



SPECIFICATION FOR APPROVAL

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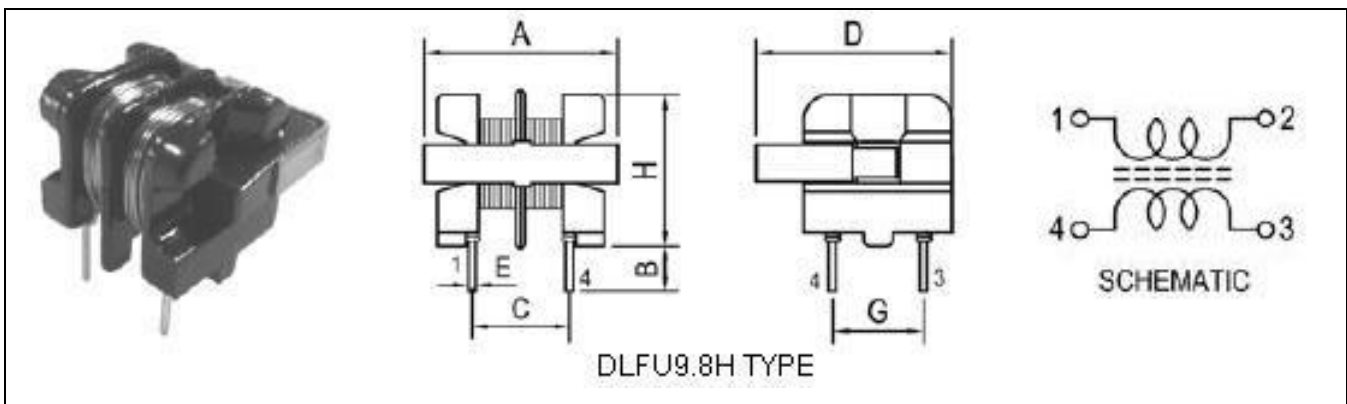


PRODUCT DETAIL

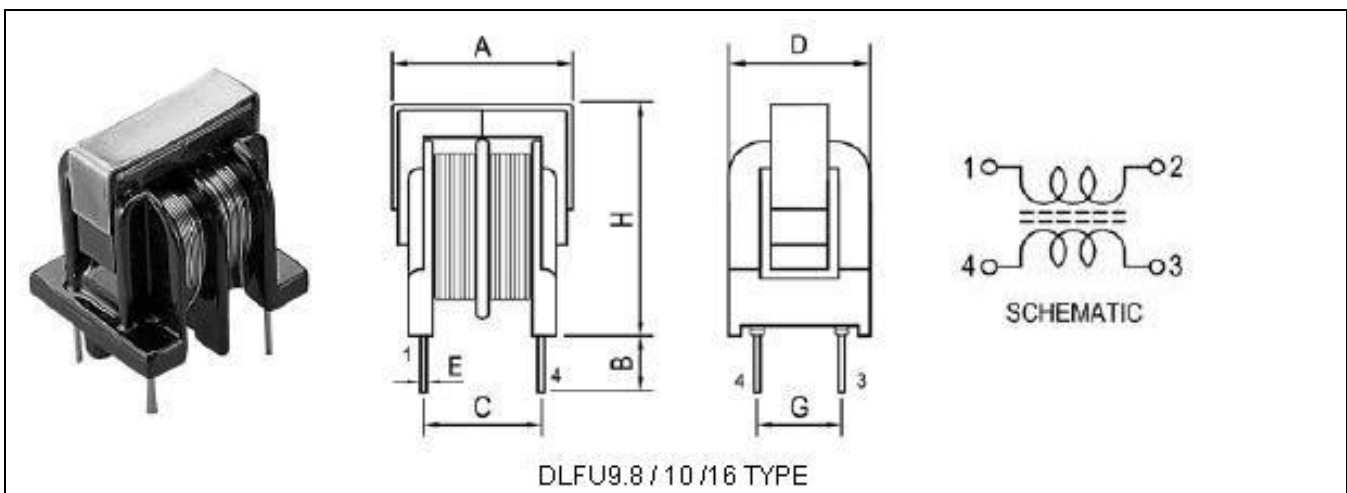
Electrical Characteristics			Test Instruments
L1=L2	P.4	TEST FREQ: 1kHz	•L:HP4284A PRECISION LCR METER •DCR:CHENHWA 502BC OHM METER •Rated DC Current: Based on temperature rise not to exceed 20°C
DCR	P.4	TEST LEVEL: 1.0V	
Rated Current	P.4	Op.e.Temp. -20°C~80°C	

SHAPES AND DIMENSIONS :

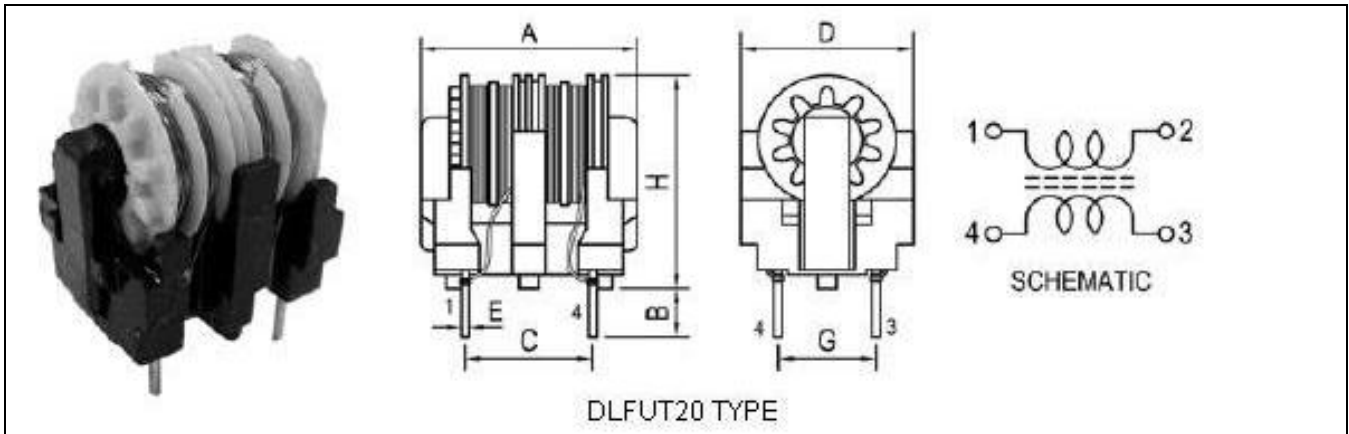
Dimensions are in mm



Series	A max	B±1.0	C±0.5	D max	E±0.05	G±0.5	H max
DLFU9.8H	17.0	4.0	8.0	16.0	0.60	7.0	13.0



Series	A max	B±1.0	C±0.5	D max	E±0.05	G±0.5	H max
DLFU9.8	17.0	4.0	8.0	12.0	0.60	7.0	17.0
DLFU10	19.0	4.0	13.0	17.0	0.70	10.0	22.0
DLFU16	23.0	4.0	13.0	19.5	0.70	10.0	27.5



Series	A max	B±1.0	C±0.5	D max	E±0.05	G±0.5	H max
DLFUT20	22.0	4.0	13.0	17.5	0.80	10.0	23.5



PART NUMBER CODE

DLF U16 402 U 1A
1 2 3 4 5

1. Series Name
2. Core type
3. Inductance : Unit : mH
4. Inductance tolerance : “U” means Minimum.
5. Rated Current : Amps(Max)

**ELECTRICAL CHARACTERISTICS:**

Part No.		L (mH) min	Rated Current (Amp.)	DCR (OHM) max
DLFU9.8 DLFU9.8H	103U-0.1A	10	0.1	8.0
	802U-0.2A	8.0	0.2	6.0
	502U-0.2A	5.0	0.2	4.5
	502U-0.3A	5.0	0.3	3.5
	202U-0.5A	2.0	0.5	1.0
	501U-1A	0.5	1.0	0.3
DLFU10-103U-0.3A		10.0	0.3	3.0
DLFU10-502U-0.3A		5.0	0.3	2.0
DLFU10-502U-0.5A		5.0	0.5	1.5
DLFU10-402U-0.7A		4.0	0.7	1.0
DLFU10-302U-1A		3.0	1.0	0.5
DLFU10-202U-1A		2.0	1.0	0.5
DLFU10-102U-1A		1.0	1.0	0.4
DLFU10-102U-1.3A		1.0	1.3	0.3
DLFU10-102U-1.5A		1.0	1.5	0.2
DLFU10-601U-2A		0.6	2.0	0.2
DLFU16-303U-0.4A		30	0.4	2.8
DLFU16-203U-0.4A		20	0.4	2.2
DLFU16-203U-0.5A		20	0.5	1.6
DLFU16-103U-0.6A		10	0.6	1.2
DLFU16-802U-0.8A		8.0	0.8	0.8
DLFU16-602U-0.8A		6.0	0.8	0.7
DLFU16-602U-1A		6.0	1.0	0.5
DLFU16-402U-1A		4.0	1.0	0.4
DLFU16-352U-1.2A		3.5	1.2	0.3
DLFU16-252U-1.2A		2.5	1.2	0.25
DLFU16-152U-1.5A		1.5	1.5	0.15
DLFUT20-333U-0.3A		33	0.3	2.50
DLFUT20-223U-0.4A		22	0.4	1.70
DLFUT20-153U-0.5A		15	0.5	1.20
DLFUT20-103U-0.7A		10	0.7	0.75
DLFUT20-682U-0.8A		6.8	0.8	0.53
DLFUT20-472U-1A		4.7	1.0	0.38
DLFUT20-332U-1A		3.3	1.0	0.31
DLFUT20-222U-1.2A		2.2	1.2	0.18
DLFUT20-152U-1.5A		1.5	1.5	0.14
DLFUT20-751U-1.8A		0.75	1.8	0.12

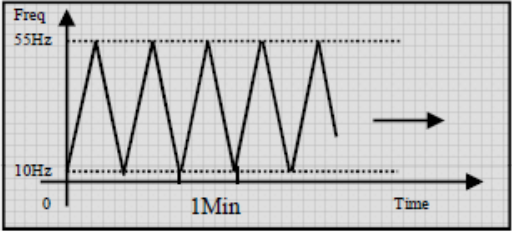
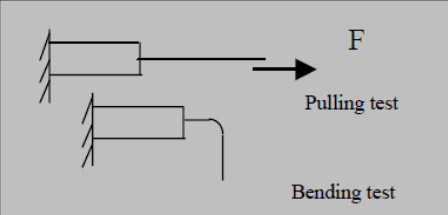


RELIABILITY AND TEST CONDITION

Environmental tests conditions (DIP wire wound Inductor)

Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
<p>High temperature Storage test</p> <p>Reference documents: MIL-STD-202G Method 108A</p> <p>高溫儲存試驗</p>	<p>1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$</p> <p>N : The High temperature, depend on the spec. N : 高溫設定，依據產品規格設定</p> <p>1.無明顯的外觀缺陷 2.感值變化不超過 10% 3.直流電阻變化不超過 10%</p>	<p>Temperature: $N \pm 2^\circ\text{C}$ Time : 96 ± 2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.</p> <p>溫度: $N \pm 2^\circ\text{C}$, 時間: 96 ± 2 小時 樣品在室溫下放置 1 小時, 不超過 2 小時必須測試。</p>
<p>Low temperature Storage test</p> <p>Reference documents: IEC 68-2-1A 6.1 6.2</p> <p>低溫儲存試驗</p>	<p>1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$</p> <p>M : The Low temperature, depend on the spec. M : 低溫設定，依據產品規格設定</p> <p>1.無明顯的外觀缺陷 2.感值變化不超過 10% 3.直流電阻變化不超過 10%</p>	<p>Temperature: $M \pm 2^\circ\text{C}$ Time : 96 ± 2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.</p> <p>溫度: $M \pm 2^\circ\text{C}$, 時間: 96 ± 2 小時 樣品在室溫下放置 1 小時, 不超過 2 小時必須測試。</p>
<p>Humidity test</p> <p>Reference documents: MIL-STD-202G Method 103B</p> <p>濕度測試</p>	<p>1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$</p> <p>1.無明顯的外觀缺陷 2.感值變化不超過 10% 3.直流電阻變化不超過 10%</p>	<p>Temperature: $40 \pm 2^\circ\text{C}$, Humidity: $93 \pm 3\% \text{RH}$ Time : 96 ± 2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.</p> <p>溫度: $40 \pm 2^\circ\text{C}$, 濕度: $93 \pm 3\% \text{RH}$ 時間 : 96 ± 2 hours 樣品在室溫下放置 1 小時, 不超過 2 小時必須測試。</p>
<p>Thermal shock test</p> <p>Reference documents: MIL-STD-202G Method 107G</p> <p>熱衝擊測試</p>	<p>1.No case deformation or change in appearance. 2.$\Delta L/L \leq 10\%$ 3.$\Delta DCR/DCR \leq 10\%$</p> <p>N : The High temperature, depend on the spec. M : The Low temperature, depend on the spec. For T: weight $\leq 28\text{g}$: 15Min; $28\text{g} \leq \text{weight} \leq 136\text{g}$: 30Min</p> <p>1.無明顯的外觀缺陷 2.感值變化小於 10% 3.直流電阻變化小於 10%</p>	<p>First $M^\circ\text{C}$ for T time, next $N^\circ\text{C}$ for T time as 1 cycle. Go through 20 cycles.</p> <p>從 $M^\circ\text{C}$ 作用 T 分鐘, 然後溫度衝擊到 $N^\circ\text{C}$ 作用 T 分鐘, 作為一個循環, 共作用 20 次。</p>

Physical characteristic tests conditions (DIP wire wound Inductor)

Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
Solderability test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002B 可焊性測試	Terminals area must have 95% min. Solder coverage 端子必須有 95%以上著錫	<ul style="list-style-type: none"> ● Dip pads in flux then dip in solder pot at 245±5°C for 5 second. ● Solder: lead free ● Flux: rosin flux ● 端子侵入著焊劑，然後侵入 245±5°C 錫爐中 5 秒 ● 焊料：無鉛焊料 ● 助焊劑：松香助焊劑
Heat endurance of flow soldering Reference documents: MIL-STD-202G Method 210F 波峰焊耐熱試驗	<ul style="list-style-type: none"> ● No case deformation or change in appearance. ● $\Delta L/L \leq 10\%$ ● $\Delta DCR/DCR \leq 10\%$ ● 無明顯的外觀缺陷 ● 感值變化不超過 10% ● 直流電阻變化不超過 10% 	<ul style="list-style-type: none"> ● Dip pads in flux then dip in solder pot at 260±5°C for 10 second. ● Solder: lead free ● Flux: rosin flux ● 端子侵入著焊劑，然後侵入 260±5°C 錫爐中 10 秒 ● 焊料：無鉛焊料 ● 助焊劑：松香助焊劑
Vibration test Reference documents: MIL-STD-202G Method 201A 振動測試	<ul style="list-style-type: none"> ● No case deformation or change in appearance. ● $\Delta L/L \leq 10\%$ ● $\Delta DCR/DCR \leq 10\%$ ● 無明顯的外觀缺陷 ● 感值變化不超過 10% ● 直流電阻變化不超過 10% 	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.(total 6 hours)  用 10~55Hz 振動頻率 1.5mm 振幅沿 X,Y,Z 方向各振動 2 小時.(共 6 小時)
Drop test Reference documents: MIL-STD-202G Method 203C 落下試驗	<ul style="list-style-type: none"> ● No case deformation or change in appearance. ● $\Delta L/L \leq 10\%$ ● $\Delta DCR/DCR \leq 10\%$ ● 無明顯的外觀缺陷 ● 感值變化不超過 10% ● 直流電阻變化不超過 10% 	Packaged & Drop down from 1m with 981m/s ² (100G) attitude In 1 angle 1 ridges & 2 surfaces orientations. 將產品包裝後從 1 米高度自然落下至試驗板上 1 角 1 稜 2 面
Terminal strength Reference documents: IEC 68-2-21:1992 Test A & C 端子強度試驗	1.Terminal should not come out 2.Meet require test condition A&C For: Wire-leaded components-Test A&C For: Others leaded components-Test A 1.端子不會松脫 2.滿足要求的測試條件 A&C	A Pull Force:0.45kg;the force shall be applied gradually to the terminal and then maintained for 10 seconds. C. Wire-lead bend:0.23kg,The rate of bending shall be approximately 3 seconds per bend in each direction. The load shall be suspended at a point within 1/4 inch from the free end of the terminal.  A.拉力:0.45 公斤力,拉力逐漸到最大值維持 10 秒。 C.線腳彎曲:0.23 公斤力,每個方向彎曲 3 次.負載應該加在離端子末端 1/4 英寸處
Resistance to solvent test Reference documents: IEC 68-2-45:1993 耐溶劑性試驗	No case deformation or change in appearance, or obliteration of marking 無外觀破壞及標記破損	To dip parts into IPA solvent for 5±0.5Min, then drying them at room temp for 5Min,at last ,to brushing making 10 times. 在 IPA 溶劑中浸泡 5±0.5 分鐘,室溫下乾燥 5 分鐘,然後擦拭 10 次.



Electrical Characteristic test (DIP wire wound Inductor)

Item (項目)	Required Characteristics(要求)	Test Method / Condition (測試方法)
Electronic characteristic test of major products 主要產品電特性測試	Refer to catalogue of specific products 參照具體產品目錄頁	Refer to catalogue of specific products 參照具體產品目錄頁書
Overload test Reference documents: JIS C5311-6.13 過負荷試驗	1. During the test no smoke, no peculiar, smell, no fire 2. The characteristic is normal after test 1. 試驗過程中無冒煙,異味,著火等, 2. 試驗後產品特性正常	Apply twice as rated current for 5 minutes. 通兩倍額定電流 5 分鐘
Voltage resistance test Reference documents: MIL-STD-202G method 301 絕緣耐壓測試	1. During the test no breakdown 2. The characteristic is normal after test 1. 試驗過程中無擊穿, 2. 試驗後產品特性正常	Refer to product's specification 參照產品的具體規格