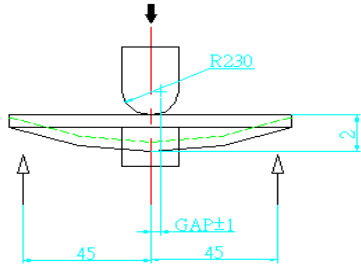
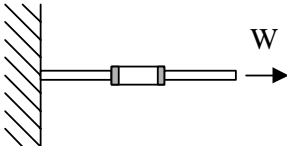
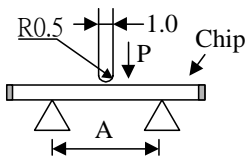


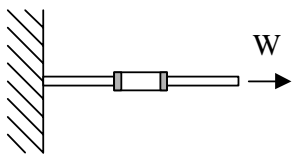
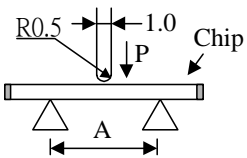
LTCC PRODUCT RELIABILITY

Item	Condition	Specification
Thermal shock	-40~+85°C for 50 cycles each cycle being 30min	No apparent damage Fulfill the electrical spec. after test
Humidity Resistance	+40°C ±2, 90~95% R.H. for 1000 ±12hours	No apparent damage Fulfill the electrical spec. after test
High Temperature Resistance	+85°C ±2,. for 1000±12hours	No apparent damage Fulfill the electrical spec. after test
Vibration	10~55Hz vibration frequency with 1.5mm amplitude for two hours in x, y, z directions (10MHz/min)	No apparent damage
Drop shock	Dropped onto printed circuit board from 110cm height three times in x, y, z directions. The terminals shall be protected.	No apparent damage
Soldering heat resistance	The dipped surface of the terminal shall be at least 75% covered with solder after dipped in solder bath of 260°C ±5 for 10sec.±1. Remark solder: H63A (Eutectic Solder) Flux: Resin	No apparent damage
Bending Test onto Printed Circuit Board	Solder specimen LTCC components on the test printed circuit board (L:100 x W:40 x T:1.6mm) in appended recommended PCB pattern. Apply the load in direction of the arrow until bending reaches 2mm.  Unit : mm	No apparent damage

LTCC PRODUCT RELIABILITY

Item	Condition	Specification		
		Type	W(KGF)	Time(S)
Terminal Strength	The terminal electrode shall not break off nor the chip damage 	LTL-2012	None	None
		LTB-3225	1.0	30±5
		LTB-3216	1.0	30±5
		LTB-2520	0.8	30±5
		LTB-2012	0.6	30±5
		LTU-2012	None	None
		LTD-2012	None	None
		LTA-8540	2.0	30±5
		LTA-8525	2.0	30±5
		Bending Strength	The terminal electrode shall not break off nor the chip damage. 	Type
LTL-2012	1.4			0.8
LTB-3225	2.0			1.6
LTB-3216	2.0			1.6
LTB-2520	1.8			1.0
LTB-2012	1.4			0.8
LTU-2012	1.4			0.8
LTD-2012	1.4			0.8
LTA-8540	3.0			3.0
LTA-8525	3.0			3.0
Solderability	The dipped surface of the terminal shall be at least 90% covered with solder after dipped in solder bath of 230°C ±5 for 5sec. ±1. Remark solder: H63A (Eutectic Solder) Flux: Resin	No apparent damage		
Storage temp. and humidity	Storage temp. ≤40°C Storage Humidity. ≤70%			

MULTILAYER CHIP BEADS RELIABILITY TEST

MECHANICAL PERFORMANCE TEST				
ITEM	SPECIFICATION	TEST CONDITION		
SOLDERABILITY	MORE THEN 90% OF THE TERMINAL ELECTRODE SHALL BE COVERED WITH FRESH SOLDER.	SOLDER : H63A (EUTECTIC SOLDER) SOLDER TEMPERATURE : $230 \pm 5^{\circ}\text{C}$ FLUX : ROSIN DIP TIME : 3 ± 1 SECONDS		
SOLDERING HEAT RESISTANCE	THE CHIP SHALL NOT CRACK. MORE THEN 75% OF THE TERMINAL ELECTRODE SHALL BE COVERED WITH SOLDER.	SOLDER : H63A (EUTECTIC SOLDER) SOLDER TEMPERATURE : $260 \pm 5^{\circ}\text{C}$ FLUX : ROSIN DIP TIME : 10 ± 1 SECONDS		
TERMINAL STRENGTH	THE TERMINAL ELECTRODE SHALL NOT BREAK OFF NOR THE FERRITE DAMAGE. 	TYPE	W(KGF)	TIME (SEC)
		MLB-100505	0.2	30 ± 5
		MLB-160808	0.6	
		MLB-201209	0.6	
		MLB-321611	1.0	
		MLB-321616	1.0	
		MLB-322513	1.0	
		MLB-451616	1.0	
		MLB-453215	1.5	
BENDING STRENGTH	NO MECHANICAL DAMAGE. THE FERRITE SHALL NOT BE DAMAGED BY FORCES APPLIED ON THE RIGHT. 	TYPE	A(MM)	
		MLB-100505	0.4	0.2
		MLB-160808	1.0	0.6
		MLB-201209	1.4	1.0
		MLB-321611	2.0	2.0
		MLB-321616	2.0	2.5
		MLB-322513	2.0	
		MLB-451616	2.5	
		MLB-453215	2.7	

MULTILAYER CHIP BEADS RELIABILITY TEST

◆ CLIMATIC TEST		
ITEM	SPECIFICATION	TEST CONDITION
THERMAL SHOCK (TEMPERATURE CYCLE)	IMPEDANCE SHALL BE WITHIN $\pm 20\%$ OF THE INITIAL VALUE.	TEMPERATURE : -25°C,85°C FOR 30 MINUTES EACH, 50 CYCLES.
HUMIDITY RESISTANCE		TEMPERATURE : +60°C HUMIDITY : 90% RH APPLIED CURRENT : RATED CURRENT TIME : 1000 \pm 12 HOURS
HIGH TEMPERATURE RESISTANCE		TEMPERATURE : 80°C APPLIED CURRENT : RATED CURRENT TIME : 1000 \pm 12 HOURS
* NOTE :		
1. OPERATING TEMPERATURE RANGE -25 °C TO +85°C		
2. STORAGE TEMPERATURE RANGE -40 °C TO +85°C		

CONVENTIONAL DIP INDUCTOR SERIES

◆ MECHANICAL PERFORMANCE TEST				
ITEM	SPECIFICATION	TEST CONDITION		
SOLDERABILITY	MORE THAN 90% OF THE TERMINAL LEAD SHALL BE COVERED WITH FRESH SOLDER	SOLDER:H63A(EUTECTIC SOLDER) SOLDER TEMPERATURE:230°C ±5°C FLUX:ROSIN DIP TIME:3±1 SECONDS		
SOLDERING HEAT RESISTANCE	THE DIP SHALL NOT CRACK MORE THAN 75% OF THE TERMINAL LEADE SHALL BE COVERED WITH SOLDER	SOLDER:H63A(EUTECTIC SOLDER) SOLDER TEMPERATURE:263°C ±5°C FLUX:ROSIN DIP TIME:10±1 SECONDS		
BENDING STRENGTH	THE FERRITE SHALL NOT BE DAMAGED BY FORCES APPLIED ON THE RIGHT. TERMINAL TENSILE STRENGTH (TTS) TERMINAL BENDING STRENGTH(TBS)	TYPE	T.T.S Kg(Min)	T.B.S Kg(Min)
		MCD-SERIES	1.0	0.3
		MDC-SERIES	1.0	0.3
		MRT-SERIES	1.0	0.3
		MSCDB-SERIES	0.5	0.15
◆ CLIMATIC TEST				
THERMAL SHOCK (TEMPERATURE CYCLE)	NO MECHANICAL DAMAGE. INDUCTANCE SHALL BE WITHIN ±5% OF THE INITIAL VALUE AND Q(SHALL BE) WITHIN ±30% OFF THE INITIAL VALUE.	TEMPERATURE:-40°C,85°C FOR 30 MINUTES EACH, 100 CYCLES		
HUMIDITY RESISTANCE		TEMPERATURE:-40°C±2°C HUMIDITY:95% RH TIME:1000±12 HOURS		
HIGH TEMPERATURE RESISTANCE		TEMPERATURE:85°C±2°C TIME:1000±12 HOURS		
LOW TEMPERATURE RESISTANCE		TEMPERATURE:-40°C±2°C TIME:1000±12 HOURS		
* NOTE:				
1.OPERATING TEMPERATURE RANGE -25°C TO + 85°C				
2.STORAGE TEMPERATURE RANGE -40°C TO + 85°C				