



德砚电子

DE YAN DIAN ZI

一体成型功率电感

Data Sheet

RoHS



ISO 9001
质量管理体系认证



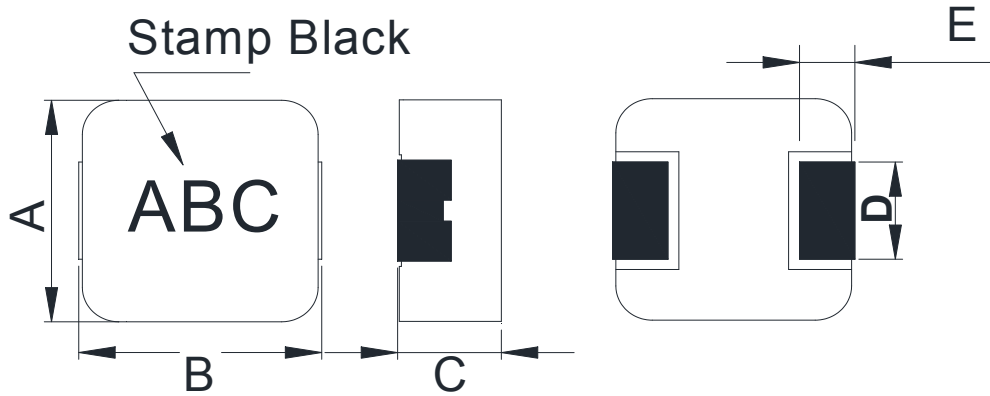
ISO 14001
环境管理体系认证

Shenzhen Deyan Electronics Co., Ltd

SPECIFICATION

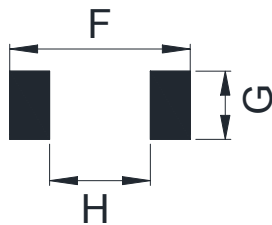
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		D1050HP-470MT		2024-05-06	--	01	1/5

1. DIMENSIONS (UNIT : mm)



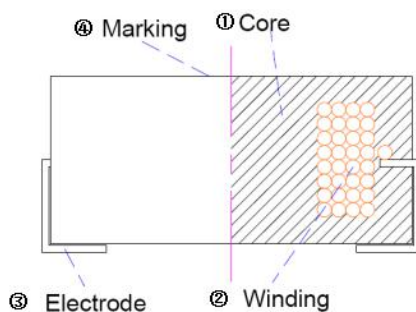
A	B	C	D	E
10.1±0.3	11.6 Max	5.0 Max.	3.0±0.5	2.5±0.5

2. RECOMMENDED LAND PATTERN (UNIT: mm)



F	13.0 Ref.
G	4.0 Ref.
H	6.0 Ref.

3. STRUCTURE



No.	PARTS	MATERIAL
①	CORE	Alloy powder
②	WIRE	Self bonding polyamide-imide enameled Copper Wire
③	ELECTRODE	Cu
④	MARKING	INK

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4.CHARACTERISTICS

No.	P/N.	Inductance (μH)	Stamp	D.C.R. (mΩ) Max.	Saturation Current (A)		Temperature rise current(ΔT≤40℃) (A).	
					Typ	MAX	Typ	MAX
01	D1050HP-470MT	47±20%	470	100	3.5	3.0	3.2	2.7

* Testing instrument: Inductance HP 4284A or equivalent at 100KHz /1V..

D.C.R : TH2512B or equivalent. (Ta= 25℃)

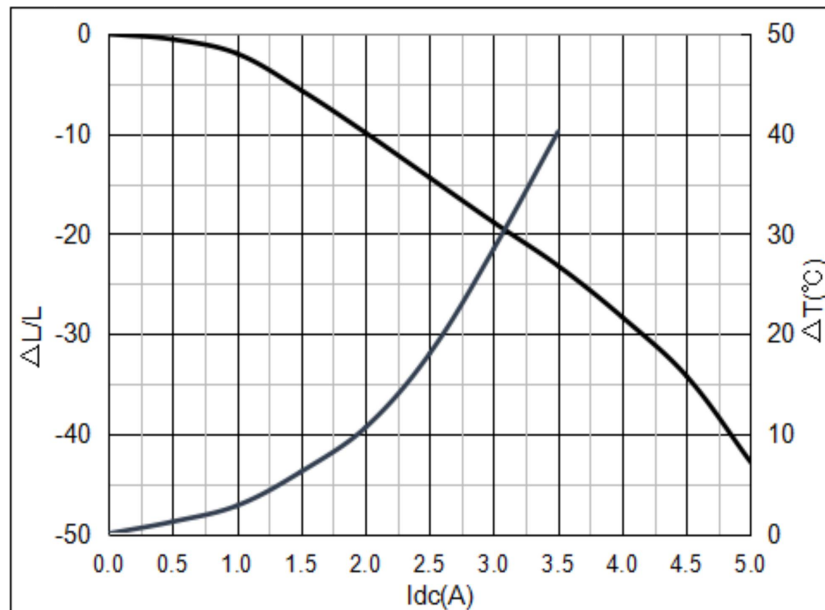
Saturation current: WK 3260B+3265B or equivalent.

* Saturation current: indicates the current when the inductance decrease to approximately 70% of initial value. (Ta=25℃)

* The temperature rise current value is the DC current value having temperature increase up to approximately 40℃(Ta=25℃)

* Absolute maximum voltage 30VDC

470 DC Bias & Temperature Characteristics



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5. GENERAL CHARACTERISTICS

* STANDARD TESTING CONDITIONS:

UNLESS OTHERWISE SPECIFIED, THE STANDARD RANGE OF ATMOSPHERIC CONDITIONS FOR MEASUREMENTS AND TESTS ARE AS FOLLOWS: AMBIENT TEMPERATURE: 15°C~35°C.

RELATIVE HUMIDITY : 25% ~85%. AIR PRESSURE : 86kPa ~106kPa.

IF THERE IS ANY DOUBT ABOUT THE RESULTS, MEASUREMENT SHALL BE MADE WITHIN THE FOLLOWING LIMITS: AMBIENT TEMPERATURE: 20°C±1°C. RELATIVE HUMIDITY: 63% ~67%.

AIR PRESSURE : 86kPa ~106kPa.

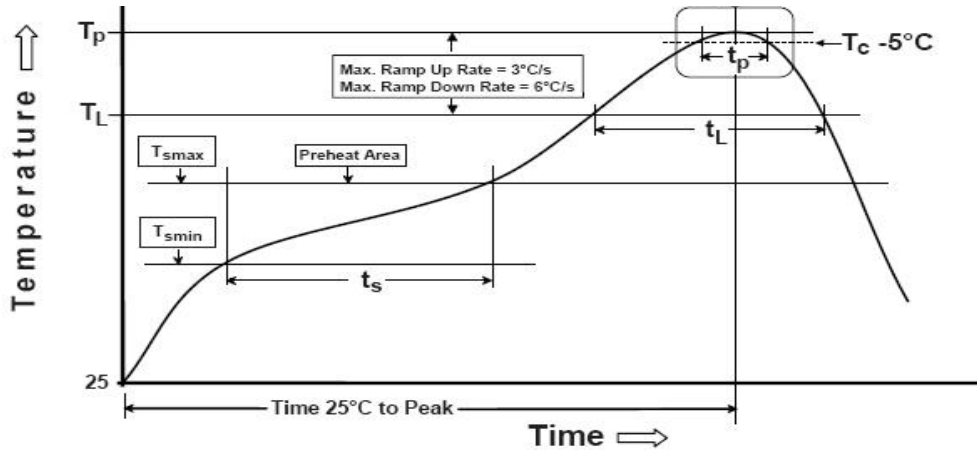
No.	ITEMS	CONDITIONS	SPECIFICATION
1	OPERATION TEMPERATURE STORAGE TEMPERATURE		-40 ~ + 125°C (INCLUDING COIL TEMPERATURE RISE) -40 ~ + 125°C
2	TEMPERATURE COEFFICIENT	-30 ~ +105°C	0 ~ 2000 ppm/°C
3	FIXING STRENGTH	SAMPLE IS PUSHED IN THREE DIRECTIONS OF X, Y AND Z WITH FORCE OF 5. 0N FOR 10±5 SECONDS. AFTER SOLDERING BETWEEN COPPER PLATE AND ELECTRODES.	NO ELECTRODE DETACHMENT.
4	RESISTANCE TO SOLDERING HEAT TEST	REFER TO THE SPEC "STD-001NP".	NO MECHANICAL BREAKAGE. DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
5	SOLDERABILITY TEST	IMMERSE THE ELECTRODE IN FLUX FOR 5 SECONDS. THEN DIP THE ELECTRODE INTO A SOLDERING BATH OF 245±5°C FOR 2±0.5 SECONDS.	OVER 95% OF THE SURFACE BEING IMMersed SHALL BE COVERED WITH NEW SOLDER UNIFORMLY.
6	VIBRATION TEST	AMPLITUDE: 1.5mm P-P FREQUENCY:10~55~10Hz (1 MINUTE PER CYCLE) DURATION: 1 HOUR IN EACH OF X, Y, Z AXIS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
7	HUMIDITY TEST	TEMPERATURE: 40°C±2°C HUMIDITY: 90%~95%RH DURATION: 96±4 HOURS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
8	THERMAL SHOCK TEST	20 CYCLES OF +105°C FOR 30 MINUTES, -40°C FOR 30 MINUTES. CHARACTERISTICS ARE MEASURED AFTER THE AMBIENT AIR EXPOSURE OF 1 HOUR	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
9	HIGH TEMPERATURE STORAGE TEST	TEMPERATURE: 125°C±2°C DURATION: 96±4 HOURS	
10	LOW TEMPERATURE STORAGE TEST	TEMPERATURE: -40°C±3°C DURATION: 96±4 HOURS.	

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. Reflow profile for SMT components



Reflow is referred to standard IPC/ JEDEC J-STD-020D

Profile Feature		Lead(Pb) Free solder
Preheat and soak	·temperature Min.(T _{smin})	150°C
	·temperature Max.(T _{smax})	200°C
	·time(T _{smin} to T _{smax})(t _s)	60-120 Seconds
Average ramp up rate T _{smax} to T _p		3°C/Second Max.
Liquidous temperature (T _L)		217 °C
Time (T _L) maintained above T _L		60-150 seconds
Peak package body temperature (T _p)		Table2
Time (t _p)* within 5 °C of the specified classification temperature (T _c)		30* seconds
Average Ramp-down rate (T _p to T _L)		6 °C/second max
Time 25 °C to peak temperature		8 minutes max.

Table2. Pb-Free Process - Classification Temperatures (T_c)

Package Thickness	Volume mm ³ <350	Volume mm ³ 350~2000	Volume mm ³ >2000
<1.6 mm	260°C	260°C	260°C
1.6mm- 2.5mm	260°C	250°C	245°C
>2.5 mm	250°C	245°C	245°C

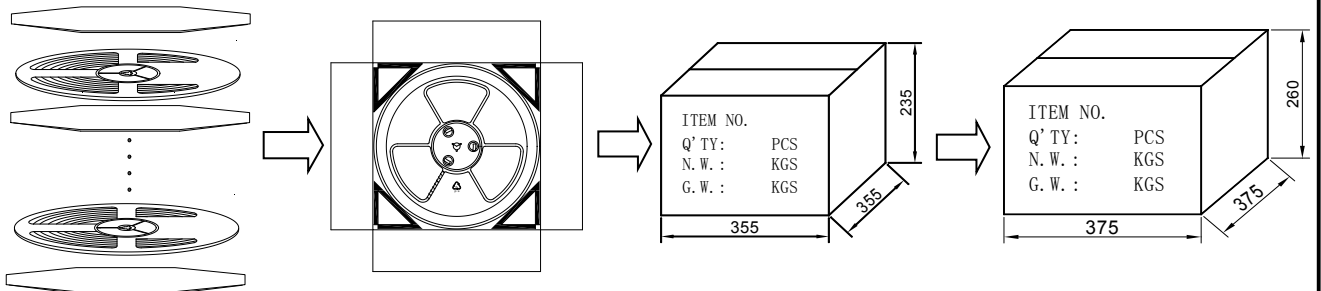
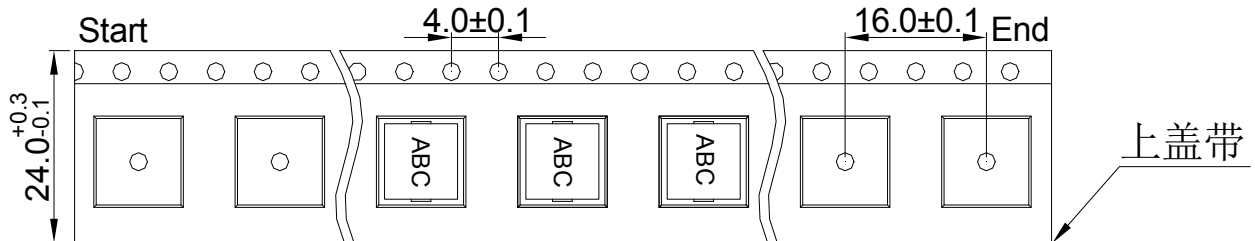
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7. PACKING

REFER TO STANDARD PACKING DRAWING. 500PCS/R



REEL	500PCS
BOX	3000PCS

8. NOTE

SOLDERING TIN PERIOD OF VALIDITY: SIX MONTHS
 STORAGE TEMPERATURE: 25°C±5°C
 COMPARATIVELY HUMIDITY: 35%--70%

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