

一体成型功率电感

Data Sheet



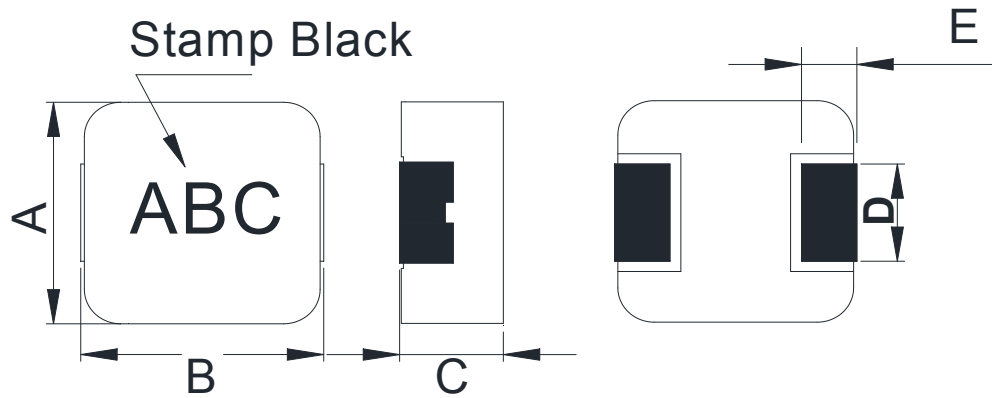
SPECIFICATION

			AMENDMENT RECORD			
SYMBOL	DATE	PAGE	CONTENTS	DWN. BY	CHK. BY	APP. BY
				叶枫	李林	谢东

SPECIFICATION

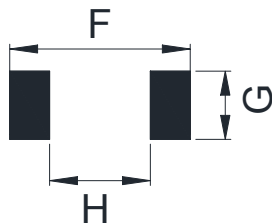
Customer	Customer P/No.	P/No.	File No.	Date of	Customer Rev.	Rev.	Page of
		D0630HP-4R7MT		2024-05-06	--	01	1/5

1. DIMENSIONS (UNIT : mm)



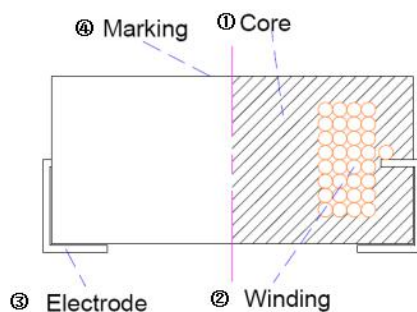
A	B	C	D	E
6.6±0.3	7.1 ±0.3	3.0 MAX	3.0 ±0.3	1.6 ±0.5

2. RECOMMENDED LAND PATTERN (UNIT: mm)



F	8.4 Ref.
G	3.5 Ref.
H	3.7 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

APPROVAL	CHECK	DESIGN	

SPECIFICATION

Customer	Customer P/No.	P/No.	File No.	Date of	Customer Rev.	Rev.	Page of
		D0630HP-4R7MT		2024-05-06	--	01	2/5

4.CHARACTERISTICS

No.	P/N.	Inductance (μ H)	Stamp	D.C.R. (m Ω) Max.	Saturation Current (A)		Temperature rise current($\Delta T \leq 40^\circ\text{C}$) (A).	
					Typ	MAX	Typ	MAX
01	D0630HP-4R7MT	4.7 $\pm$ 20%	4R7	40	9.0	7.5	5.5	4.5

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

D.C.R : TH2512B or equivalent. (Ta= 25 $^\circ\text{C}$)

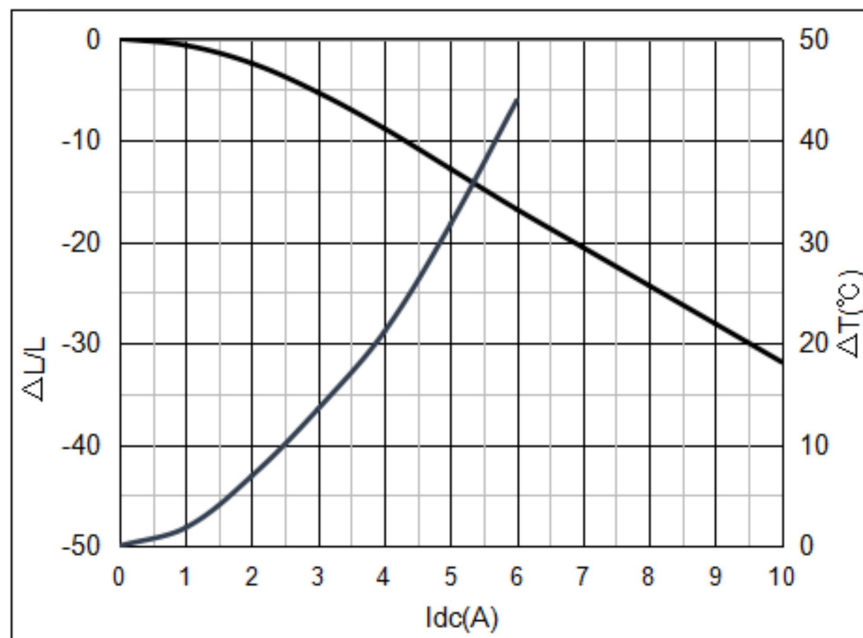
Saturation current: WK 3260B+3265B or equivalent.

* Saturation current: indicates the current when the inductance decrease to approximately 70% of initial value. (Ta=25 $^\circ\text{C}$)

* The temperature rise current value is the DC current value having temperature increase up to approximately 40 $^\circ\text{C}$ (Ta=25 $^\circ\text{C}$)

* Absolute maximum voltage 30VDC

4R7 DC Bias & Temperature Characteristics



APPROVAL	CHECK	DESIGN	

SPECIFICATION

Customer	Customer P/No.	P/No.	File No.	Date of	Customer Rev.	Rev.	Page of
		D0630HP-4R7MT		2024-05-06	--	01	3/5

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℃~35℃.

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℃±1℃. RELATIVE HUMIDITY: 63% ~67%.

AIR PRESSURE : 86kPa ~106kPa.

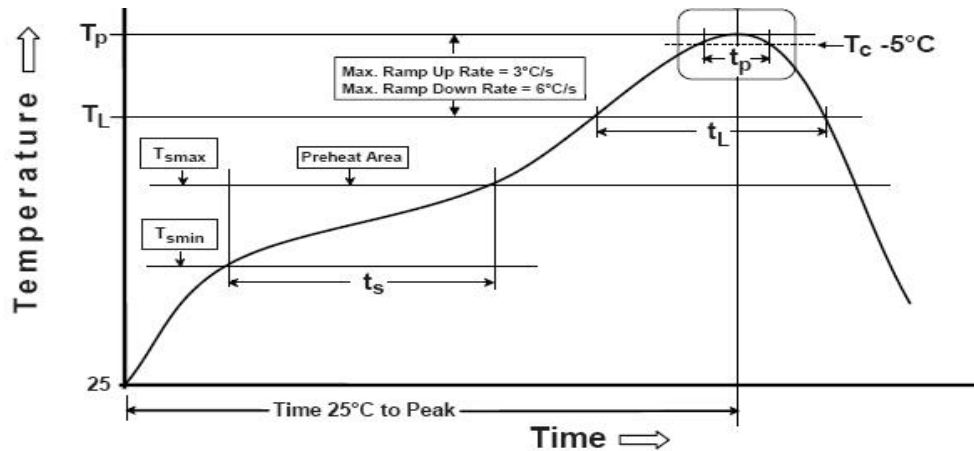
No.	ITEMS	CONDITIONS	SPECIFICATION
1	OPERATION TEMPERATURE STORAGE TEMPERATURE		-40 ~ + 125℃ (INCLUDING COIL TEMPERATURE RISE) -40 ~ + 125℃
2	TEMPERATURE COEFFICIENT	-30 ~ +105℃	0 ~ 2000 ppm/℃
3	FIXING STRENGTH	SAMPLE IS PUSHED IN THREE DIRECTIONS OF X, Y AND Z WITH FORCE OF 5. 0N FOR 10±5 SECONDS. AFTER 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℃ 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℃±2℃ HUMIDITY: 90%~95%RH DURATION: 96±4 HOURS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10%
8	THERMAL SHOCK TEST	20 CYCLES OF +105℃ FOR 30 MINUTES, -40℃ 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℃±2℃ DURATION: 96±4 HOURS	
10	LOW TEMPERATURE STORAGE TEST	TEMPERATURE: -40℃±3℃ DURATION: 96±4 HOURS.	

APPROVAL	CHECK	DESIGN	

SPECIFICATION

Customer	Customer P/No.	P/No.	File No.	Date of	Customer Rev.	Rev.	Page of
		D0630HP-4R7MT 6		2024-05-06	--	01	4/5

. 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.(Tmin)	150°C
	·temperature Max.(Tmax)	200°C
	·time(Tmin to Tmax)(ts)	60-120 Seconds
Average ramp up rate Tmax to Tp		3°C/Second Max.
Liquidous temperature (TL)		217 °C
Time (TL) maintained above TL		60-150 seconds
Peak package body temperature (Tp)		Table2
Time (tp)* within 5 °C of the specified classification temperature (Tc)		30* seconds
Average Ramp-down rate (Tp to TL)		6 °C/second max
Time 25 °C to peak temperature		8 minutes max.

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

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

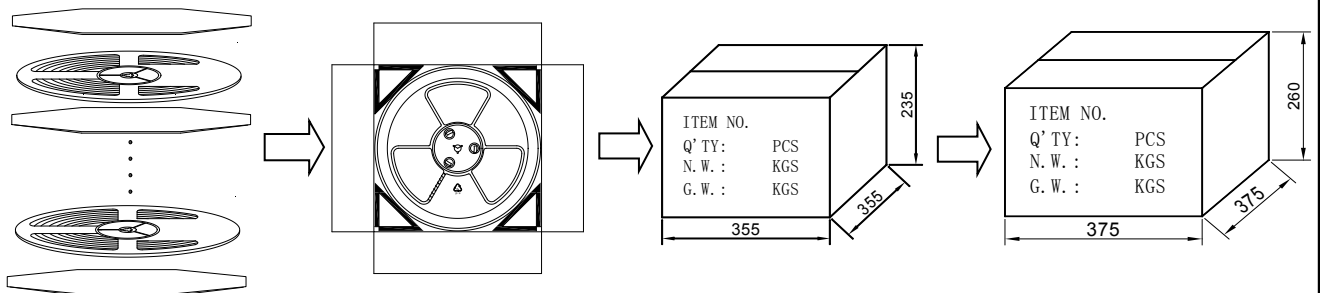
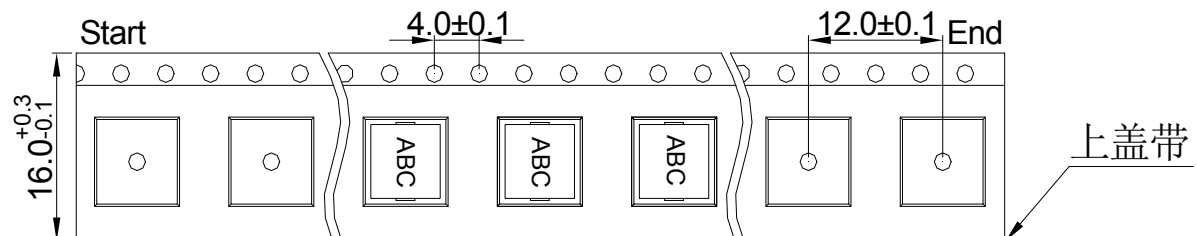
APPROVAL	CHECK	DESIGN	

SPECIFICATION

Customer	Customer P/No.	P/No.	File No.	Date of	Customer Rev.	Rev.	Page of
		D0630HP-4R7MT		2024-05-06	--	01	5/5

7. PACKING

REFER TO STANDARD PACKING DRAWING. 1000PCS/R



REEL	1000PCS
BOX	8000PCS

8. NOTE

SOLDERING TIN PERIOD OF VALIDITY: SIX MONTHS
STORAGE TEMPERATURE: $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$
COMPARATIVELY HUMIDITY: 35%--70%

APPROVAL	CHECK	DESIGN	