SINLOON®

大功率厚膜貼片電阻 HP30 Series

Power Range: 2W ~ 5W High Power Thick Film Chip Resistor

□ Feature (優勢)

◆High Power: 2W ~ 5W.
◆Small size 2030
◆Reduction of assembly costs matching with placement machines
◆Reliability high quality and fast delivery
◆Resistance Range: 1R ~ 1MΩ.

Figure:

□ Application (應用)

◆ Appliance: Air conditioner, Refrigerator (冷氣機電子電路控制板及電冰箱)
◆ Motor Vehicle and industrial use electrical products (汽車及工業用電子產品)
◆ Computer & relative products: Main board, PDA (電腦及相關產品:主板、PDA.)
◆ Communication equipment: Call phone, Fax machine (通訊設備:手機、傳真機)
◆ Power equipment: Power supply, Illumination equipment (電力設備:電源、照明設備)
◆ Entertainment: Stereo, TV tuners, Tape recorder (娛樂:立體音響、電視選配器、錄音器)
◆ Measuring instrument: Electric meter, Navigation equipment (測量工具:電子儀錶、導航設備)

□ ORDERING INFORMATION

Example: Q-HP30JE1R0 Q-HP-2W 1R0 ±5% 100ppm)

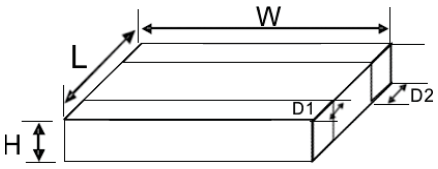
Power	Size	Type	Tolerance	TCR(℃)	Resistance[1]		Packing
					E24	E96	
2W	2030	Q-HP30	F = ±1%	E=±100ppm	1R = 1R0	1R = 1R00	1K Reel
3W		N-HP30	G = ±2%		10R = 100	10R = 10R0	
4W		M-HP30	J = ±5%		100R = 101	100R = 1000	
5W		L-HP30	K = ±10%		1K = 102	1K = 1001	

Resistance[1] See page P4 : **STANDARD RESISTANCE VALUE IN A DECARD**

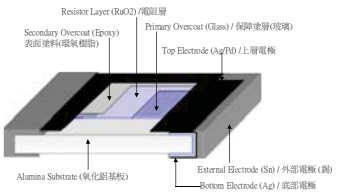
□ DIMENSION

Power	Size	Type	L	W	H	D1	D2	Fig.
2W	2030	Q-HP30	5.10 ±0.10	7.60 ±0.20	0.60 ±0.05	0.80 ±0.20	0.80 ±0.20	Fig-1
3W	2030	N-HP30	5.10 ±0.10	7.60 ±0.20	1.20 ±0.10	0.80 ±0.20	0.80 ±0.20	
4W	2030	M-HP30	5.10 ±0.10	7.60 ±0.20	1.20 ±0.10	0.80 ±0.20	0.80 ±0.20	
5W	2030	L-HP30	5.10 ±0.10	7.60 ±0.20	1.20 ±0.10	0.80 ±0.20	0.80 ±0.20	

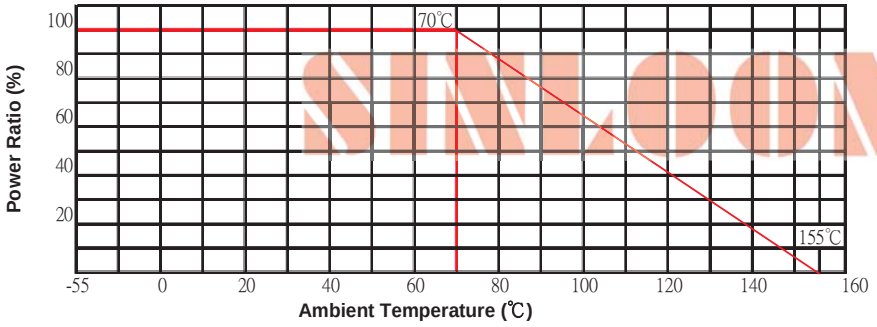
Fig-1



□ CONSTRUCTION



□ POWER DERATING CURVE



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大功率厚膜貼片電阻 HP30 Series

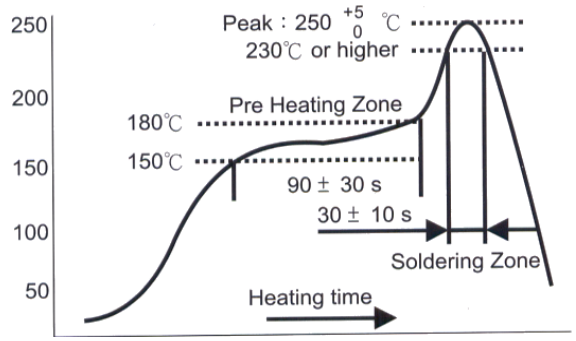
Power Range: 2W ~ 5W High Power Thick Film Chip Resistor

□ GENERAL ELECTRICAL SPECIFICATION

Type	Size	Rated Power at 70℃	Maximum Voltage		Resistance (Ω)	Tolerance	T.C.R. (ppm/℃)	Jumper Resistance	Jumper Rated Current
			Working	Overload					
Q-HP30	2030	2W	200V	400V	10R-1M	±1%,±2%,±5%.	±100	50m Max.	2A
N-HP30	2030	3W	200V	400V	10R-1M	±1%,±2%,±5%.	±100		
M-HP30	2030	4W	200V	400V	10R-1M	±1%,±2%,±5%.	±100		
L-HP30	2030	5W	200V	400V	1R - 1K	±1%,±2%,±5%.	±100		
Operating Temperature Range:		-55℃ ~ 155℃							

■ Others value range over this resistance on request please contact us.(超出阻值範圍外的需求請聯絡我們)

□ Test Procedures and Requirements

Test Item	Procedue	Requirement	Test Method
Temperature Coeffient of Resistance (T.C.R)	-55℃ ~ +155℃, 20℃ is the reference temperature	Refer to Rating	JIS C 5201-1 clause 4.8
Short Time Overload	General: 2.5 time RCWV or Max. Overload voltage for 5 seconds. Hifh Power: 2.5 times RCWV of Mac. Overload voltage for 2 seconds.	±1=±(1.0% +0.05Ω) ±5=±(2.0% +0.1Ω)	JIS C 5201-1 clause 4.13
IR Reflow		±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	SONY SS-00254
Leaching	260±5℃ for 30 seconds	>95% Coverge	SONY SS-00254-9
Soldering Heat	260±5℃ for 10 seconds	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	JIS C 5201-2 clause 4.18
Temperature Cycling	-55℃ to +155℃ 5 cycles	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(0.1%+0.01Ω)	JIS C 5201-2 clause 4.19
Electric Iron	Preheating temperature : 350±5℃ Electric iron preheating time: 3+1/-0 second	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	SONY SS-00254-5
Resistance Solcent	The tested resistor be immersed into isproply alcohol of 20 ~ 25℃ for 60 secs. Then the resistor is left in the room for 48 hours.	±1=±(1.0% +0.05Ω) ±5=±(1.0% +0.05Ω)	JIS C 5201-1 clause 4.29
Load life in Humidity	40±2℃, 90-95% R.H. or Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(2%+0.05Ω)	JIS C 5201-1 clause 4.24
Load life (Endurance)	70±2℃, Max. working voltage for 1000 hrs with 1.5 hrs "ON" and 0.5 hrs "OFF"	0.10%,0.50%,1% : ±(0.1%+0.05Ω) 2%,5%: ±(2%+0.05Ω)	JIS C 5201-1 clause 4.24
Insulation Resistance	Max. Overload voltage for 1 mimute	≧ 10G Ω	JIS C 5201-

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☐ VOLTAGE RATING OR CURRENT RATING

Resistance Range: ≧1Ω

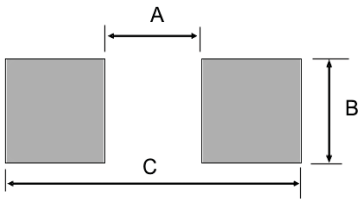
Rated Voltage: The resistor shall have a DC continuous working voltage or a RMS AC continuous working voltage at commercial-line frequency and wave form corresponding to the power rating, as determined formula as following:

E=Rated voltage(V) $E=\sqrt{R\times P}$ P=Power rating(W) R=Nominal resistance(Ω)

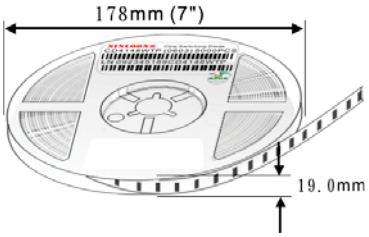
☐ RECOMMEND LAND PATTERN DESIGN (For Reflow Soldering)

Unit: mm

Dim. \ Type	HP30
	2030
A	3.50
B	7.80
C	7.50



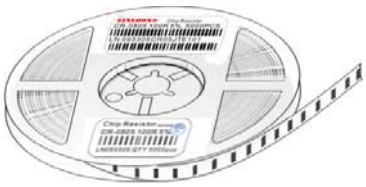
☐ Package Tape Reel



☐ PACKAGE SPECIFICATION

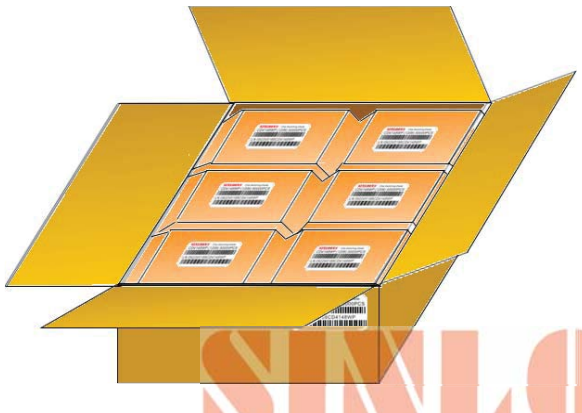
Power	Size	Type	Quantity(ea)				SINLOON®
			Paper Reel Tape		In Box	Carton	
2W	2030	Q-HP30	1,000 Pcs	7" Reel	10K Pcs	60K Pcs	
3W		N-HP30					
4W		M-HP30					
5W		L-HP30					

Paper Reel Tape



Reel Tape Leble

Carton Pack



Inner Box

※美隆公司產品規格及其特性參數的改變或更新恕不另行通知。

※Mayloon characteristic parameters of electronic product specification changes or updates without notice to improve 。

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Power Range: 2W ~ 5W High Power Thick Film Chip Resistor

☐ **STANDARD RESISTANCE VALUE IN A DECARD**

誤差率	阻值表示法		電阻功率代碼		溫度系數
Tolerance	E96	E24	Power	Codes	T.C.R/℃
A= ±0.01%	m5=R0005Ω	m5=R0005Ω	1/32W	Z	S=±5ppm
B= ±0.1%	5m=R005Ω	5m=R005Ω	1/16W	Y	B=±10ppm
C= ±0.25%	50m=R05Ω	50m=R05Ω	1/10W	X	N=±15ppm
D= ±0.5%	100m=R1Ω	100m=R1Ω	1/8W	W	C=±25ppm
F= ±1%	1000m=1Ω	1000m=1Ω	1/4W	V	D=±50ppm
G= ±2%	1R = 1R00	1R = 1R0	1/2W	U	E=±100ppm
H= ±3%	10R=10R0	10R=100	3/4W	T	K=±150ppm
J= ±5%	100R=100R	100R=101	1W	S	F=±200ppm
K= ±10%	1K = 1001	100R=102	1.5W	R	G=±300ppm
M= ±20%	10K = 1002	10K = 103	2W	Q	H=±400ppm
N= ±50%	100K=1003	100K=104	2.5W	P	I=±500ppm
Z=+80-20%	1M=1-004	1M=105	3W	N	J=±600ppm
	10M=1005	10M=106	4W	M	Z=±1500ppm
	100M=1006	100M=107	5W	L	

☐ **Resistor Series Ordering Information :**

±1%:	Marking Code please refer to E96 data form as below :
Ex.	121K the marking code is 1213 in E96
	10R ohm the marking code is 1009 E96
	1R ohm the marking code is 1008 E96
	0.1R ohm the marking code is 0R10 E96
±5%:	Marking Code please refer to E24 data form as below :
Ex.	100K the marking code is 104 in E24
	10R ohm the marking code is 100 E24
	1R ohm the marking code is 1R0 E24
	0.1R ohm the marking code is 0R1 E24

☐ **For Resistance According to IEC Publication 63**

E24	E96			
10	100	178	316	562
11	102	182	324	576
12	105	187	332	590
13	107	191	340	604
15	110	196	348	619
16	113	200	357	634
18	115	205	365	649
20	118	210	374	665
22	121	215	383	681
24	124	221	392	698
27	127	226	402	715
30	130	232	412	732
33	133	237	422	750
36	137	243	432	768
39	140	249	442	787
43	143	255	453	806
47	147	261	464	825
51	150	267	475	845
56	154	274	487	866
62	158	280	499	887
68	162	287	511	909
75	165	294	523	931
82	169	301	536	953
91	174	309	549	976

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