AS Series

Anti-surge Thick Film Chip Resistors



FEATURES

- Small size and light weight
- Suitable for both wave and reflow soldering
- Can withstand high surge
- Reduction of assembly costs

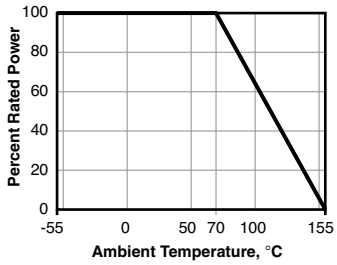
SERIES SPECIFICATIONS

Type	Power Rating at 70°C	Max Working Voltage	Max Overload Voltage	Dielectric Withstanding Voltage	Resistance Range
AS08 (0805)	0.33W	150V	300V	500V	1Ω~10MΩ
AS12 (1206)	0.5W	200V	400V	500V	1Ω~10MΩ
AS25 (2512)	1.5W	500V	500V	500V	1Ω~20MΩ

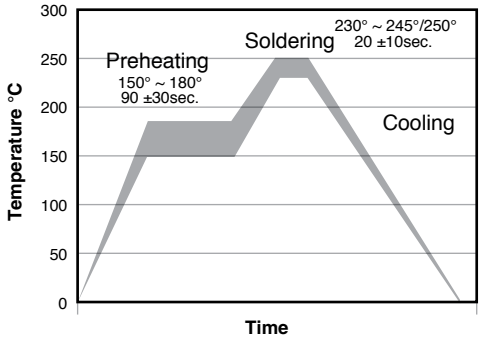
CHARACTERISTICS

Std. Oper. Temp.	-55°C ~ +155°C
Standard Values	E-24 values
Construction	Thick film
Terminal material	Silver, copper, nickel, and tin, non-SAC alloy
Solderable finish	Matte tin
Tolerance	±5% standard; ±10% and ±20% available

Derating



Reflow



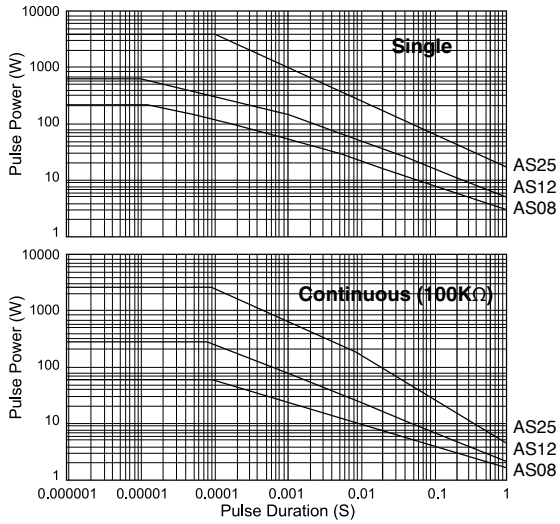
Test	ΔR	Test Methods (JIS C 5201-1)
Temperature Coefficient	1Ω-10Ω: ≤ ±400PPM/°C (±200 PPM can be provided on a case to case basis) 11Ω-10MΩ: ≤ ±100PPM/°C	Natural ΔR/°C $\frac{R2-R1}{R1(t2-t1)} \times 10^6$ (PPM/°C) R1: at room temp. (T1) R2: at room temp. plus 100°C (T2) Test pattern: room temp. (T1), room temp. +100°C(T2)
Short Time Overload	±(1.0% + 0.1Ω) max.	Permanent ΔR after the application of a potential of 2.5 times RCWV for 5 sec.
Terminal Bending	±(1.0% + 0.05Ω) max.	Twist of Test Board: Y/X = 3/90 mm for 60 sec.
Soldering Heat	±(1.0% + 0.05Ω) max.	260°C±3°C for 10 ±1 sec.
Single Pulse	±(1.0% + 0.1Ω) max.	See graph on next page.
Humidity	±(3.0% + 0.1Ω) max.	Temporary ΔR after 240 hr. at 40 ±2°C and 90-95% relative humidity
Load Life in Humidity	±(3.0% + 0.1Ω) max.	ΔR after 1,000 hr. (1.5 hr. "on", 0.5 hr. "off") at RCWV at 40 ±2°C and 90-95% relative humidity
Load Life	±(3.0% + 0.1Ω) max.	ΔR change after 1,000 hr. operating at RCWV, with duty cycle of (1.5 hours"on", 0.5 hour"off") at 70°C ±2°C ambient
Solderability	Min. 95% coverage	Wave Solder: 245°C ±3°C for 2-3 sec.
Temperature Cycling	±(1.0% + 0.05Ω) max.	ΔR after 5 cycles: -55°C ±3°C 30 min. Room temp. 10-15 min. +155°C ±2°C 30 min. 4 Room temp. 10-15 min.
Dielectric withstanding voltage	No evidence of flashover, mechanical damage, arcing or insulation breakdown	Clamped in the trough of a 90°C metallic v-block at specified AC potential 60-70 sec.

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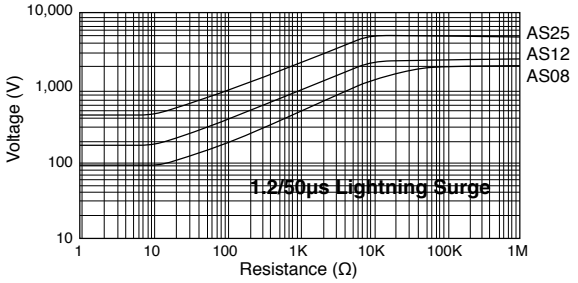
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CHARACTERISTICS

Pulse Curve



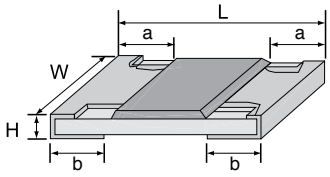
Lightning Surge



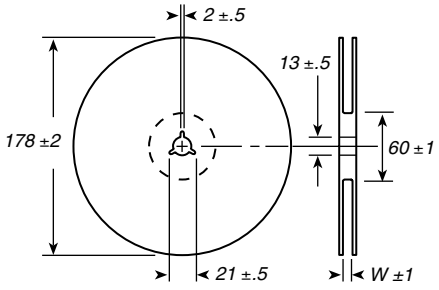
DIMENSIONS

(mm)

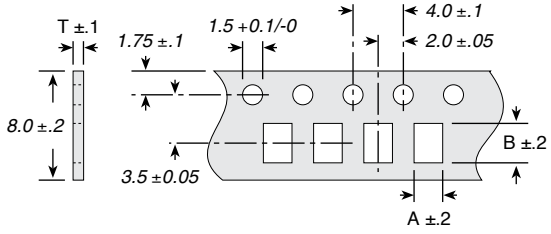
Series	L	W	H	a	b
AS08	2.00 ±0.15	1.25 +0.15/-0.10	0.55 ±0.10	0.40 ±0.20	0.40 ±0.20
AS12	3.10 ±0.15	1.55 +0.15/-0.10	0.55 ±0.10	0.45 ±0.20	0.45 ±0.20
AS25	6.35 ±0.10	3.10 ±0.15	0.55 ±0.10	0.60 ±0.25	0.50 ±0.20



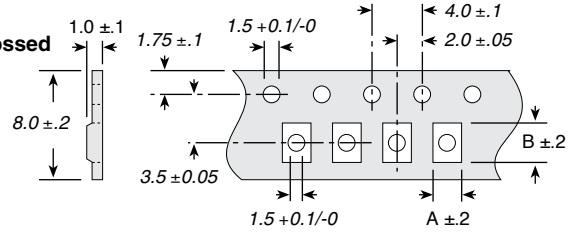
Tape and Reel



Paper

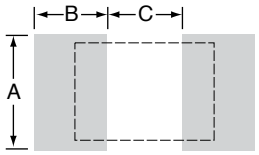


Embossed



Series	Packaging	Qty./reel	A	B	T	W
AS08	Paper	5,000 pcs.	1.65	2.40	0.81	10
AS12	Paper	5,000 pcs.	2.00	3.60	0.81	10
AS25	Embossed	4,000 pcs.	3.50	6.70	1.0	13.8

Land Pattern



Series	A	B	C
AS08	1.3	1.2	1.0
AS12	1.8	1.2	2.2
AS25	3.0	2.5	4.0

ORDERING INFORMATION

RoHS compliant

A S 0 8 J 1 0 0 4 E T

Series
AS08= 0805
AS12= 1206
AS25= 2512

Tolerance
J = 5% standard for E24 values

Ohms
First 3 digits are significant; 4th digit is multiplier. Values below 100 ohms use "R" as a decimal holder.
examples:
1001 = 1000 ohms
1502 = 15000 ohms

TCR
T= tape and reel: 0805 and 1206 paper tape; 2512 embossed tape.

Standard Part Numbers

0805	1206	2512
AS08J1R00ET	AS12J1R00ET	AS25J1R00ET
AS08J10R0ET	AS12J10R0ET	AS25J10R0ET
AS08J1000ET	AS12J1000ET	AS25J12R0ET
AS08J1001ET	AS12J1001ET	AS25J15R0ET
AS08J1002ET	AS12J1002ET	AS25J22R0ET
AS08J1003ET	AS12J1003ET	AS25J1000ET
AS08J1004ET	AS12J1004ET	AS25J1001ET
		AS25J1002ET
		AS25J1003ET
		AS25J1004ET