

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

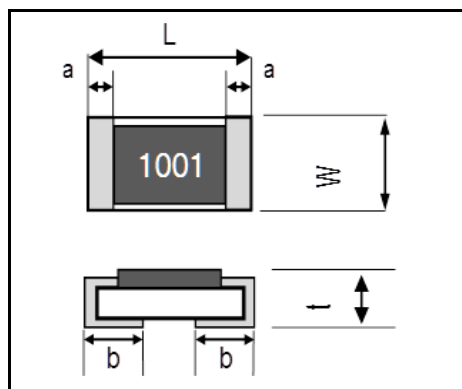
Electrical Specification

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

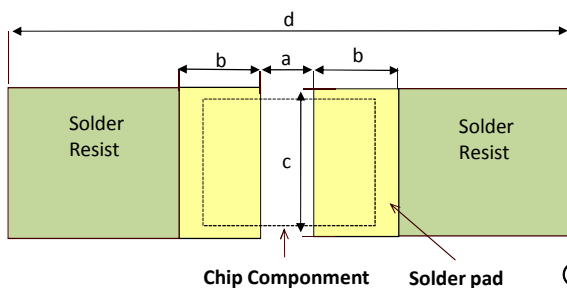
Test Item	Test Method (JIS C5201-1)	Δ R Limits
Load Life	70°C, rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.5%+0.05 Ω) 47 Ω and higher ±(0.25%+0.01 Ω)
Temp. Hum. Bias	85°C 85% RH, 1/10 rated power, 90min. on/ 30min. Off, 1000hrs.	Under 47 Ω ±(0.25%+0.05 Ω) 47 Ω and higher ±(0.1%+0.01 Ω)
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



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

Chip Component Solder pad

(*1) Please give consideration to heat dissipation of the resistor.

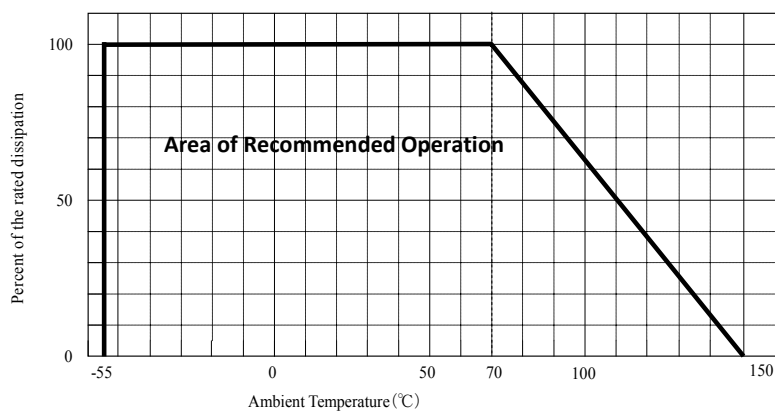
The solder fillet when resistor is powered up should not exceed 155°C.

Power Derating Curve

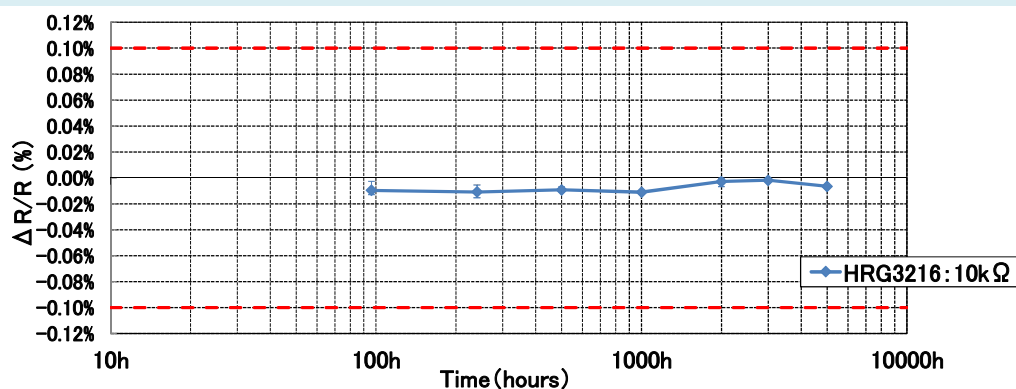
(HRG3216)

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

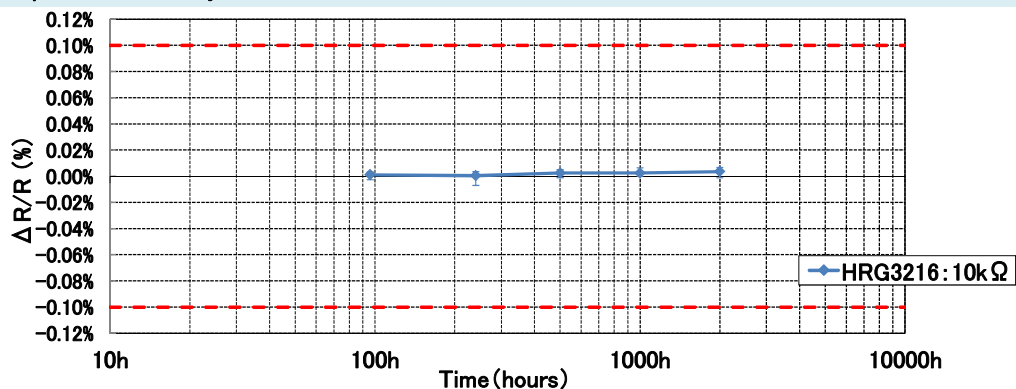
However, in actual use, verify the fillet temperature is not exceeding 155°C.



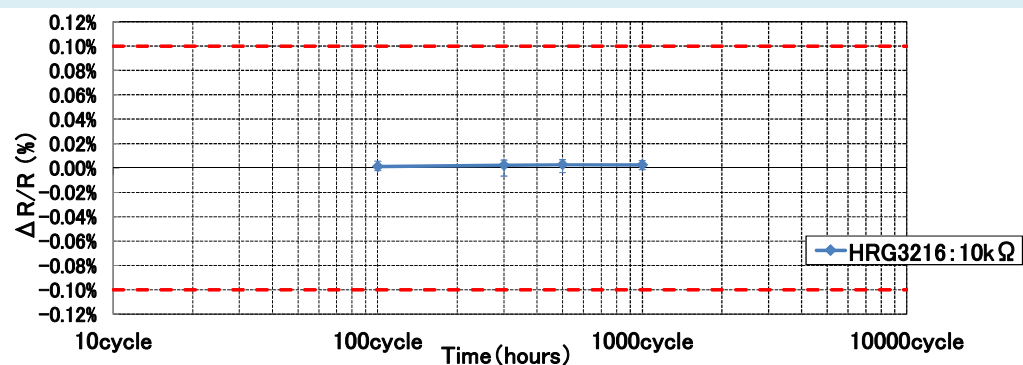
Load Life @ 70°C at Rated Power 1.0W



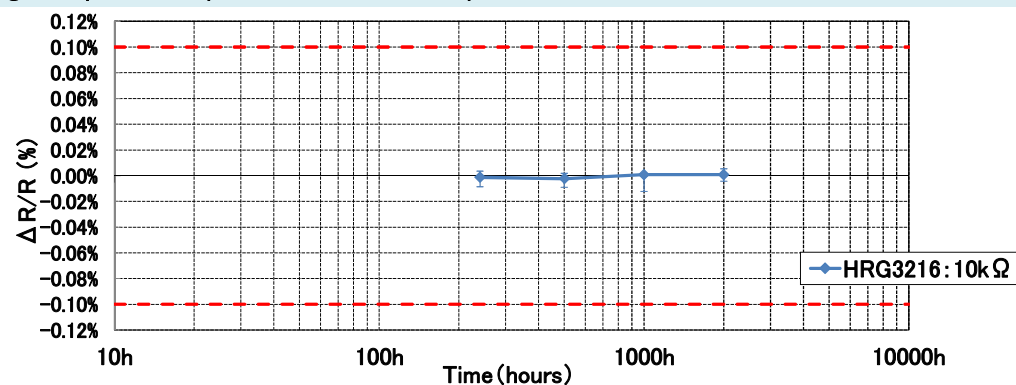
Temperature Humidity Bias



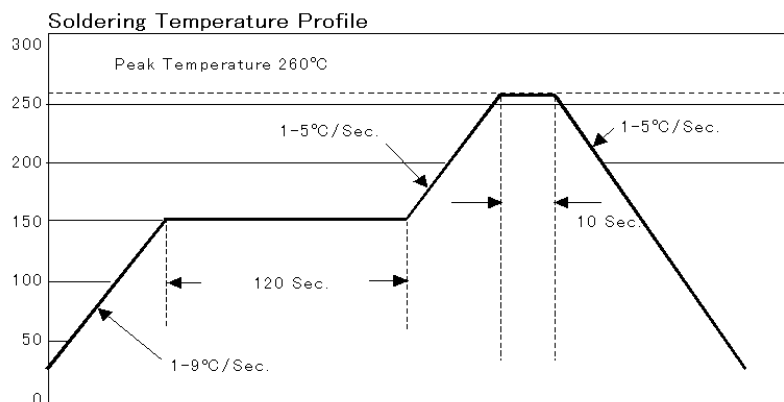
Thermal Shock -55°C - +125°C



High Temperature Exposure at 155°C with no power

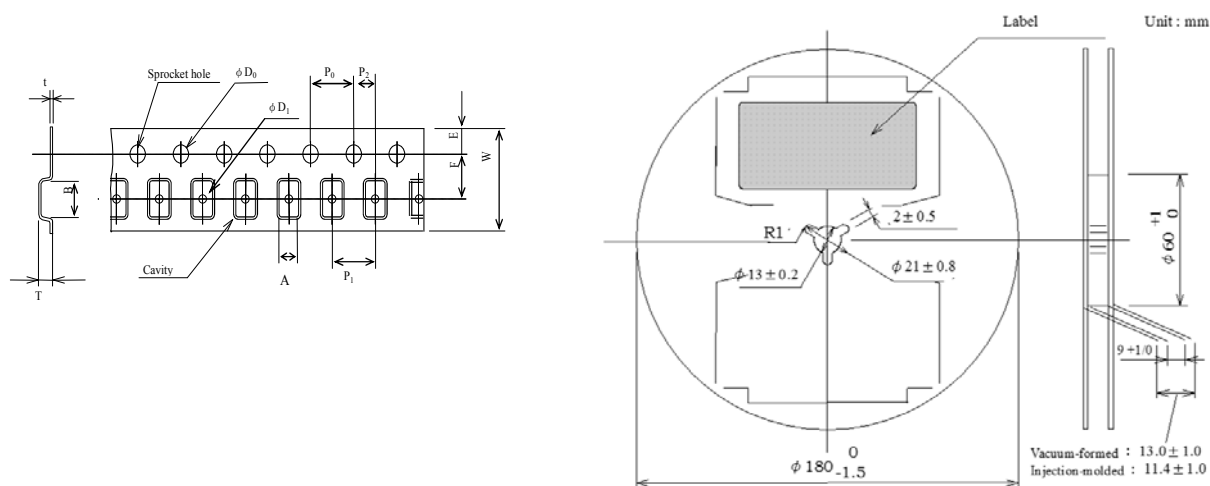


Recommended Reflow Profile



Tape & Reel Dimensions (mm)

unit(mm)												
TYPE	A	B	W	F	E	P ₀	P ₁	P ₂	D ₀	D ₁	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



Ordering information

HRG	3216	P	-	1001	-	B	-	T5
Type	Size	TCR		R-Values		Tolerance		Package
	3216	P = ±25ppm/°C Q = ±50ppm/°C		4digits for all values E24 & E96 (Ex.47R0=47 ohm) (Ex.1000=100 ohm) (Ex.4992=49.9k ohm)		B = ±0.1% D = ±0.5%		T&R T1 = 1000pcs T&R T5 = 5000pcs T&R

Notice

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