

PANASONIC Thin Film Resistors



This product is RoHS compliant.



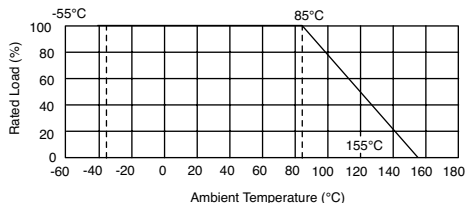
0.1% 25PPM THIN FILM CHIP RESISTORS

Features:

- High reliability: Stable at high temperature and humidity (85°C 85% RH rated load, Category temperature range: -55 to +155°C)
- High accuracy: Small resistance tolerance and Temperature Coefficient of Resistance
- High performance: Low current noise, excellent non-linearity
- Reference Standard: IEC 60115-8, JIS C 5201-8, EIAJ RC-2133A

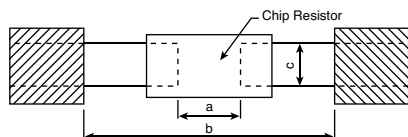
Power Derating Curve:

For resistors operated in ambient temperatures above 85°C, power rating shall be derated in accordance with the figure on the right.

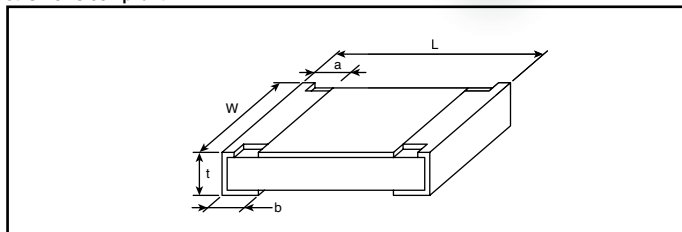


Recommended Land Pattern:

In case of flow soldering, the land width must be smaller than the Chip Resistor width to properly control the solder amount properly. Generally, the land width should be 0.7 to 0.8 times (W) of the width of chip resistor. In case of reflow soldering, solder amount can be adjusted, therefore, the land width should be set to 1.0 to 1.3 times chip resistor width (W).



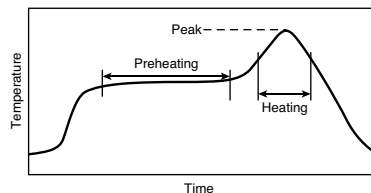
Type (in.)	DIMENSIONS: (mm)		
	a	b	c
ERA2A (0402)	1.00 (±0.10)	0.50 (0.10±0.05)	0.15 (±0.10)
ERA3A (0603)	1.60 (±0.20)	0.80 (±0.20)	0.30 (±0.20)
ERA6A (0805)	2.00 (±0.20)	1.25 (±0.10)	0.40 (±0.25)



Type (in.)	DIMENSIONS: (mm)					Mass(lb) (g/1000pcs.)
	L	W	a	b	t	
ERA2A (0402)	1.00 (±0.10)	0.50 (0.10±0.05)	0.15 (±0.10)	0.25 (±0.10)	0.35 (±0.05)	0.6
ERA3A (0603)	1.60 (±0.20)	0.80 (±0.20)	0.30 (±0.20)	0.30 (±0.20)	0.45 (±0.10)	2
ERA6A (0805)	2.00 (±0.20)	1.25 (±0.10)	0.40 (±0.25)	0.40 (±0.25)	0.50 (±0.10)	4
ERA8A (1206)	3.20 (±0.20)	1.60 (±0.10)	0.50 (±0.25)	0.50 (±0.25)	0.60 (±0.10)	4

Recommended Soldering Conditions:

- Reflow soldering shall be performed a maximum of two times
- Please contact us for additional information when used in conditions other than those specified
- Please measure the temperature of the terminals and study every kind of solder and printed circuit board for solderability before actual use.



For Soldering (Example: Sn/Pb)		
	Temperature	Time
Preheating	140°C to 160°C	60 s to 120 s
Main heating	Above 200°C	30 s to 40 s
Peak	235±5°C	max. 10 s

For Lead-Free Soldering (Example:Sn/Ag/Cu)		
	Temperature	Time
Preheating	150°C to 180°C	60 s to 120 s
Main heating	Above 230°C	30 s to 40 s
Peak	max. 260°C	max. 10 s

Recommended soldering conditions for flow

	For Soldering		For Lead-Free Soldering	
	Temperature	Time	Temperature	Time
Preheating	140°C to 180°C	60 s to 120 s	150°C to 180°C	60 s to 120 s
Soldering	245 ± 5°C	20 s to 30 s	max. 260°C	max. 10 s

TABLE OF STOCKED VALUES

Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	Value (Ω)	Code	
10	100	30	300	82	820	240	241	680	681	2.0K	202	5.6K	562	16K	163	47K	473	130K	134	390K	394	
11	110	33	330	91	910	270	271	750	751	2.2K	222	6.2K	622	18K	183	51K	513	150K	154	430K	434	
12	120	36	360	100	101	300	301	820	821	2.4K	242	6.8K	682	20K	203	56K	563	160K	164	470K	474	
13	130	39	390	110	111	330	331	910	911	2.7K	272	7.5K	752	22K	223	62K	623	180K	184	510K	514	
15	150	43	430	120	121	360	361	1.0K	102	3.0K	302	8.2K	822	24K	243	68K	683	200K	204	560K	564	
16	160	47	470	130	131	390	391	1.1K	112	3.3K	332	9.1K	912	27K	273	75K	753	220K	224	620K	624	
18	180	51	510	150	151	430	431	1.2K	122	3.6K	362	10K	103	30K	303	82K	823	240K	244	680K	684	
20	200	56	560	160	161	470	471	1.3K	132	3.9K	392	11K	113	33K	333	91K	913	270K	274	750K	754	
22	220	62	620	180	181	510	511	1.5K	152	4.3K	432	12K	123	36K	363	100K	104	300K	304	820K	824	
24	240	68	680	200	201	560	561	1.6K	162	4.7K	472	13K	133	39K	393	110K	114	330K	334	910K	914	
																					1M	105

Size	MOUSER STOCK NO.			Panasonic Part No.	Value Range	Power Rating @85°C	RCWV (max Vdc)	Max. Overload Voltage (Vdc)	Tolerance	T.C.R. (ppm/°C)	Price Each				Reel Qty.	Price Per Piece
	Value	Suffix	Code								1	100	500	1000		
0402	667-ERA-2AEB-	Code-	X	ERA-2AEB-Code-X	47-100K E24	0.063	25	50	±0.1%	25					10,000	
0603	667-ERA-3AEB-	Code-	V	ERA-3AEB-Code-V	47-330K E24	0.10	75	150	±0.1%	25					5,000	
0805	667-ERA-6AEB-	Code-	V	ERA-6AEB-Code-V	47-1M E24	0.125	100	200	±0.1%	25					5,000	