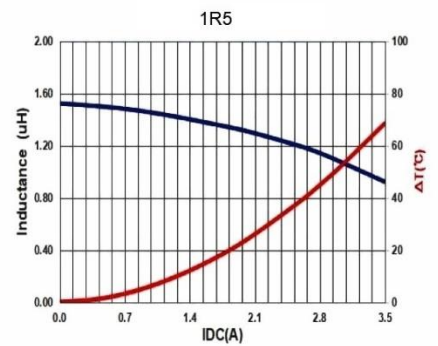
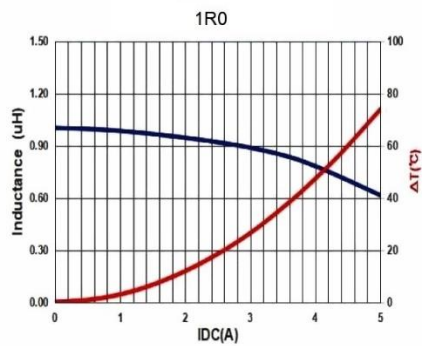
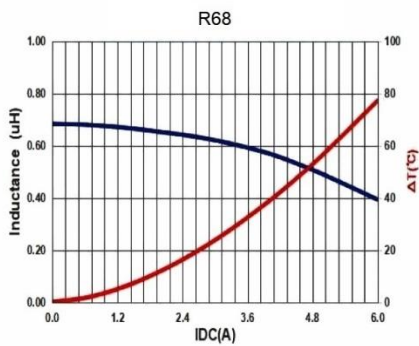
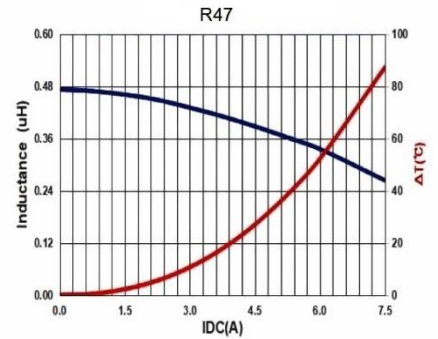
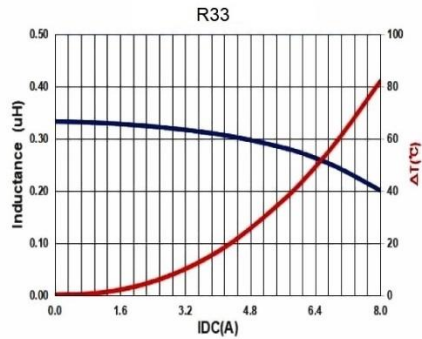
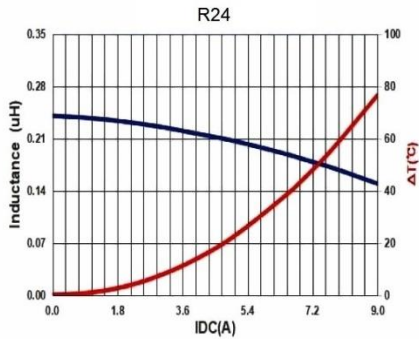
Size Code	A	B	C	D	X	G	Y
0806 (06)	2.0 $\pm$ 0.3	1.6 $\pm$ 0.3	0.8 $\pm$ 0.2	0.7 $\pm$ 0.3	2.5 Ref	0.5 Ref	1.9 Ref

## PART NUMBERING SYSTEM

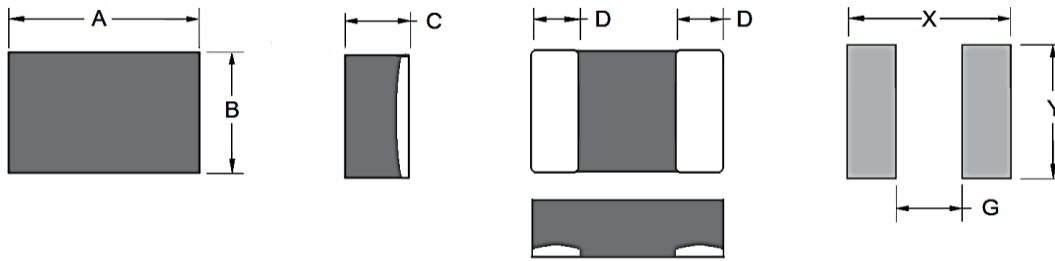
**SIM** **06** **2R2M** **08** **AE**  
(1) (2) (3) (4) (5)

No	Item	Code	Description
(1)	Product Code	SIM	SMD Power Inductor Series, High current Molded type
(2)	Size Code	06	06: 2.0x1.6x0.8mm (W x L)
(3)	Inductance	2R2M	2.2 $\mu\text{H}$ $\pm 20\%$ (M) R denotes decimal point
(4)	Thickness	08	0.8mm 10: 1.0mm, 18: 1.8mm
(5)	Series Code	AE	High current molded series Internal Control or Project Reference

### CHARACTERISTIC CURVES – SIM06-08AE SERIES



### DIMENSIONS – SIM-AE SERIES

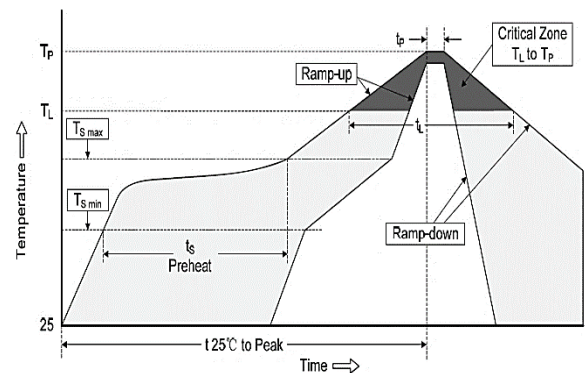


(Unit: mm)

Size Code	A±0.3	B±0.3	C±0.2	D±0.3	X Ref	G Ref	Y Ref
0806 (06)	2.0	1.6	0.8	0.7	2.5	0.5	1.9
1008 (08)	2.5	2.0±0.3	0.8±0.2	0.9±0.3	2.9 Ref	0.5 Ref	2.3 Ref
1008 (08)	2.5	2.0±0.3	1.0±0.2	0.9±0.3	2.9 Ref	0.5 Ref	2.3 Ref
1210 (10)	3.2	2.5±0.3	1.0±0.2	1.1±0.3	3.7 Ref	0.7 Ref	2.8 Ref
1210 (10)	3.2	2.5±0.3	1.8±0.2	1.1±0.3	3.7 Ref	0.7 Ref	2.8 Ref

### RECOMMENDED SOLDERING PROFILES

Reflow Condition		
Pre Heat	Temperature Min $T_{s(min)}$	150°C
	Temperature Max $T_{s(max)}$	200°C
	Time (min. to max.) ( $t_s$ )	60 ~120 seconds
Ramp up rate ( $T_L$ to $T_P$ )		3°C/second max
$T_{s(max)}$ to $T_L$ (Ramp-up rate)		3°C/second max
Reflow	Temperature ( $T_L$ )	217°C
	Time (min. to max.) ( $t_L$ )	60 ~150 seconds
Peak Temperature ( $T_P$ )		See table below
$t_p$ within 5°C of Peak Temperature ( $T_P$ )		30 seconds max
Ramp-down Rate		6°C/second max
Time 25°C to Peak Temperature		8 minutes max



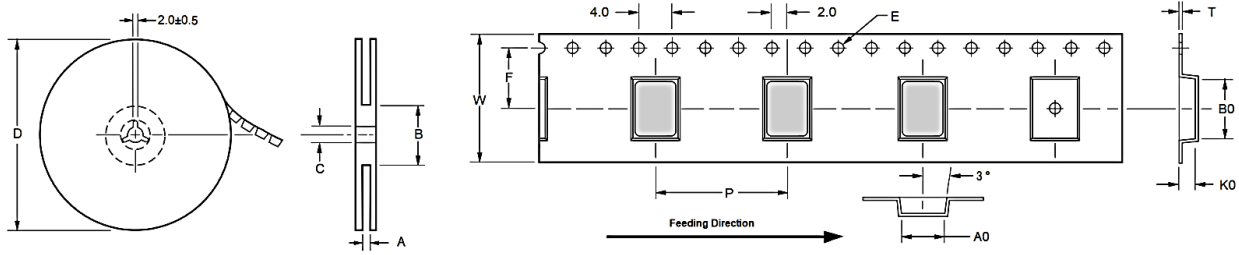
Volume	Peak Temperature ( $T_P$ )		
	< 350mm <sup>3</sup>	350-2000mm <sup>3</sup>	> 2000mm <sup>3</sup>
Thickness < 1.6mm	260°C	260°C	260°C
Thickness 1.6-2.5mm	260°C	250°C	245°C
Thickness ≥ 2.5mm	250°C	245°C	245°C

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## PACKAGING DIMENSION



(Unit: mm)

Size Code	Reel Dimension (mm)				Tape Dimensions (mm)								Qty
	A ±1.0	B ±0.5	C ±0.5	D	W ±0.1	F ±0.01	P ±0.1	E ±0.1	A0 ±0.10	B0 ±0.1	K0 ±0.10	T ±0.05	7" Reel
0806	8.4	50	13.0	178.0	8.00	3.5	4.0	1.50	2.00	2.50	1.20	0.23	2000
1008	8.4	50	13.0	178.0	8.00	3.5	4.0	1.50	2.45	2.90	1.35	0.24	2000
1210	8.4	50	13.0	178.0	8.00	3.5	4.0	1.50	2.90	3.60	1.40	0.22	2000
1210	8.4	50	13.0	178.0	8.00	3.5	4.0	1.50	2.90	3.60	2.20	0.22	2000

\*Specifications subject to change without notice