

Anti Sulphur Chip Resistors

ASC Series

- Special construction resists sulphide growth
- Withstands sulphur bearing fume environment
- Tested to ASTM-B809 ("Flowers-of-Sulphur")
- Suitable for industrial, automotive and roadside uses
- RoHS compliant matt tin finish terminations
- AEC-Q200 qualified



All parts are Pb-free and comply with EU Directive 2011/65/EU amended by (EU) 2015/863 (RoHS3)

Electrical Data

		0402	0603	0805	1206	1210	2010	2512
Power rating @ 70°C	watts	0.063	0.1	0.125	0.25	0.33	0.75	1
Resistance range	ohms	1R0 - 10M						
Current Rating (zero ohm jumper)	amps	1	1	2	2	2.5	3.5	4
Limiting element voltage	volts	50		150	200			250
TCR	ppm/°C	<10R: 200 10R to 1M0: 100 >1M0: 200						
Resistance tolerance	%	1						
Standard values		E24, E96						
Ambient temperature range	°C	-55 to +155						

Physical Data

Dimensions (mm) and weight (mg)						
	L	W	T	C	A	Wt. nom.
0402	1.0 ±0.05	0.5 ±0.05	0.35 ±0.05	0.2 ±0.1	0.2 ±0.1	0.62
0603	1.6 ±0.1	0.8 ±0.1	0.45 ±0.1	0.3 ±0.2	0.3 ±0.2	2.04
0805	2.0 ±0.1	1.25 ±0.1	0.5 ±0.1	0.35 ±0.2	0.4 ±0.2	4.37
1206	3.1 ±0.1	1.55 ±0.1	0.55 ±0.1	0.5 ±0.25	0.5 ±0.2	8.95
1210	3.2 ±0.2	2.6 ±0.15				16.0
2010	5.0 ±0.2	2.5 ±0.15		24.2		
2512	6.35 ±0.2	3.2 ±0.15		0.6 ±0.25		39.4

Wrap-around terminations
(3 faces)

Construction

Conductors, resistive element, glass inner protection and epoxy outer protection are applied to a 96% alumina substrate. The chips are supplied with wrap-around terminations suitable for soldering. The terminations have an electroplated nickel barrier and 100% matt tin finish.

Marking

Sizes larger than 0603 are individually marked with 4 digits. The first three digits are the significant figures and the fourth defines the number of added zeros.

Size 0603, E24 values are marked with 3 digits. The first two digits are the significant figures and the third defines the number of added zeros.

Size 0603, E96 values are marked with a standard 3 digit EIA96 code.

Size 0402 has no marking.

The body protection and marking are resistant to all normal cleaning solvents suitable for printed circuits.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability.

All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

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Performance Data

		Maximum
Load at rated power: 1000 hours cyclic load @ 70°C	$\Delta R\%$	2% + 0.1 Ω
Short term overload: Lesser of 6.25 x rated power or 2 x LEV for s	$\Delta R\%$	1% + 0.05 Ω
Hydrogen Sulphide: 1000 hours 3-5ppm H ₂ S, 50 $\pm$ 2°C, 92 $\pm$ 1% RH, no load	$\Delta R\%$	0.5% and no visual defects
Derating from rated power at 70°C		Linear to zero at 155°C
Dry heat: 1000 hours at 155°C	$\Delta R\%$	1% + 0.05 Ω
Damp heat 1000 hours 40°C 90-95% RH	$\Delta R\%$	2% + 0.1 Ω
Temperature rapid change -55 to 155°C, 5 cycles	$\Delta R\%$	0.5% + 0.05 Ω
Resistance to solder heat: 260 $\pm$ 5°C for 10s	$\Delta R\%$	0.5% + 0.05 Ω
Solderability: 245 $\pm$ 5°C for 3s		$\geq$ 95% coverage
Solder leaching: 260 $\pm$ 5°C for 30s		Leached area $\leq$ 10% total, $\leq$ 5% individual
Board Flex: once for 5s, 2010 & 2512: 2mm, smaller sizes: 3mm	$\Delta R\%$	1% + 0.05 Ω
Insulation resistance @ 2 x LEV for 60s	ohms	>10G

Packaging

ASC resistors are supplied taped and reeled on a 7 or 10" reel as per IEC 286-3. The tape is 12mm wide embossed plastic tape for 2010 and 2512 sizes and 8mm wide paper tape for the smaller sizes.

Ordering Procedure

Example: ASC1210-22RFT5 (1210, 22 ohms $\pm$ 1%, Pb-free)

A	S	C	1	2	1	0	-	2	2	R		F	T	5
1			2				3					4	5	

1	2	3	4	5		
Type	Size	Value	Tolerance	Packing		
ASC	0402	E24 = 3/4 characters	F = $\pm$ 1%	T10	0402	10,000 / 7" reel
	0603	E96 = 3/4 characters	Blank for jumper	T5	0603, 0805, 1206, 1210	5000 / 10" reel
	0805	R = ohms		T4	2010, 2512	4000 / 7" reel
	1206	K = kilohms				
	1210	M = megohms				
	2010	R000 = Jumper				
	2512					

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