

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

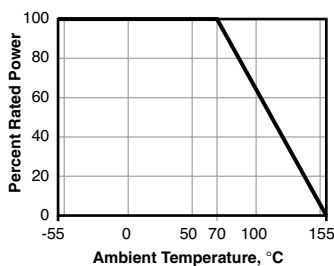
Type	Power Rating at 70°C	Max Working Voltage	Max Overload Voltage	Dielectric Withstanding Voltage	Resistance Range
AS08 (0805)	0.33W	150V	300V	500V	1Ω~10MΩ
AS12 (1206)	0.5W	200V	400V	500V	1Ω~10MΩ
AS25 (2512)	1.5W	500V	500V	500V	1Ω~20MΩ

CHARACTERISTICS

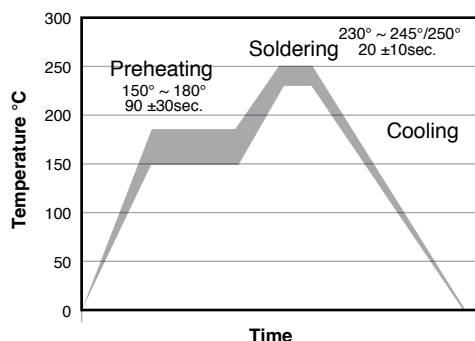
Std. Oper. Temp.	-55°C ~ +155°C
Standard Values	E-24 values
Construction	Thick film
Terminal material	Silver, copper, nickel, and tin, non-SAC alloy
Solderable finish	Matte tin
Tolerance	±5% standard; ±10% and ±20% available

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 $R2-R1 \times 10^6$ (PPM/°C) $R1(t2-t1)$ 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.

Derating



Reflow

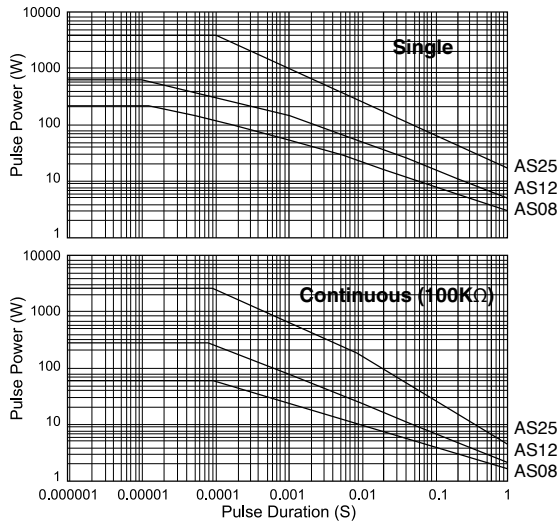


AS Series

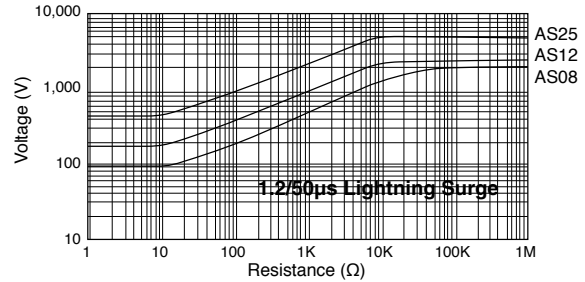
Anti-surge Thick Film Chip Resistors

CHARACTERISTICS

Pulse Curve



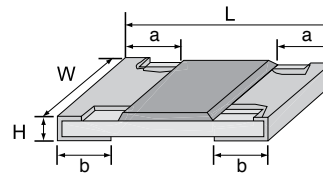
Lightning Surge



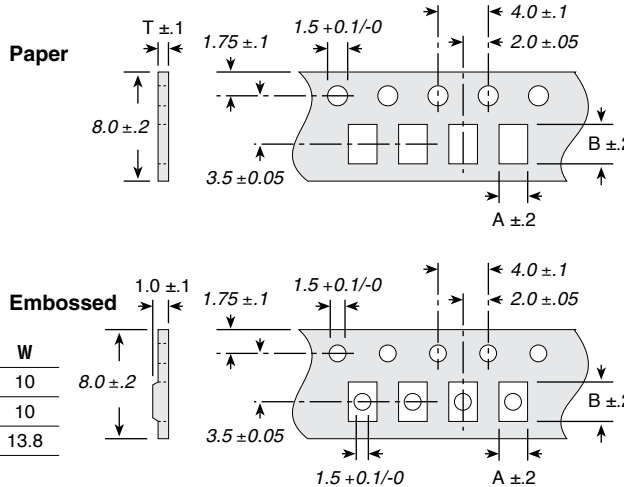
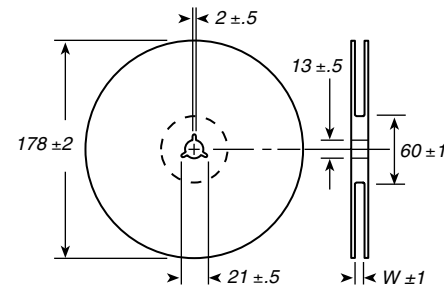
DIMENSIONS

(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

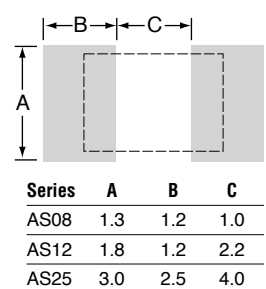


Tape and Reel



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

AS08J1004ET

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