

**High Power Thin Film Chip Resistor 1206 1W Power**



**FEATURES**

- Excellent reliability and stability even under harsh conditions
- Low noise, THIN FILM construction
- EIA Standard 1206 with 1W Power
- RoHS Compliance and 100% Lead-Free
- AEC-Q200 Qualified
- Anti-Sulfur
- Moisture Resistant

**APPLICATIONS**

- Power supplies
- Power switching
- Braking system
- Test and measurement equipment
- Motor deflection circuits

**Electrical Specification**

Type	Size (in inch)	Power Rating	Resistance Tolerance	TCR	Resistance Range (ohm) *E24 & E96 series R value	Packaging
HRG3216	1206	1.0W	±0.1%(B)	±25ppm/°C(P)	47 - 100k	Tape & Reel T1 = 1000pcs T5 = 5000pcs
				±50ppm/°C(Q)		
			±0.5%(D)	±25ppm/°C(P)	47 - 100k	
				±50ppm/°C(Q)	10 - 100k	

**Reliability Specification**

Test Item	Test Method (JIS C5201-1)	Δ R Limits
Load Life	70°C, rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.5%+0.05 Ω) 47 Ω and higher ±(0.25%+0.01 Ω)
Temp. Hum. Bias	85°C 85% RH, 1/10 rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.25%+0.05 Ω) 47 Ω and higher ±(0.1%+0.01 Ω)
Thermal Shock	-55°C (30min)/room temp.(2min) /+125°C(30min)/room temp.(2min), no bias, 1000 cycles	
High Temp. Exposure	155°C for 1000h, no bias.	

**Dimensions**



Unit (mm)	
Type	HRG3216
Dimensions	
W	3.2±0.2
L	1.65±0.2
t	0.45±0.1
a	0.5±0.25
b	1.1 ± 0.2

**Recommended Land Pattern**



Unit (mm)				
TYPE	a	b	c	d (*1) (Reference value)
3216	0.55±0.1	1.9±0.1	1.8±0.1	27.0±0.1

(\*1) Please give consideration to heat dissipation of the resistor.  
The solder fillet when resistor is powered up should not exceed 155°C.

**Power Derating Curve**

(HRG3216)

For operation above 70°C, power must be derated according to the following chart.

However, in actual use, verify the fillet temperature is not exceeding 155°C.



Load Life @ 70°C at Rated Power 1.0W



Temperature Humidity Bias



Thermal Shock -55°C - +125°C



High Temperature Exposure at 155°C with no power



**Recommended Reflow Profile**



**Tape & Reel Dimensions (mm)**

TYPE	A	B	W	F	E	P <sub>0</sub>	P <sub>1</sub>	P <sub>2</sub>	D <sub>0</sub>	D <sub>1</sub>	T	t
HRG3216	2.0±0.2	3.6±0.2	8.0±0.3	3.5±0.05	1.75±0.1	4.0±0.1	4.0±0.1	2.0±0.05	1.55±0.05	1.05±0.05	1.5 max	0.3 max

unit(mm)



**Ordering information**



**Notice**

For non-standard R-value requests, please contact our technical support.



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