

### 产品特点

- SMD环绕片式电阻器
- 通用规范ESCC4001
- 详细规范ESCC4001/026
- 强大的终端
- 大阻值范围1 to 10M
- HCHP选项0.55：对于高频应用(高达10千兆赫)
- 根据IEC61249-2-21定义的评估,以ESA/ESCC4001/026无卤。

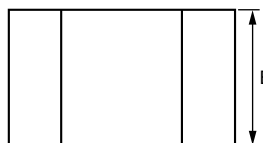
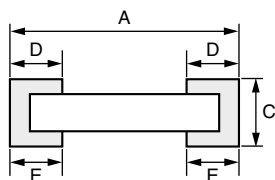
溅射薄膜端子，镍屏障，是高的工作条件十分便利。

他们可以承受数千非常本身维尔热冲击。

B (W / A) 型是回流焊组装 (变型01至05)

G (W / A) 类型胶合 (变型06-10)

尺寸 以毫米为单位



VARIANT NUMBER	STYLE	DIMENSIONS (mm)							
		A		B		C		D, E	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
01, 06	0603	1.36	1.68	0.72	0.98	0.38	0.53	0.25	0.51
02, 07	0805	1.75	2.07	1.14	1.4	0.38	0.53	0.25	0.51
03, 08	1206	2.89	3.21	1.47	1.73	0.38	0.53	0.25	0.51
04, 09	2010	4.92	5.24	2.41	2.67	0.5	0.63	0.25	0.64
05, 10	2512	6.19	6.51	2.93	3.32	0.5	0.63	0.25	0.64

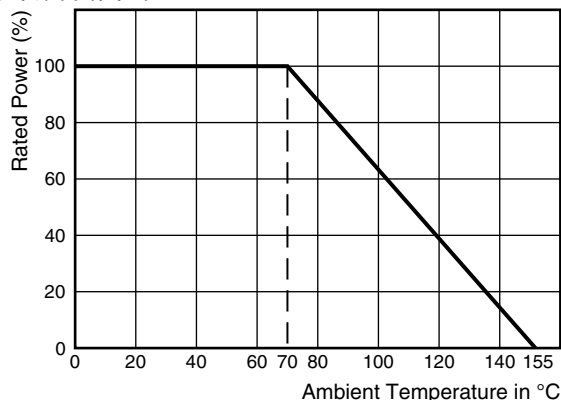
### 机械特性

**Substrate:** Alumina  
**Technology:** Thick film (Ruthenium oxyde)  
**Protection:** Epoxy coating  
**Terminations:** **B (W/A):** SnPb over nickel barrier for solder reflow  
**G (W/A) type:** gold over nickel barrier for gluing

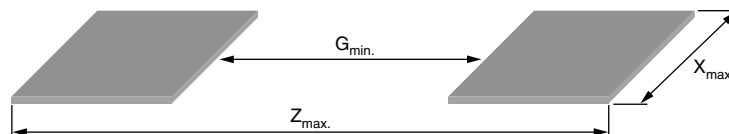
### CHIPS FOR HIGH FREQUENCY APPLICATIONS

High frequency option available up to 10 GHz  
 3 sizes: 0603, 0805, 1206

### 功耗降低曲线



**SUGGESTED LAND PATTERN** (please refer to IPC-7351A)



CHIP SIZE	Z <sub>max.</sub>	G <sub>min.</sub>	X <sub>max.</sub>
0603	2.38	0.34	0.98
0805	2.77	0.73	1.40
1206	3.91	1.87	1.73
2010	5.94	3.64	2.67
2512	7.21	4.91	3.32

**包装**

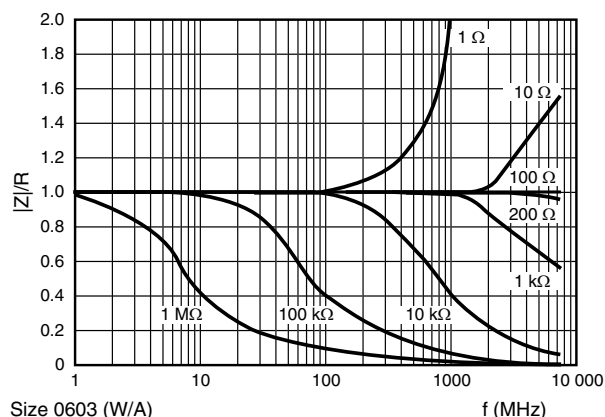
Waffle-pack or tape and reel when specified

SIZE	NUMBER OF PIECES PER PACKAGE		TAPE WIDTH
	WAFFLE PACK 2" x 2"	TAPE AND REEL (1) MIN. MAX.	
0603	100	4000	8 mm
0805 0705			
1206		1000	8 mm (2)
2010			
2512			

**Notes**

- (1) MOQ for tape and reel: 50 pieces
- (2) 12 mm on request

**TYPICAL HF PERFORMANCE OF HCHP**



**电气特性**

VARIANT NUMBER	STYLE (1)	RESISTANCE RANGE R <sub>n</sub> (2)		TOLERANCE (± %) (2)	TEMPERATURE COEFFICIENT TC (± 10 <sup>-6</sup> /°C) (2)	CRITICAL RESISTANCE (kΩ)	TERMINAL MATERIAL AND FINISH	WEIGHT MAX. (g)
		MIN. (Ω)	MAX. (MΩ)					
01	0603	1	10	1, 2, 5	100, 200	25	E4	0.002
02	0805	1	10	1, 2, 5	100, 200	50	E4	0.004
03	1206	1	10	1, 2, 5	100, 200	160	E4	0.008
04	2010	1	10	1, 2, 5	100, 200	180	E4	0.026
05	2512	1	10	1, 2, 5	100, 200	112.5	E4	0.042
06	0603	1	10	1, 2, 5	100, 200	25	E2	0.002
07	0805	1	10	1, 2, 5	100, 200	50	E2	0.004
08	1206	1	10	1, 2, 5	100, 200	160	E2	0.008
09	2010	1	10	1, 2, 5	100, 200	180	E2	0.026
10	2512	1	10	1, 2, 5	100, 200	112.5	E2	0.042

**Notes**

- (1) See physical dimensions
- (2) Restrictions might apply depending on ohmic value please refer to Table 1

Table 1

RESISTANCE ( $\Omega$ )	VALUE SERIES	AVAILABLE TOLERANCE ( $\pm$ %)	AVAILABLE TEMPERATURE COEFFICIENT ( $\pm 10^{-6}/^{\circ}\text{C}$ )
$1 \leq R_n < 10$	Any value in the resistance range to 3 significant figures	2, 5	200
$10 \leq R_n < 1 \text{ M}$		1, 2, 5	100, 200
$R_n \geq 1 \text{ M}$		2, 5	200

**最大额定值**

CHARACTERISTICS	VARIANT NUMBER	STYLE	SYMBOLS	LIMITS	UNITS	REMARKS
Rated dissipation	01, 06	0603	$P_n$	100	mW	(1)
	02, 07	0805		200		
	03, 08	1206		250		
	04, 09	2010		500		
	05, 10	2512		800		
Limiting element voltage	01, 06	0603	$U_L$	50	V	-
	02, 07	0805		100		
	03, 08	1206		250		
	04, 09	2010		300		
	05, 10	2512		300		
Rated voltage	All	All	$U_R$	$\sqrt{(P_n \times R_n)}$	V	(2)
Isolation voltage	01, 06	0603	$U_I$	100	V	-
	02, 07	0805		200		
	03, 08	1206		300		
	04, 09	2010		300		
	05, 10	2512		300		
Operating temperature range	All	All	$T_{op}$	- 55 to + 155	$^{\circ}\text{C}$	$T_{amb}$
Storage temperature range	All	All	$T_{stg}$	- 55 to + 155	$^{\circ}\text{C}$	-
Soldering temperature	All	All	$T_{sol}$	+ 260	$^{\circ}\text{C}$	(3)

**Notes**

 (1) At  $T_{amb} \leq + 70^{\circ}\text{C}$ . For  $T_{amb} > + 70^{\circ}\text{C}$  derate linearly to 0 W at  $T_{amb} = + 155^{\circ}\text{C}$ 

 (2) Shall never exceed limiting element voltage.  $R_n$  = Rated resistance

(3) Duration 10 s maximum

**性能**

TEST	CONDITIONS	LIMITS REQUIRED BY THE ESCC4001/026 SPECIFICATION
Insulation resistance	ESCC4001 § 8.3.1.2 V = 100 V	1000 M $\Omega$
Low temperature electrical measurement	ESCC4001 § 8.3.1.1 TC = 100 ppm/ $^{\circ}\text{C}$	$\pm 0.8$ %
	TC = 200 ppm/ $^{\circ}\text{C}$	$\pm 1.6$ %
High temperature electrical measurement	ESCC4001 § 8.3.3 TC = 100 ppm/ $^{\circ}\text{C}$	$\pm 1.36$ %
	TC = 200 ppm/ $^{\circ}\text{C}$	$\pm 2.72$ %
Rapid change of temperature	ESCC4001 § 8.8	$\pm 0.25 + (0.05 \Omega \times 100/R_n)$ %
Robustness of terminations	ESCC4001 § 8.11.2	$\pm 0.25 + (0.05 \Omega \times 100/R_n)$ %
Resistance to solder heat	ESCC4001 § 8.12	$\pm 0.5 + (0.05 \Omega \times 100/R_n)$ %
Climatic sequence	ESCC4001 § 8.10	$\pm 1 + (0.05 \Omega \times 100/R_n)$ %
Load life	ESCC4001 § 8.13 1000 h	$\pm 1 + (0.05 \Omega \times 100/R_n)$ %
	2000 h	$\pm 1.5 + (0.05 \Omega \times 100/R_n)$ %

国际产品编号信息

New Global Part Numbering: CHPHR0603K1001FBT

C	H	P	H	R	0	6	0	3	K	1	0	0	1	F	B	T	
GLOBAL MODEL <b>CHPHR</b>				SIZE <b>0603</b> 0705 or 0805 1206 2010 2512			TCR <b>K</b> = 100 ppm <b>L</b> = 200 ppm		VALUE The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. Example: <b>1R50</b> = 1.5 Ω <b>22R1</b> = 22.1Ω <b>3901</b> = 3900Ω <b>1004</b> = 1 MΩ			TOLERANCE <b>F</b> = 1 % <b>G</b> = 2 % <b>J</b> = 5 %		TERMINATION <b>B</b> : SnPb over nickel barrier <b>G</b> : Gold		PACKAGING Blank = Waffle pack <b>T</b> = Tape and reel	

国际产品编号信息

ESA Part Numbering: 4001026011001F4

4	0	0	1	0	2	6	0	1	1	0	0	1	F	4
DETAILED SPECIFICATION NUMBER				VARIANT NUMBER <b>01 to 10</b>				RESISTANCE VALUE The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. Example: <b>1R50</b> = 1.5 Ω <b>22R1</b> = 22.1Ω <b>3901</b> = 3900 Ω <b>1004</b> = 1 M Ω			TOLERANCE <b>F</b> = 1 % <b>G</b> = 2 % <b>J</b> = 5 %		TEMPERATURE COEFFICIENT <b>4</b> = 100 ppm <b>6</b> = 200 ppm	

Note

- MOQ for tape and reel: 50 pieces

超频率选项

Hyper Frequency Option Numbering: HCHP0603K1001FBT55

H	C	H	P	0	6	0	3	K	1	0	0	1	F	B	T	5	5
GLOBAL MODEL <b>HCHP</b>		SIZE <b>0603</b> 0705 or 0805 1206			TCR <b>K</b> = 100 ppm <b>L</b> = 200 ppm		VALUE The first 3 digits are significant figures and the last digit specifies the number of zeros to follow. Example: <b>1R50</b> = 1.5 Ω <b>22R1</b> = 22.1Ω <b>3901</b> = 3900Ω <b>1004</b> = 1 MΩ			TOLERANCE <b>F</b> = ± 1 % <b>G</b> = ± 2 % <b>J</b> = ± 5 %		TERMINATION <b>B</b> : SnPb over nickel barrier <b>G</b> : Gold		PACKAGING Blank = Waffle pack <b>T</b> = Tape and reel		OPTION <b>055</b> = HiRel production	

Note

- MOQ for taping: 50 pieces