Coilmaster

RoHs Compliant

SPECIFICATION APPROVAL

CUSTOMER : Dachs

PRODUCT : MS1608-56NG-LF

Pb-free

CODE NO. : C01916119

CUS. CODE :

SPEC.NO. : C-1916-119(02)

DATE : 23-Oct-06

CUSTOMER APPROVAL

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PRODUCT	MS1608-56NG-LF	COIL SPECIFICATION	DATE	2006/10/23
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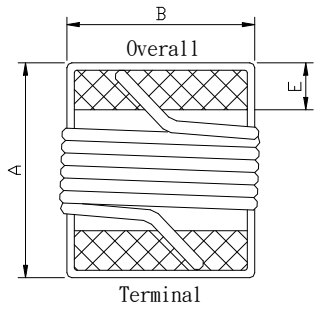
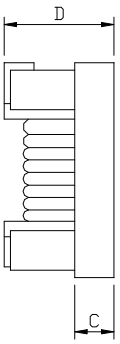
CONFIGURATION & DIMENSIONS ：





A ： 1.8 Max. m/m
B ： 1.2 Max. m/m
C ： 0.33 Ref. m/m
D ： 1.02 Max. m/m
E ： 0.45 Ref. m/m

ELECTRICAL CHARACTERISTIC：

INDUCTANCE AT 200MHz ：	56nH±2%	
Q AT 200MHz ：	38	Min.
DC RESISTANCE(Ω)：	0.31	Max.
IDC(mA)：	600	Max.
SRF(MHz)：	1900	Min.

TEST DATA

ELECTRICAL CHARACTERISTICS					DIMENSION			
MEAS. ITEM	L(nH)	Q	DCR(Ω)	SRF	A	B	C	D
TEST FREQ.	250MHz	Min.	Max.	Min.	m/m	m/m	m/m	m/m
YOUR								
SPEC.	56nH±2%	38	0.31	1900	1.6±0.2	1.05±0.2	0.51	1.05±0.2
1	56.10	49.0	0.19					
2	55.70	51.0	0.20					
3	55.30	48.1	0.19					
4	55.60	49.9	0.18					
5	55.50	44.7	0.21					
6	56.30	53.3	0.20					
7	56.20	42.5	0.19					
8	54.90	45.7	0.19					
9	56.10	48.1	0.21					
10	55.30	47.5	0.20					
X	**55.700**	**47.980**	**0.196**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**	**#DIV/0!**
R	**1.40**	**10.80**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

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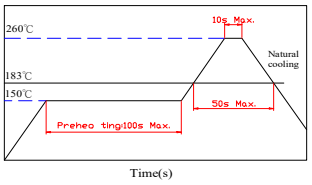
TEST ITEMS	SPECIFICATIONS	TEST CONDITIONS / TEST METHODS
ELECTRICAL PERFORMANCE TEST		
L	REFER TO STANDARD ELEC-TRICAL CHARACTERISTIC LIST.	HP-4286A WITH HP-16193 TEST FIXTURE.
Q		HP-4286A WITH HP-16193 TEST FIXTURE.
S.R.F.		HP-8753D
DCR		HP-4286A
RATED CURRENT		APPLIED THE CURRENT TO COILS THE IDUCTANCE CHANGE SHOULD BE LESS THAN 10% TO INITIAL VALUE AND TEMPERATURE RISE SHOULD NOT BE MORE THAN 20℃..
TEMPERATURERISE TEST	20℃ MAX (△t)	1. APPLIED THE ALLOWED DC CURRENT FOR 10 MINUTES. 2. TEMPERATURE MEASURE BY DIGTAL SURFACE THERMOMETER.
OVER LOAD TEST	NO EVIDENCE OF ELECTRICAL DAMAGE	APPLIED 2 TIMES OF RATED ALLOWED DC CURRENT TO INDUCTORS FOR A PERIOD OF 5 MINUTES.
WITHSTANDING VOLTAGE TEST	NO EVIDENCE OF ELECTRICAL DAMAGE	AC VOLTAGE OF 500VAC APPLIED BETWEEN COMPONENT TERMINAL AND CENTER CASE FOR 1 MINUTES.
INSULATION RESISTANCE TEST	1000 MEGA-OHMS MIN	100 VDC APPLIED BETWEEN INDUCTOR TERMINALS AND CENTER CASE.
MECHANICAL PERFORMANCE TEST		
SOLDER HEAT RESISTANCE	1. COMPONENT SHOULD HAVE NO EVIDENCE OF ELECTRICAL AND MICHANICAL DAMAGE 2. INDUCTANCE SHOULD NOT HANGE MORE THAN ±5%	SOLDER : TIN-SILVER-COPPER (95.5%/4.0%/0.5%) PREHEAT:150℃ 100s Max. SOLDER TEMPERATURE: 260±5℃ DIP TIME:10s Max. 
VIBRATION TEST (LOW FREQUENCY)		1.AMPLITUDE: 1.5 mm 2.FREQUENCY: 10-55-10HZ / 1 MIN 3.DIRECTION: X, Y, Z 4.DURATION: 2 HRS/X, Y, Z
SHOCK TEST		COMPONENT SHOULD BE DROPPED 10 TIMES FROM A HEIGHT OF 1m ONTO 3cm WOODEN BOARD.

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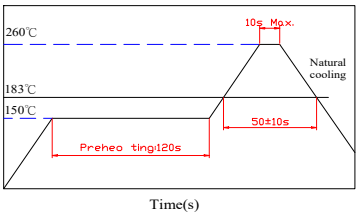
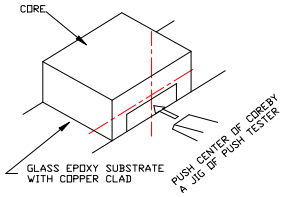
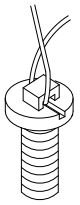
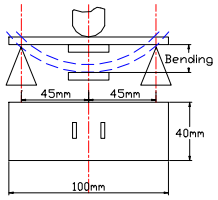
TEST ITEMS	SPECIFICATIONS	TEST CONDITIONS / TEST METHODS
MECHANICAL PERFORMANCE TEST		
SOLDERABILITY TEST	MORE THAN 90% OF TERMINAL ELECTRODE SHOULD BE COVERED WITH SOLDER.	PREHEAT:150℃ 120s SOLDER TEMPERATURE: 260±5℃ DIP TIME:10s Max. 
COMPONENT ADHESION (PUSH TEST)	4 1bs (ABOUT 1.8Kg)	THE DEVICE SHOULD BE REFLOW SOLDERED (260±5℃ FOR 10 SECONDS) TO A TINNED COPPER SUBSTRATE. A DYNOMETER FORCE GAUGE SHOULD BE APPLIED TO THE SIDE OF THE COMPONENT. THE DEVICE MUST WITH- STAND A MINIMUM FORCE OF 1.8Kg WITHOUT AILURE OF THE TERMINATION . 
COMPONENT ADHESION (PULL TEST)	4 1bs (ABOUT 1.8Kg)	1.INSERT 10cm WIRE INTO THE REMAINING OPEN EYE BEND THE ENDS OF EVEN WIRE LENGTHS UPWARD AND WIND TOGETHER 2. TERMINAL SHALL NOT BEREMARKABLY DAMAGED 
FLEXTURE STRENGTH	THE FORCES APPLIED SHOULD NOT DAMAGE THE DIELECTRIC.	SOLDER A CHIP ON A TEST SUBSTRATE, BEND THE SUBSTRATE BY 2mm AND RETURN. 
RESISTANCE TO SOLVENT TEST	THERE SHOULD BE NO CASEDEFORMATION, CHANGE IN APPEARANCE OR BITERATION OF MARKING	INDUCTERS SHALL WITHSTAND 6 MINTES OF ALCOHOL

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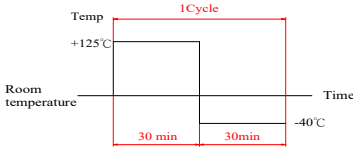
CLIMATIC TEST		
TEMPERATURE CHARACTERISTIC	1. COMPONENT SHOULD HAVE NO EVIDENCE OF ELECTRICAL AND MICHANICAL DAMAGE 2. INDUCTANCE SHOULD NOT HANGE MORE THAN ±10%	CERAMIC CORE:-40℃ ~ +125℃
HUMIDITY TEST		50℃±2℃ / 96±2 HOURS R.H.:90-95%
LOW TEMPERATURE STORAGE		1.TEMPERATURE:- 40℃±2℃ 2.TIME: 48±2 HOURS
THERMAL SHOCK TEST		1.-40±5℃ FOR 30 MINUTES. +125±5℃ FOR 30 MINUTES. 2.TOTAL: 10 CYCLES 
HIGH TEMPERATURE STORAGE		1.APPLIED CURRENT: MAX RATED CURRENT 2.TEMPERATURE:+125℃±2℃ 3.TIME:48±2 HOURS
NOTE：COMPONENT ARE TO BE TESTED AFTER 2 HOUR AT ROOM TEMPERATURE.		
LIFE TEST		
HIGH TEMPERATURE LOAD LIFE TEST	COMPONENT SHOULD BE NO EVIDENCE OF SHORT OR OPEN CIRCUIT	1. TEMPERATURE: 85±2℃ 2. TIME: 1000±12 HOURS 3. LOAD: ALLOWED DC CURREN
HUMIDITY LOAD LIFE TEST		1. TEMPERATURE: 40±2℃ 2. R.H.: 90-95% 3. TIME: 1000±12 HOURS 4. LOAD: ALLOWED DC CURREN

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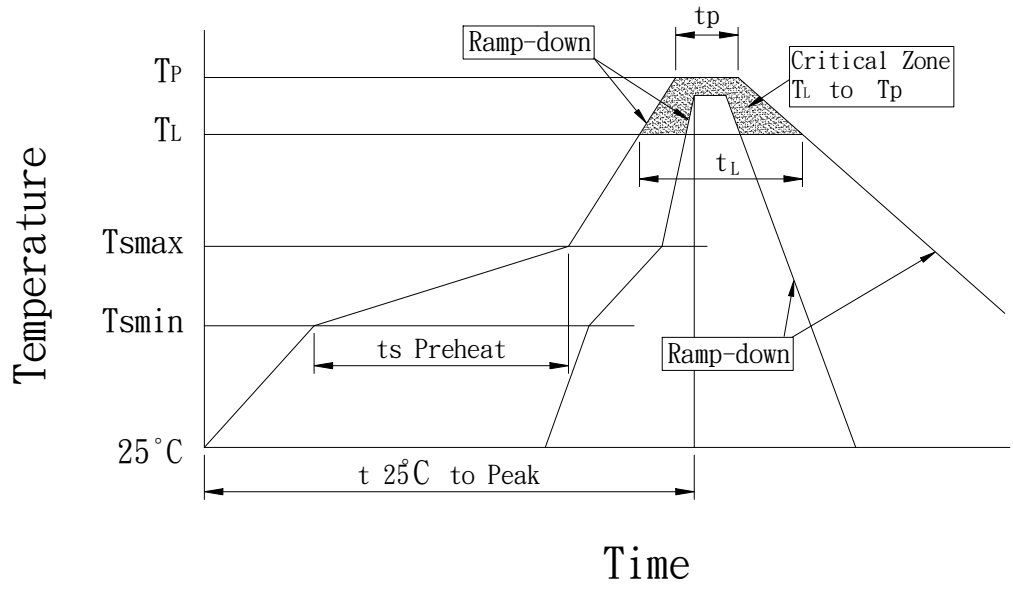
RECOMMENDED SOLDERING CONDITIONS：

CLASSIFICATION REFLOW PROFILES

Profile Feature	Sn-Pb Eutectic Assembly		Pb-Free Assembly	
	Large Body	Small Body	Large Body	Small Body
Average ramp-up rate (T_L to T_P)	3℃/second max.		3℃/second max.	
Preheat -Temperature Min (Ts_{min}) -Temperature Min (Ts_{max}) -Time (min to max) (ts)	100℃ 150℃ 60-120 seconds		150℃ 200℃ 60-180 seconds	
Tsmax to T_L -Ramp-up Rate			3℃/second max.	
Time maintained above: -Temperature (T_L) -Time (t_L)	183℃ 60-150 seconds		217℃ 60-150 seconds	
Peak Temperature (Tp)	225 +0/-5℃	240 +0/-5℃	245 +0/-5℃	260℃
Time within 5℃ of actual Peak Temperature (tp)	10-30 seconds	10-30 seconds	10-30 seconds	10 seconds
Ramp-down Rate	6℃/second max.		6℃/second max.	
Time 25℃ to Peak Temperature	6 minutes max.		8 minutes max.	

Note : All temperatures refer t topside of the package. Measured on the package body surface.

REFLOW SLODERINGS



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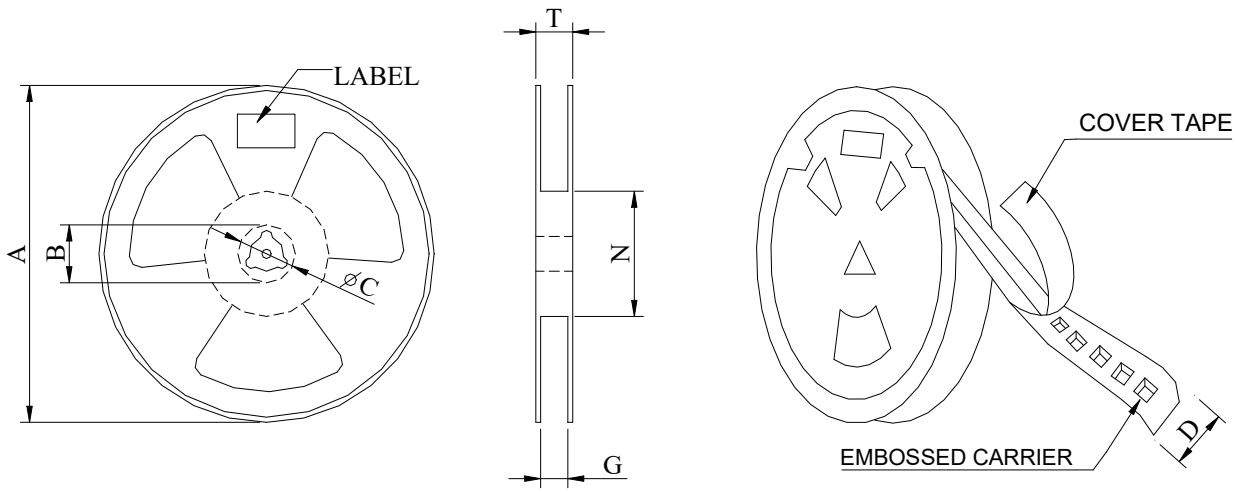
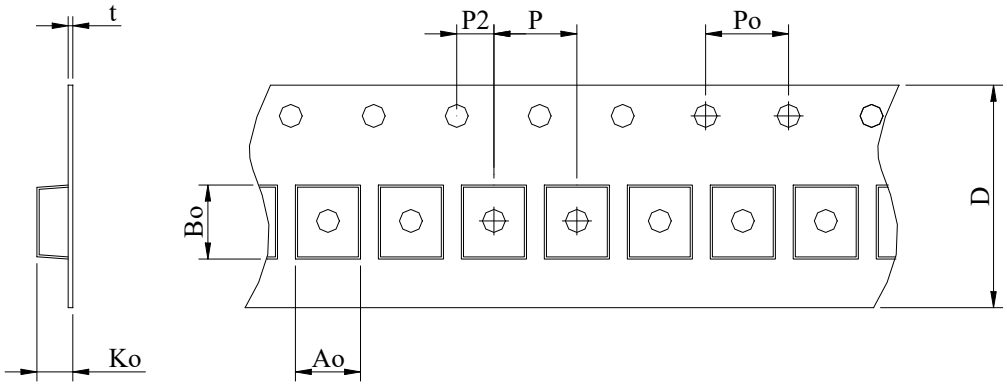
PACKAGE：



*CARRIER TAPE WIDTH：D



STYLE	DIMENSIONS (m/m)														
	Q'TY (PCS)	A	B	C	D	G	N	T	Ao	Bo	Ko	t	P	Po	P2
7"	4000	178	—	13	8.3	—	62	—	1.2	1.8	1.2	0.2	4	4	2

COILMASTER ELECTRONICS CO., LTD.

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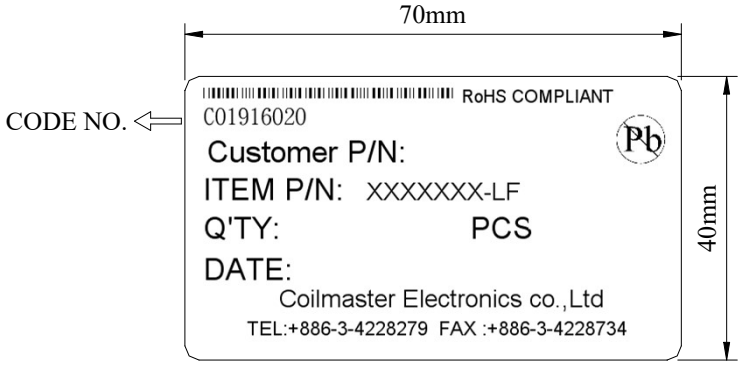
LABLE：



INNER BOX LABEL

OUT BOX LABEL